

University of Alberta

**The Calm Carrel: A Relaxation Technique for Students with Emotional and
Behavioural Disorders**

by

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A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

Special Education

Department of Educational Psychology

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Spring 2011

Edmonton, Alberta

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Abstract

The present study examined the implementation of a self-management strategy, termed the calm carrel, as a potential means of bringing about behavioural improvement (as reflected, primarily, in global behavioural ratings, extent of isolation time-out assignments, and student and teacher feedback) among six classes of Grade 4 to 6 children with emotional and behavioural disorders, being educated in self-contained classroom settings. The intervention consisted of a carrel within the class which students could choose to visit for up to three, 5-minute periods per day. While at the carrel, students could select from a variety of audio-based strategies provided on a CD player, comprising soothing music selections, as well as progressive muscle relaxation exercises, and visualization narratives which the children could work through. The option of completing a simple “problem-solving form”, as a means of reflecting upon their behaviour, was also provided. During both the 20-day baseline and 20-day experimental phase of the study, teachers maintained daily behavioural ratings and time-out frequency counts (also indicating the precipitating factor in the case of each time-out). Students kept their own records of carrel usage, and also completed pre- and post-intervention surveys and feedback forms. At the conclusion of the study, teachers completed a feedback form and were interviewed by the researcher. T-tests, Wilcoxon-signed rank tests, and ANOVA tests on the quantitative data garnered from the study, did not reveal the presence of significant trends suggestive of behavioural changes, within the data. Both student and teacher feedback, however, was largely positive, and can be regarded as indicative of the

calm carrel's value as an intervention blending self-management and relaxation techniques to provide a non-punitive student-directed alternative to the predominantly teacher-mediated approaches often characteristic of EBD classrooms. The intervention, deemed worthy of further study as a result of the present thesis, is thought to represent a technique which might help to facilitate the transition of students with EBD from segregated to inclusive class settings, insofar as it should be equally feasible to implement in both environments.

Acknowledgements

I wish to express my very considerable gratitude to my supervisor, Dr. Jack Goldberg. His most generous support, encouragement, and patience have been tremendously appreciated during the course of my studies, and his expertise, feedback, and helpful insights have been invaluable. Working with him, as a student, a supervisee and a teaching assistant, has been the highlight of my graduate program, and I feel very fortunate to have had the opportunity. Thank you so much for everything, Jack.

I also wish to express my sincere gratitude to the additional members of my supervisory committee, Dr. Dick Sobsey and Dr. Carol Leroy, and to the additional members of my examining committee, Dr. Christina Rinaldi and Dr. Veronica Smith. Thanks also to Dr. Judy Lupart, for serving as Chair of the committee for my candidacy examination. The feedback and support I have received from all of my committee members, throughout the course of my program, has been greatly appreciated. I've also been fortunate enough to have taken courses from most members of my committee, and am very grateful for the valuable role all have played in my graduate studies. I would also like to extend my gratitude to Dr. Don Dworet of Brock University, for serving as the external examiner for my defense.

I would like to sincerely thank all of the teachers and students who participated in the calm carrel study. Their enthusiasm towards trying a new technique, and their assistance with record-keeping was, needless to say, of paramount importance to the project.

Thanks also go to my sister, Erin, for helpfully supplementing the advice of the various statistics consultants I sought out on campus.

Most of all, I would like to thank my father, Bruce, for his tireless support and encouragement throughout my studies, as well as for his advice and technical assistance with setting up the calm carrels themselves. Thanks also to both him and my mother, Pat, for inspiring my interest in education, one manifestation of which has been the present study.

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CHAPTER I

INTRODUCTION

Rationale

There is a certain irony inherent in the common practice of educating students with emotional and behavioural disorders (EBD) in self-contained (segregated) classroom settings. Although the intent is, or should be, to provide these students with needed skills and strategies to enable them to later transition to, and experience success in, an inclusive class context, EBD class teachers often, perhaps unwittingly, complicate matters by creating an environment so different from the average classroom that attempts at reintegration, if and when they are made, often tend to be less than successful.

Research examining outcomes for both elementary and secondary students with EBD who had been educated in self-contained classrooms eight years earlier, found that, among the elementary population, a mere 29.5% of students had successfully returned to general class settings, while 3.8% had graduated high school from EBD settings, 14.1% had transferred to other special education programs, 26.9% were still in segregated EBD classes, and 25.7% had either dropped out of school or entered more restrictive placements elsewhere (Mattison & Felix Jr., 1997). The secondary student population fared even worse, with a full 58.9% having been placed in more restrictive settings such as residential, psychiatric, or substance abuse programs, or withdrawn from educational programming completely at follow-up (Mattison & Felix Jr.). Although the mean length of EBD programming for the elementary students was slightly over four

years, it was greater than six years for nearly 30% of the students, and slightly more than a third of all reintegration efforts with the elementary group, when attempted, were unsuccessful (Mattison & Felix Jr.).

Despite growing interest in inclusion, the particular challenges in transitioning students with EBD into regular classrooms are perhaps not surprising, given the considerable number of schools that lack plans for implementing reintegration procedures with this population of children (Grosenick, George, George, & Lewis, as cited in Landrum & Tankersley, 1999). The need for strategies specifically designed to help students with EBD develop and practice skills they can use in an inclusive setting is a most important aim underlying any worthwhile interventions used in the self-contained setting (e.g. Cancio & Johnson, 2007). Indeed, it could be argued that from the very moment a student is placed in an EBD classroom, the most essential ongoing consideration in planning programming for him or her should stem from the teacher's assessment of what needs to be done to help the child move back to the regular class environment, and remain there.

This ought not, by any means, imply that inclusion should occur hastily. Students placed in an EBD setting are, assuming they have been assessed accurately, in need of very considerable assistance in order to be able to function successfully in the inclusive class context, without posing a danger to, or interfering with the learning of, themselves or others. When structured and staffed appropriately, the self-contained EBD class can provide students with unique, highly individualized supports that are necessary, on at least an interim

basis, to meet their complex needs, and which can be very difficult, if not practically impossible, to offer children within an inclusive setting (Kauffman, Bantz, & McCullough, 2002; Landrum, Tankersley, & Kauffman, 2003). There can be little doubt that teachers, with specialized training, are afforded better opportunity to personalize instruction and behavioural management, and to bring about significant changes in both domains, in classes of less than a dozen students supported by a full-time paraprofessional, than in classes that are double or triple the size and lacking the services of a teacher aide.

However, the fact remains that, in practice, EBD classrooms do not necessarily serve their purpose so effectively (e.g. Lane, Wehby, Little, & Cooley, 2005), and students do not, by and large, appear to reap the benefits one might expect to be forthcoming from the concentrated provision of such custom-made supports. Indeed, research suggests that students with EBD invariably experience poorer outcomes than all other disability groups (Kern, Hilt-Panahon, & Sokol, 2009). From the fact that these students tend to receive much of their education in segregated settings (Kern et al.), it would follow that the problem must stem, to a significant extent, from what occurs, or does not occur, within these classes.

Generally speaking, there is often an unfortunate tendency for the EBD classroom to be viewed, by all concerned, less as a means of equipping students with the skills and strategies of self-regulation they were unable to develop or exercise in the regular class, and more as a makeshift holding tank for the children other teachers are unwilling or unable to deal with. Further, the often heavy reliance, in EBD classes, upon teacher-directed behavioural management techniques such as

the token economy and isolation time-out, does little to foster student self-management, as the responsibility for monitoring, reflecting upon, and rewarding behavioural successes and punishing transgressions falls primarily to the teacher. The use of such approaches also serves to acclimatize students to a system of classroom management which is both highly impractical for, and almost never implemented within, the average inclusive class setting. Adopting long-term behavioural management strategies in the EBD classroom which are unlikely to be used in the inclusive environment, is, at best, a band-aid solution to students' difficulties, and may in fact make reintegration less, rather than more, probable.

The calm carrel intervention under consideration in this study, outlined further shortly, has been designed with recognition of the fact that there is substantial untapped potential within the current repertoire of methods commonly employed in the typical EBD classroom. A setting so well-positioned to provide students with unparalleled teacher support and, through this, tremendous opportunities for personal growth, need not be so maligned, nor perceived as so ineffective in promoting behavioural improvement. The aforementioned difficulty in effectively preparing students for a successful transition from self-contained classrooms to inclusive ones, can be addressed by ensuring that strategies are in place in the EBD classroom which will more directly aid students in taking increased responsibility for their own behaviour, as supports from teachers are faded. Importantly, such techniques should also be conducive to easy implementation within a regular classroom context. Insofar as inclusion is certainly a worthwhile aim for all students with EBD, if the tools children are

given during their tenure in the segregated setting are to be of any real value, these strategies must also serve them well outside that more restrictive class placement. The calm carrel, it is hoped, may prove to be one such technique.

An additional advantage of adopting more child-directed approaches to behavioural management, such as the calm carrel, is the likely reduction of tension between teachers and their students. As discussed further in the literature review chapter, highly punitive techniques, such as isolation time-out, and, potentially, reinforcing strategies which require considerable intervention on the part of educators, such as the token economy, can lead to contentious exchanges, and even animosity, between students and teachers. Not only does time spent administering, and responding to complaints about, teacher-administered consequences, detract from productive teaching and learning time, it can also exacerbate existing behavioural difficulties and lead to feelings of resentment on the part of students. The extent to which negative interactions do, unfortunately, tend to characterize classes for children with EBD (Gunter et al., 1994), coupled with notable concerns stemming from greater than average attrition levels and job-based stress among EBD class teachers (Henderson, Klein, Gonzalez, & Bradley, 2005), highlights the significant need for behavioural management strategies which are conducive to positive, respectful relationships between staff and students. The calm carrel, as such, is an entirely non-punitive, student-centered technique, intended to contribute to a less stressful classroom environment, for all concerned.

In addition to taking into account, and building upon, research clearly highlighting the value of different kinds of self-management strategies for use by students with EBD, including self-monitoring (e.g. Kern & Dunlap, 1994), self-evaluation (e.g. DuPaul, McGoey, & Yugar, 1997), self-instruction, and combinations of these techniques (e.g. DiGangi & Maag, 1992), the calm carrel strategy is heavily influenced by a growing body of literature emphasizing the role that relaxation exercises of various types can play in reducing both emotional and physiological signs of stress in the school-aged population (e.g. Lohaus & Klein-Hebling, 2000).

Although there is presently a comparative lack of research on applications of relaxation-based techniques as a means of facilitating improved behaviour (by targeting the causal factors of anxiety and frustration), among students with EBD specifically, there is clear indication from existing studies (e.g. Grskovic et al., 2004; Hallam & Price, 1998; Lopata, 2003), that this is a promising area, and one very worthy of continued investigation. Encouraging findings pertaining to the value of progressive muscle relaxation exercises, visualization narratives, deep breathing procedures, and the use of gentle instrumental music, all of which are techniques incorporated within the calm carrel intervention, will be considered in the literature review chapter. Although the calm carrel is unique with respect to the particular blend of relaxation strategies being employed in a single, self-management based package intervention with the EBD population, it is a promising sign, as discussed in the next chapter, that other approaches along these lines are also emerging (e.g. Lantieri, 2008b). It is anticipated that the relative

ease with which teachers can implement audiotape-prompted relaxation strategies within the average classroom, and the degree of independence with which students can employ them, will combine to make the calm carrel strategy both a preferred alternative to the use of aversive management techniques on the part of teachers, and an approach well-suited to the generalization and transference of self-soothing skills on the part of students with EBD.

Recent research suggests that EBD class teachers tend to be less qualified and less well-prepared for their roles than other special educators (Billingsley, Fall, & Williams Jr., 2006). Given this, and the additional job stress alluded to previously, it may be that teachers in these classes often opt for the familiar and well-worn behavioural approaches which have characterized segregated EBD settings for decades, believing these to be more effective or easier to implement than newer, more student-centered techniques. Whatever the reason, students are short-changed as a result, and opportunities for fostering teacher-student rapport, improving children's ability to exercise self-control, and facilitating the process of more smoothly integrating students into inclusive class contexts, are missed in the process. By introducing the calm carrel technique into the schools, examining its impact upon student behaviour, and securing feedback from participating children and teachers as to its effectiveness, it is hoped that the present, exploratory study will contribute to the current state of knowledge about useful, student-friendly interventions for addressing behavioural difficulties, appropriate for use in both the self-contained and inclusive class setting.

Overview of the Calm Carrel Strategy

In order to provide preliminary context for the reader prior to proceeding to an examination of the related literature, a short description of what is entailed by the calm carrel intervention follows, with more in-depth discussion included in the method chapter. Six classes of Grade 4, 5, and 6 students with EBD participated in the present research study. In each class, a carrel was set up in the room during the experimental phase of the project, and the children were permitted to individually take up to three, five-minute sessions there, per day, when feeling frustrated, angry, or otherwise upset in class. While at the carrel, the students were able to use a compact disc player to listen to relaxing music, progressive muscle relaxation exercises, and/or visualization narratives. A variety of selections were available within each of these three categories, and noted on a track-listing posted at the carrel, and the children were free to self-select which of the audio tracks they preferred to listen to. Visual depictions of the progressive muscle relaxation exercises, as well as steps for a basic deep breathing procedure, were affixed to the carrel. Students were also provided with a duotang containing copies of a simple 'problem-solving form' which they were given the option of completing during their session at the carrel. This form asked them to identify why they had chosen to take a calm carrel break (i.e. what had prompted their difficulty), and what they planned to do upon returning to their seat to address what had been bothering them. Immediately prior to the beginning of the experimental phase, the students participated in a short training session

administered by their teacher, during which they learned how to use the carrel, and how the strategies in place there were intended to help them.

It was anticipated that the calm carrel would, ideally, both improve overall student behaviour and reduce the need for teacher administration of punitive techniques. As such, during both the baseline and the experimental phase (each lasting 20 school days), teachers maintained records wherein they assigned every child a global behavioural rating for the day (according to specified criteria), while also documenting the number of isolation time-outs they gave each student, along with the precipitating factor in the case of each time-out. Students kept track of their own carrel usage, along with the specific CD tracks they listened to, in their duotangs. Several other supplementary measures, including surveys of both the children and their teachers regarding their perceptions of student behaviour and the utility of the calm carrel, are discussed in the method chapter. A listing of the specific research questions under examination, is also included within that chapter.

Having put forward a case for the need for student-centered, inclusion-friendly techniques such as the calm carrel, for use with children with EBD, and having outlined the basics of the calm carrel intervention itself, attention will turn, in the coming chapter, to a detailed consideration of literature which provides additional background for the study being undertaken. Looking both at research on traditional teacher-directed behavioural management approaches, and at research on student-directed self-management and relaxation-based strategies, will serve to establish the context from within which the calm carrel has emerged.

CHAPTER II

LITERATURE REVIEW

This chapter will provide an overview and discussion of literature of relevance to the study at hand. It is worth noting at the outset that the calm carrel intervention is a relatively unique one, in the sense of not having close parallels within the existing empirical literature (aside from the author's own unpublished master's thesis and a few variations on the basic premise, discussed later in the present chapter). Nevertheless, it includes components which draw upon findings, and are supported by conclusions, from studies within several different domains of educational and psychological research. As such, this chapter will chart a fairly broad course through research in these pertinent areas, while focusing in on findings of special relevance, with an aim to presenting a compelling argument underlying the logic and potential value of the calm carrel intervention.

The review will open with a consideration of the nature of segregated class programs for students with emotional and behavioural disorders (EBD), followed by an examination of two teacher-directed behavioural techniques of classroom management commonly employed in these classes: the token economy and isolation time-out. By establishing the potential drawbacks of these types of strategies, the value of supplementing these with a more student-directed approach to behavioural management will start to become apparent. As such, attention will then be devoted to the provision of an overview of research which has examined the use of self-management techniques for students with EBD. Although the calm carrel intervention cannot be clearly classified as one

comprising primarily self-monitoring, self-evaluation/reinforcement, or even self-instruction as these terms tend to be most commonly used, it does incorporate elements of these techniques and builds upon their underlying premises, and, as such, some discussion of each will help to provide additional context. Relaxation strategies of various types figure prominently in the calm carrel intervention, and hence the chapter will conclude with an examination of relevant research highlighting their special value for use with this population of children.

The Segregated Classroom for Students with EBD

As the calm carrel intervention under consideration in this study is being implemented solely in segregated class settings for students with EBD, it is worthwhile to first establish several key aspects of the nature of these classrooms in order to frame the discussion that follows.

Estimates on the proportion of students with EBD who are educated in segregated class environments vary, often quite considerably, depending upon the source. Figures from research based out of the United States suggest it is probable that approximately one-third of these students are taught full-time in a separate classroom (Handler, 2007; Landrum, Katsiyannis, & Archwamety, 2004). However, according to the U.S. Department of Education (2007), only 37.3% of students with emotional disturbances spend more than 80% of their time in regular classrooms. The apparent lack of congruity between the numbers being reported is in large part due to the fact that a significant number of students with EBD participate to varying degrees in pull-out, resource room-based programs (Landrum et al.), while a smaller percentage are also educated in other settings

such as hospitals and residential and correctional facilities (U.S. Department of Education).

Canada-wide statistics on special education placements are more limited and dated, and are largely pooled rather than broken down by disability classification. As of 1994-1995, 8% of all students with special needs were taught exclusively in a separate classroom context within a regular school (Statistics Canada, 2001). Although the same source reports that 23% of children receiving some form of special education in Canada have emotional or behavioural problems, it would be incorrect to conclude on this basis that 8% of these students are educated in a segregated class setting. However, because the Canadian statistics on placement are not categorized by type of disability, this is the closest nation-wide estimate available at present. The very common finding that students with EBD are more frequently excluded from, and regarded as more challenging to include in, the regular classroom setting in comparison to all other students with disabilities (Landrum & Tankersley, 1999; Reddy, 2001; Simpson, 1999; Visser, Cole, & Daniels, 2002), suggests that this figure is most likely an underestimate.

While the specifics may be uncertain, it is nonetheless clearly the case that substantial numbers of students with EBD are receiving much or all of their education in segregated class settings. Although the design of the calm carrel intervention under study is such that it could be implemented within any classroom where students are experiencing behavioural difficulties, the decision to assess its merit initially within the context of segregated class settings for

children with EBD, in particular, is justified given both the extent to which students are placed in these environments, as discussed above, and the fact that the strategy is, in part, intended to serve as a tool to provide students with the skills necessary to allow them to experience a successful transition to an inclusive class in the future.

The composition of segregated classes for students with EBD varies across schools, districts, and, of course, beyond, as a function of the different definitions, and, more specifically, the various coding criteria and funding procedures in place. Short of wading into the exceedingly murky waters comprising the debates on these various issues, all one could say with complete certainty in this respect is, as Lane, Wehby, Little, and Cooley (2005) stated in describing one school district's criteria for such placements, that "students are assigned to these settings when their behaviors become too difficult to manage in a less restrictive setting" (365). Adopting this as a working definition for EBD class composition for purposes of this literature review, effectively conveys the relative subjectivity inherent in placement decisions and the fact that a child placed in a segregated class for students with EBD in one school or district, may not even be considered for such a setting in another.

Several generalizations are, nevertheless, appropriate. It can be stated with considerable certainty, for instance, that students with externalizing types of behaviour difficulties are presently more likely to be placed in special education settings than students with internalizing problems (Merrell & Walker, 2004). Of these, conduct disorder or oppositional defiant disorder, often coupled with

attention-deficit/hyperactivity disorder, a common comorbidity (Pelham Jr. & Evans, 1992), represent the most probable DSM diagnoses. Learning disabilities and related neuropsychological deficits can tend to co-occur within this population as well (Mattison, Hooper, & Carlson, 2006). Research highlights a significant gender disproportionality in referrals for assessment for possible EBD in the school context, with boys subsequently being much more commonly identified for special education services than girls (Oswald, Best, Coutinho, & Nagle, 2003).

Typically, class sizes in segregated settings for students with EBD are quite small in comparison to regular classes, often ranging from 5-12 students at the elementary level. Classes tend to consist of multi-grade groupings (with, for example, students in Grades 1-3 and Grades 4-6 being grouped together), and commonly include a full-time teacher's aide, or, in some cases, two full-time teachers. Despite the notable absence of research specifically on characteristics of EBD classrooms, these general statements are nevertheless borne out by descriptions of samples in various studies (e.g. Gunter, Venn, Patrick, Miller, & Kelly, 2003; Kauffman, Bantz, & McCullough, 2002; Stichter, Hudson, & Sasso, 2005; Sutherland, Wehby, & Yoder, 2002).

Common Teacher-Directed Management Strategies in EBD Classes

Having established several typical characteristics of self-contained classrooms for students with EBD, attention will now turn to an examination of research on two of the most common teacher-directed behavioural interventions employed in these settings: the token economy and isolation time-out.

Considering, in particular, some of the difficulties inherent in the use of these techniques, will serve to highlight the value of more student-directed strategies, such as the calm carrel, which will lead into a discussion of research in the area of self-management and relaxation.

The Token Economy

The token economy, for purposes of this discussion, can be broadly defined as a system of positive reinforcement in which students demonstrating good behaviour or performance are awarded tokens or points, which can subsequently be exchanged, according to a pre-established schedule, for tangible rewards or privileges of some type. The token economy may also include a response cost component (a form of negative punishment), whereby a student could be required to relinquish tokens to the teacher, or even to other students, when behavioural expectations are not met. In classes for students with EBD, the token economy is commonly set up on a class-wide basis, and often comprises a very significant component of the teacher's approach to behavioural management.

A number of studies have supported the use of token economy programs, either alone or in conjunction with other interventions, for purposes of reducing the disruptive or otherwise inappropriate behaviour of individual, small, and, much less frequently, large groups of children and adolescents who either have been diagnosed with, or demonstrate characteristics of, learning disabilities (Higgins, Williams, & McLaughlin, 2001), developmental disabilities and autism (Klimas & McLaughlin, 2007; Matson & Boisjoli, 2009), oppositional defiant disorder (Mottram, Bray, Kehle, Broudy, & Jenson, 2002; Stein & Smith, 1990),

and more broadly defined emotional and behavioural problems (Champagne & Ike, 1990; Wolfe, Dattilo, & Gast, 2003).

A number of potential drawbacks of the token economy system, primarily stemming from its teacher-directed nature, are also apparent in, or can be inferred from, the literature. As with other teacher-driven behavioural strategies such as the level system (Smith & Farrell, 1993), the token economy's prevalence (Truchlicka, McLaughlin, & Swain, 1998) cannot be assumed to reflect its effectiveness. Several studies have indicated that, although commonly adopted, the token system may not be the most appropriate type of management strategy in many circumstances. In one case, for example, there was found to be no significant difference between the use of a token economy and the use of a 'therapeutic community' (a humanistic intervention incorporating self-regulation) in minimizing the inappropriate behaviours of adolescents with conduct disorders in a residential treatment environment (Mann-Feder, 1996). Indeed, tellingly, the only notable significant result in the aforementioned study was an improvement in scores on a measure of self-concept among students in the therapeutic community group, and a deterioration in scores on the same measure, among students in the token economy group (Mann-Feder). Another study indicated that the number of inappropriate vocalizations among students with learning disabilities remained essentially unchanged with the use of a token economy/level system, decreasing only when a self-management component was added to the intervention (Cavalier, Ferretti, & Hodges, 1997). The outcomes of the studies discussed here highlight

the value of supplementing the token economy with strategies allowing students to take greater ownership of, and hence, responsibility for, their own behaviour.

Research has indicated that youth may rebel against a token program, displaying increased levels of misbehaviour (Miller & Cosgrove, 1990) and/or verbal or physical aggression towards staff members (Miller & Cosgrove, 1989), when they perceive expectations for token or back-up reinforcer attainment to be unfair or unrealistic. Although these latter conclusions are based upon studies conducted with adolescents with EBD in a residential hospital environment, they have important implications for the classroom setting as well. If students regard the earning of tokens as an insurmountable challenge over which they have minimal control, they are likely to become resentful and invest little effort in subscribing to standards of classroom behaviour, a problem compounded by the fact that, inevitably, not all students will see the available reinforcers as sufficiently motivating or worthwhile striving for, in the first place. Further, student ownership of behaviour cannot be fostered if particular children are, by virtue of the established criteria for the class-wide program, routinely excluded from the opportunity to earn tokens and purchase back-up reinforcers, and thus made to feel they have little influence over their own success in the token system, and therefore, their status in the classroom. The dilemma here is that if the teacher attempts to adapt the criteria for token delivery in order to accommodate these students, this is done at the almost certain risk of compromising classroom behavioural objectives, thus running counter to the purpose of the token economy itself.

The nature of the token economy is such that rehashing the specifics of students' behaviour can easily become the basis for extremely frequent, and, in the case of the response cost component, possibly contentious interactions between teacher and child. In light of the fact that research clearly and consistently indicates that EBD classes tend to be characterized by low rates of positive interactions between students and teachers (Shores & Wehby, 1999), any strategy which may potentially be contributing to this trend needs to be very carefully considered. It is not difficult to imagine how such matters as token dispersal schedules, the selection and availability of back-up reinforcers, the 'values' of specific behaviours in terms of tokens earned or lost, and the 'cost' of back-up reinforcers could become very well-worn and heated topics of conversation, very quickly, in the average EBD classroom. The artificiality of framing discussions of behaviour within the context of an often convoluted system of finance-like terms far removed from the way children and teachers in other classrooms think and talk about behaviour (in relation to its more natural consequences) may well be doing students with EBD a substantial disservice. As a student-centered intervention, the calm carrel avoids the aforementioned pitfalls and tensions associated with the teacher-driven token economy.

The potential for student manipulation of a token economy program is also worth noting. Research has shown that individual students who do not respond to an established token system, may nevertheless display behavioural improvement when the program is adapted such that opportunities for token exchange are doubled and the number of tokens required in exchange for back-up reinforcers

are cut in half (Field, Nash, Handwerk, & Friman, 2004). The fact that the improved behaviour in this latter study was wholly dependent upon the frequency of token delivery and the affordability of back-up reinforcers, points to the absence of a skill deficit, and suggests the possibility that, in a case like this, children may be able to take advantage of a token program by 'holding out' for greater reinforcement before complying with behavioural expectations. Although the EBD class teacher may be in a position to essentially barter with students, increasing the payoff from a token economy in order to elicit appropriate behaviour, such a procedure would rarely be feasible within an inclusive classroom, and one must therefore question, ultimately, in what sense it is to students' benefit in a special class setting. Similarly, some in the field take issue with the intervention's resolutely behavioural nature from an ethical standpoint. Distributing tokens and reinforcers contingent upon students' emission of appropriate behaviours could, without much imagination, be seen as a fairly obvious form of bribery, and as potentially detracting from intrinsic motivation (Filcheck & McNeil, 2004) or demeaning students by restricting their capacity to act autonomously (Kohn, 1993). A self-management intervention such as the calm carrel, would have no such coercive overtones.

There is presently a lack of longitudinal empirical research attesting to the token economy's value in improving student behaviour in the context of actual EBD classrooms, comprising the mix of students typically found in such settings. Although many of the basic behavioural principles behind the token economy have been well-supported, there remains a high degree of uncertainty as to the

appropriateness, in the long-term, of this teacher-directed intervention for use in the very context in which it is most frequently administered. There is also a need for research into the extent to which those students who have experienced token economy programs for one or more years of their education in segregated EBD class settings, adapt to inclusive class contexts where these complex, wholly teacher-directed interventions are very rarely applied. Certainly some adjustment would be required on the part of the students, as exclusive reliance on behaviourally-based approaches such as the token economy is at odds with the goal of facilitating the type of student self-management that is essential for functioning in inclusive class contexts (Scott, 1998). Because of the notable lack of conclusive support for the use of token economies as a means of behavioural management in classes for children with EBD specifically, the possible practical and philosophical concerns stemming from its use (Skinner, Cashwell, & Bunn, 1996), and the fact that the intervention is not at all in keeping with the types of techniques that could reasonably be applied in most inclusive class settings, it would appear that a search for more low-key, student-directed, and 'inclusion-friendly' strategies, such as the calm carrel intervention, would be more than justified.

The Isolation Time-Out

Time-outs, as utilized as a behaviour management strategy in an educational setting, are generally described as falling into one of three categories: (a) the minimally aversive *nonexclusion* time-out, in which the student is permitted to observe but not participate in classroom activities; (b) the more

restrictive *exclusion* time-out, in which the student remains in the classroom, but is denied the opportunity to not only participate in, but also observe, the proceedings (for instance, by being required to sit in a corner, put their head down, or relocate to a carrel at the back of the room); and (c) the maximally punitive *isolation* time-out, in which the student is required to move to a secluded area away from the rest of the class (most often a designated time-out room attached to the classroom) for a period of time (Harris, 1985). Time-outs are generally regarded as a form of punishment administered by a teacher or teacher aide, following from student misbehaviour of some type, and representing a “time-out from positive reinforcement” (Payne, Mancil, & Landers, 2005, p. 13). However, the calm carrel intervention itself could be seen as akin to a type of self-imposed and, importantly, non-punitive, exclusion time-out which students may choose to take, ideally as a means of pre-empting a teacher-imposed, isolation time-out. In this sense, time-out could be more appropriately regarded as time away from a situation which is causing the child frustration, rather than time away from positive reinforcement. This, however, is not how the term is used in the literature.

Due to the calm carrel’s function as a form of voluntary time-out, and the fact that it is specifically intended to reduce the need for punitive behaviour management techniques and the negative student/teacher interactions that often follow from these, it is worth briefly examining the use of isolation time-out in particular, being one of the most aversive techniques employed in working with children with EBD (Ryan, Peterson, Tetreault, & van der Hagen, 2007). Such a

discussion will help to highlight the need for a student-centered adjunct, or ideally, alternative, to this approach.

In the only large-scale study of its kind to date, Zabel (1986) found that approximately 70% of EBD class teachers reported using some type of time-out procedure, as part of their behavioural management program. In a smaller-scale study surveying all fifty directors of special education in a single state in the United States, 51% of the directors indicated they were sure that EBD teachers in their districts used a time-out area as one of their discipline procedures (James, 1994). The significant attention isolation time-out, in particular, has received, and the controversy it has generated in recent years (Ryan, Peterson, & Rozalski, 2007), in both the literature and the media, would seem to suggest its use in self-contained classes for students with EBD has not dissipated to any considerable extent.

The use of isolation time-out (henceforth referred to simply as time-out) has been questioned on both ethical and legal grounds for decades now (Gast & Nelson, 1977; Yell, 1994), and with increasing frequency as government and school district policies have been developed in an attempt to avoid misuse of the strategy (Ryan, Peterson, & Rozalski, 2007; see also Couvillon, 2003, for example). Reports in the media of alarming abuses of the time-out room intervention (e.g Crumb, 2008; Fantz, 2008; Savini & Rubenstein, 2000) have helped draw attention to the fact that when applied inappropriately or without the provision of adequate supervision, time-out may not only be ineffective, but also dangerous, while potentially compromising students' basic rights in the process

(Yell, 1994). In addition, the use of time-out does not appear to be in keeping with the goal of fostering inclusive educational practices, as in many instances of misbehaviour it cannot be considered the “least restrictive alternative” form of intervention (as the term is used by Barton, Brulle, & Repp, 1987). The fact that inclusive classrooms are rarely equipped with time-out room facilities, further distinguishes the segregated class setting from the regular class environment, meaning that any degree of reliance on the administration of teacher-imposed time-outs in the former context would do very little to facilitate students’ transition into the latter one. As mentioned previously, the calm carrel intervention was designed in such a way that it could easily be implemented in either a self-contained or inclusive classroom environment.

With reference to parent-administered time-outs in the home environment, it has been argued that time-out neither elucidates nor addresses the underlying causes of misbehaviour, and, for this reason, is detrimental to the important aim of meeting a child’s frustrated needs (Haiman, 1998). The same could certainly be said of its employment in the classroom, as well. Indeed, from a practical standpoint, a considerable drawback of time-out is its failure to adhere to the fair pair rule for selecting interventions, which posits that “if a behaviour is to be decreased then another behaviour should be increased” (Yell, 1994, p. 297). Being assigned a time-out and excluded from classroom participation for a period of time, does not teach students more acceptable or adaptive behaviours. As Maag (2001) aptly stated, “There is a perverse irony when adults evoke punishment with the phrase “I’m going to teach you a lesson.” Teaching involves

giving children skills and knowledge, not suppressing or eliminating behavior” (p. 178). Hence, the use of time-out as a behavioural management strategy falls short in this respect as well. In contrast, the calm carrel intervention, endeavours to provide students with practical tools they can employ for purposes of self-soothing, and to help them learn to take a greater degree of control over their own behaviour, and thus performance, in the classroom. Far from being a punitive technique, the intent is that it will reinforce students’ attempts at self-management, while also serving as a meaningful learning opportunity.

A study examining preschool children’s perceptions of time-out indicated that less than half of the students interviewed were able to correctly explain why they had received a time-out consequence, causing the researchers to conclude that such a result renders somewhat suspect the likely effectiveness of the time-out event in deterring future misbehaviours (Readdick & Chapman, 2000). Although research along these lines with older students has not been forthcoming to date, it is clear that the isolation time-out intervention, in and of itself, would be lacking in didactic value with any population. This is a particular concern, given the substantial amount of time some students spend in time-out. A year-long study of 156 junior and senior high school students with EBD at a segregated special education facility, found that, over the course of 12,992 separate time-out incidents (12% of which were voluntary) the students spent an average of 23 hours each in time-out over the course of 175 instructional days, with this number varying for individual students from no time at all, to a maximum of nearly 165 hours logged by a single child (Costenbader & Reading-Brown, 1995). To be

missing such a significant amount of instructional time, must be regarded as problematic, and doubly concerning in light of the fact that the time-out technique does not offer an opportunity for students to learn appropriate replacement behaviours to allow them to function more successfully upon actually returning to the classroom. Further, contrary to the notion that time-out assignments should be responses to relatively severe behaviours, a mere 1% of the time-out incidents in this study were prompted by physically aggressive behaviour, whereas, for instance, 37% of incidents stemmed from “talking” violations (“failure to use appropriate tone, volume or vocabulary...”) (Costenbader & Reading-Brown, p. 357).

The authors of the aforementioned study also maintained records on the total mean number of time-out incidents per day during each month of data collection, and the results showed no discernable decrease over the course of the school year, with the lowest number of time-out incidents actually occurring in September, the highest in January, and the second highest in May (Costenbader & Reading-Brown, 1995). It is worth noting that, if a punitive approach of this or any other type were truly effective, there should be less need for it, as the year progresses (Maag, 2001). If time-out as an intervention was successful in this respect, studies, including the present thesis, which are focused specifically on ways to decrease the number of time-out assignments (e.g. Grskovic et al., 2004; Ryan, Peterson, Tetreault, & van der Hagen, 2007) would be unnecessary, as the effectiveness of the strategy itself as a punitive measure would be all that was needed to reduce the extent of its use. It could perhaps be argued that part of the

reason time-out continues to be used is that it can serve to minimize disruptive, inappropriate, or dangerous behaviour in the short-term; yet the reason it continues to be used so *much*, is that it does not reliably alleviate such behaviours in the long-term.

Even in the short-term, however, its utility is unpredictable. Time-out is thought to serve as a deterrent to the reoccurrence of misbehaviour insofar as the time-out environment is regarded by the student being punished as having significantly less reinforcing value than that of the larger classroom setting, or time-in environment (Turner & Watson, 1999). However, if the time-out room is viewed by the student as a means of avoiding what are perceived to be unpleasant classroom learning experiences, its practical value as a punitive behaviour management tool will be nonexistent, as reinforcement contingencies will have rendered the time-out environment a more rewarding one, during that particular period of time, than the classroom itself (Shriver and Allen, 1996). In a similar way, the peer and teacher attention that often follows from the receipt of a teacher-imposed time-out, may be seen as very reinforcing in the eyes of some students, hence also potentially negating any effectiveness the time-out may otherwise have had (Friend, Bursuck, & Hutchinson, 1998). In these respects, it is clear that the use of time-out may have unintended consequences, stemming from factors over which the teacher cannot exert control. Adding to the drawbacks of regularly applying an aversive disciplinary measure like time-out in the classroom, then, is the fact that something administered as punishment can actually be functioning as reinforcement, quite possibly without the teacher even

realizing it. The intent underlying a student's behaviour is not necessarily apparent, yet makes all the difference in determining whether or not a teacher-assigned time-out will aid or exacerbate the situation (Taylor & Miller, 1997). Because the calm carrel strategy is implemented by the students themselves, and set-up so as to serve as a relaxing and pleasant experience, the possibility that inappropriate classroom behaviours may be inadvertently reinforced through its use, is avoided.

Also pertaining to the unintended consequences of using aversive management strategies in the classroom, a related issue is the risk that a student's behaviour problems might be aggravated as a result of the degree of teacher-student confrontation often inherent in the delivery of the time-out punishment. Being told, and perhaps forced, to remove oneself from the class, could clearly be a catalyst for conflict, particularly given the already heightened emotions likely to be operating at the time, if a student is frustrated with their work or having disagreements with peers, for instance. Time-out is truly an unpleasant consequence for many students, and hence the extent to which it sometimes compounds pre-existing behaviour problems, cannot come as a great surprise. A study which would merit replication within a school context, examined the use of time-out with children and adolescents in a psychiatric hospital, and found that, irrespective of the offending behaviour, the greater the duration of a time-out session assigned to the patients, the longer it took them to calm down once in the time-out room (Benjamin, Mazarins, & Kupfersmid, 1983). The researchers concluded that this "suggests a form of frustration effect, ie, an increase in activity

as a result of being thwarted or blocked”, and, ultimately, that “longer TOs may promote an increase in assaultiveness” (Benjamin et al., p. 27). This clearly has implications for the classroom setting, as well.

Research focused on classifying the nature of interactions in the self-contained EBD class environment, indicated that positive exchanges between teachers and students constituted less than 7% of the total time teachers and children interacted in class, whereas negative interactions comprised nearly half of the time, and neutral/mixed interactions accounted for the remaining portion (Gunter et al., 1994). Given, then, that positive teacher-student interactions can tend to be notably lacking within classes for children with EBD to begin with, introducing additional discord into the equation via behavioural management techniques which are likely to escalate, rather than remediate, existing difficulties, is most certainly cause for concern. The calm carrel intervention, as such, is intended to serve as neutral ground, where students can regain control over their emotions and return to the larger class setting, without confrontation, and without compromising the teacher-student relationship.

The preceding discussion should not be taken to suggest that the use of isolation time-out would never have a place in classes for children with EBD. Rather, this overview of the punishment’s drawbacks serves to highlight the need for considerable caution on the part of teachers using this approach, in light of the many ways in which it can easily go awry, or be misused. Although it is an intervention that can be helpful to have at a teacher’s disposal when circumstances warrant, and although it can be effective in the short-term in certain

instances, and for certain children (Shriver & Allen, 1996; Taylor & Miller, 1997), it ought not be relied upon in cases where other, less aversive strategies will suffice. Recommendations for its use have been detailed, specifically for practitioners, in various guides and articles over the years (e.g. Alberta Education, 2002; Cuenin & Harris, 1986; Hall & Hall, 1998; Ryan, Sanders, Katsiyannis, & Yell, 2007; Turner & Watson, 1999), yet, as the research discussed throughout this section suggests, the extent to which best practices are actually reflected in the classroom, is questionable.

Proponents of the use of time-out would be correct in pointing out that results indicative of its potential value have by no means been completely lacking in the available literature. A meta-analysis, for instance, of 25 single-subject studies examining time-out use with children displaying externalizing behaviour difficulties, led researchers to conclude that the intervention appears to be an effective one in reducing disruptive classroom behaviour, particularly when applied with male students under the age of 7 in self-contained class settings (Vegas, Jenson, & Kircher, 2007). However, in the course of cautioning readers against inferring too much from this conclusion, in light of the limited size of the analysis, the study's authors remark upon the fact that "many different disruptive behaviors, types of time-out, interventions, settings, and design types had to be combined to produce the sample size" (Vegas et al., p. 118). This comment highlights a notable limitation within the literature on time-out more generally. As Everett (2010) put it, "researchers and practitioners often conduct TO in different ways, leaving no formulation of variables available to guide appropriate

implementation or make effective empirical comparison” (p. 160). There can be little real certainty about the utility of the intervention, owing to the very considerable number of factors which interact in a multitude of less than predictable ways to impact upon its success or lack thereof, and which result, perhaps inevitably, in a significant degree of inconsistency across existing studies, with respect to these variables.

The complexity of the time-out strategy demands careful consideration of the appropriateness of its use in a given class, with a particular child, and in response to a certain behaviour. As successful as it might prove to be under certain circumstances, it is also an ethically and legally questionable intervention, and one fraught with potential difficulties which may exacerbate problematic student behaviour. The fact that it would be impractical to implement within the vast majority of inclusive classroom environments, renders its use with any degree of regularity in segregated EBD class settings, nothing short of counterproductive. The calm carrel intervention has been designed with the various drawbacks of isolation time-out clearly in mind. It endeavours to incorporate the ‘best’ quality of time-out (that being the opportunity it affords for a break from the frustrations that a student might be encountering in class), into a non-punitive intervention which would also be feasible to use within an inclusive class setting, and which provides students with an opportunity to learn and practice self-management skills.

Self-Management Strategies

A gradual waning of interest in reactive, teacher-imposed methods of classroom discipline and a growing emphasis on the importance of using strategies that generalize across contexts, have been important factors in the advancement of research and practice in the area of student self-management (Cole, 1992). As an alternative to teacher-directed behavioural techniques, student-oriented approaches have been regarded by some as more acceptable strategies, insofar as they allow for greater autonomy on the part of children, and, as such, are more respectful of their role as individual agents of personal behaviour change (Brigham, 1992). Given that children strive for control over their own behaviour, and their environment, allowing increased opportunities for self-management in the classroom should have the effect of empowering them to become more accountable for the choices they make, while giving them a sense of having greater vested interest in their own learning and behavioural outcomes (Bluestein, 1999). The key implication of this is that if students in self-contained EBD classes are given cognitive and behavioural tools (such as those available through the calm carrel intervention) which they can learn to apply across settings, they can become less dependent upon teacher cueing and consequences, and hence, better able to manage themselves without teacher intervention upon their eventual placement within inclusive classroom settings.

Self-management strategies are most commonly classified as relating to self-monitoring, self-evaluation/self-reinforcement, self-instruction, or some combination of these different approaches. The calm carrel itself would best be

regarded as a kind of package technique, borrowing elements from each of the aforementioned types of self-management, yet culminating in an intervention not easily classified as representative of any one of them, in terms of the way these strategies are generally conceptualized in the literature. A consideration of what each type typically entails is presented in the coming pages, to provide an overview of existing research in the area, and to clarify the manner in which the calm carrel follows from this.

Self-Monitoring

Self-monitoring is perhaps best defined in this context simply as “the systematic observation and recording of one’s own behavior” (Akande, 1997, p. 275). Although it is sometimes used solely for assessment purposes, for instance whereby students might keep track of their personal behavioural progress in cases where it is more efficient than having a teacher maintain records for them, it is also commonly regarded and utilized as an intervention tool, in and of itself (Shapiro & Cole, 1999), either alone or in combination with other forms of self-management. In this sense, it can be regarded as a type of metacognitive strategy, serving as an agent for change insofar as the basic act of keeping records about one’s behaviour can lead to greater self-awareness which in turn can prompt improvements in the area under study (Menzies, Lane, & Lee, 2009).

In the case of the calm carrel strategy, students are involved in maintaining simple records during the experimental phase of the study, documenting when they choose to use the carrel, as well as the specific music, relaxation, and/or visualization tracks they listen to each time, while there. This could be seen as

constituting a simple form of self-monitoring, in that the children are essentially making note of when and how they are using the intervention to calm themselves. In doing so, they are likely to become more cognizant of how often they are feeling frustrated enough to leave the rest of the group to take a session at the calm carrel. From another angle, however, this same information could be viewed as telling the students how frequently they are taking responsibility for their own behaviour and for handling their frustrations independently (thereby potentially avoiding a teacher-imposed time-out), as well as reminding them, should they choose to consult their previous records, which particular tracks on the calm carrel CD are most helpful for them. Either way, the self-monitoring at play here is positive in nature, focused not on how much the students misbehave, but on how often they take advantage of the calm carrel to self-manage their behaviour.

Research with students with EBD has been supportive of the notion that fostering children's awareness of their own behaviour by means of self-monitoring can have a potentially reactive effect, leading to an improvement in the behaviours being tracked. A study, for instance, in which three early adolescent boys with severe EBD were taught to self-monitor the extent of their on-task and disruptive behaviour, along with their academic accuracy, each during separate short periods of mathematics seatwork, evidenced considerable behavioural improvements (Lam & Cole, 1994). Interestingly, it was also found that self-monitoring in just one of these three areas, led to collateral improvements in the other two domains, with the students' self-monitoring of the accuracy of their work, leading to the greatest reactive effects in this respect (Lam & Cole).

The results of similar research conducted at the elementary level with third grade students with EBD, where the self-monitoring targeted performance (accuracy) and attention, indicated that self-monitoring of performance proved to be more effective than that of attention in facilitating both academic and behavioural gains, and was also preferred by the children themselves (Rafferty & Raimondi, 2009). Other studies have likewise illustrated the positive impact self-monitoring strategies can have upon academic productivity and accuracy, together with concurrent behavioural gains (e.g. Carr & Punzo, 1993; Wood, Murdock, & Cronin, 2002; see also Maag, Reid, & DiGangi, 1993, for an example of this with students with learning disabilities coupled with off-task behaviour). If being more self-aware of a single facet of their performance (whether academic or behavioural), does lead students to experience commensurate positive changes in related areas (in other words, if the effects of self-monitoring generalize across behaviours), this implies that record-keeping procedures need not be terribly complex or all-encompassing, in order for benefits to be realized.

Although of course some self-monitoring initiatives target behavioural variables exclusively, insofar as reductions in disruptiveness appear to be associated with increases in on-task behaviour (Dunlap et al., 1995), and on-task behaviour is potentially correlated with greater academic productivity (Levendoski & Cartledge, 2000), which, in turn, would often translate into greater academic success, it is apparent that the advantages of self-monitoring strategies can extend well beyond the specific behaviour(s) to which they are initially targeted. While most studies in the area are limited to a subset of a single class,

support for the use of self-monitoring procedures on a class-wide basis has also been forthcoming occasionally, for instance, from a study examining the effects of self-recording on the on-task and disruptive behaviour of a class of six 11-13 year old students educated in a self-contained setting for children with EBD (Kern & Dunlap, 1994). An interesting variation on the approach, within the aforementioned study, was the fact that, in addition to having each student self-monitor on-task behaviour, the teacher also selected one supplementary behaviour for each child to maintain records on, personalized to their particular areas of need (Kern & Dunlap). On-task behaviour improved notably during the experimental phase, and although results on the individualized target behaviours were not reported in the study, the research nevertheless illustrates a way in which self-monitoring can be implemented for an entire class, while still addressing the unique needs of the individual children. It is perhaps surprising that more studies examining the effects of self-monitoring in EBD settings, have not been conducted on a class-wide basis, given that these classes tend to be much smaller than average.

Though implementing a self-monitoring system in the classroom should not, as mentioned above, need to be a complex undertaking for educators, there is indication that its effectiveness is likely to be significantly facilitated by the provision of teacher support and feedback to students, through checks on the accuracy of the children's own record-keeping efforts (Freeman & Dexter-Mazza, 2004). While it is possible that positive reactive effects may occur even with inaccurate self-monitoring (Cavalier, Ferretti, & Hodges, 1997), realistically, it is

to be expected that some degree of scaffolding, such as accuracy checks, would be not only helpful, but necessary, insofar as taking responsibility for honestly monitoring and keeping records on one's own behaviour in the school context, is likely to be a novel concept for many students with EBD. The growing number of articles and resources aimed at guiding teachers through the process of successfully implementing self-monitoring programs in their classrooms (e.g. Daly & Ranalli, 2003; Ganz, 2008; Vanderbilt, 2005) should, in turn, help them to ease into adopting an approach which might potentially feel as unfamiliar to them as it does to their students.

Further enabling the smooth transition to the use of self-monitoring as a student-centered strategy, is its degree of compatibility with other types of behaviour management techniques. Whether serving as one element of a package intervention featuring group contingencies and peer feedback (e.g. Coogan, Kehle, Bray, & Chafouleas, 2007), as part of a contextualized instructional program to teach math skills (Mulcahy & Krezmien, 2009), or as an enhancement to a teacher-directed token economy (e.g. Champagne & Ike, 1990; Zlomke & Zlomke, 2003), self-monitoring appears to be a worthwhile adjunct.

Apart from its value in improving classroom behaviour and on-task performance in segregated special education settings (Webber, Scheuermann, McCall, & Coleman, 1993), self-monitoring also shows strong potential for use with students with EBD in inclusive class environments (Jull, 2009). In addition to its ease of implementation, the extent to which the use of self-monitoring can generalize across contexts (in ways that solely teacher-directed techniques seldom

can), makes it particularly well-suited as a link between self-contained and inclusive classes, when introduced and taught in the former setting, and used as a means of equipping students for successfully segueing into the latter. Research supports the notion that this type of transference, when planned for appropriately, can and does occur (Peterson, Young, West, & Peterson, 1999). As a sampling of findings to illustrate the versatility of the technique outside the classroom itself, research has also shown self-monitoring to be effectively applied by adolescents completing homework, under supervision, in a residential treatment program (Axelrod, Zhe, Haugen, & Klein, 2009); when used for purposes of expediting the hallway travels of Grade 3 students with EBD as they transition between regular and special education classes (Minner, 1990); and when employed as part of a package intervention aimed at facilitating acceptable game-related social skills during gym class, for Grade 9 students with EBD (Moore, Cartledge, & Heckaman, 1995). Recent and ongoing advances in portable technology open up interesting additional possibilities for the flexible application of self-monitoring programs, whether through the use of vibrating ‘beepers’ as a means of cueing students to self-record at specified intervals (Amato-Zech, Hoff, & Doepke, 2006), or the use of handheld computers allowing students to not only record but graph their progress digitally (Gulchak, 2008). The fact that research on self-monitoring is moving forward to embrace new technologies in this way, is further reflection of the continuing level of interest in this form of self-management.

Although the use of self-monitoring for purposes of increasing self-awareness and fostering improved classroom behaviour has gained very strong

support in the existing literature, one necessary qualification, as well-stated by Anderson and Wheldall (2004), is that its effectiveness is “idiosyncratic to participant, setting, and task variables, and teachers should consider student preferences and class pragmatics when choosing monitoring conditions” (30). This is a necessary caveat, no doubt, for the adoption of any approach to behavioural management, whether teacher- or student-directed. The self-monitoring involved in the use of the calm carrel intervention is straightforward, minimally time-consuming, and hence very unlikely to pose any concerns for either the students or their teachers. Nevertheless, as discussed previously, it also serves a valuable purpose, in helping students become more cognizant of their emotions and behaviour in the class, the frequency of their use of the carrel, and the particular strategies they find most helpful to employ while there.

Self-Evaluation

Self-evaluation, as another element of self-management interventions, essentially involves having a student assign some kind of value to, or make some type of judgement about, the quality or quantity of their own performance of certain specified behaviours, which may be academic or purely behavioural in nature. The standards for performance may be defined by the student themselves, or established by the teacher, and reinforcement is often provided, contingent upon successfully meeting the set criteria (Mooney, Ryan, Uhing, Reid, & Epstein, 2005). Although self-evaluation can be put into place as an independent strategy, it is often based upon, and therefore frequently includes, a self-monitoring component, requiring students to maintain records on their behaviour

or performance prior to evaluating it (Mooney et al., 2005). While the reinforcement potentially following from self-evaluation may be teacher-administered, this part of the intervention might also be student-directed, with the children playing a greater role in determining when and how to reward themselves subsequent to their meeting the pre-determined behavioural criteria or learning-related outcomes. Such self-reinforcement often takes the form of tokens or points (Reid, Trout, & Schartz, 2005), which the students can later exchange for tangible or activity reinforcers of some type, not unlike a token economy program.

The calm carrel intervention could be seen as incorporating a form of covert self-evaluation, on an ongoing basis throughout each day, in the sense that the students who use the carrel appropriately will be those who have been continually 'keeping tabs' on their emotional state, classroom behaviour, and performance, and hence, those who are able to correctly discern when it is necessary to take a session at the carrel in order to continue to meet the required standards of behaviour in the class without losing control or receiving a time-out consequence from the teacher. Though not requiring written self-evaluations, it is nevertheless clearly the case that effective use of the calm carrel intervention is in part dependent upon students' ability to self-assess their own behaviours, and, indeed, to be aware of the triggers that may potentially lead to problematic behaviours. In other words, each time a student opts to take a session at the calm carrel, he or she will be doing so as a result of having self-evaluated his or her behavioural and/or emotional state at that point in time, and concluded that a five

minute recess from class activities would be of value. Teachers will be training students, prior to introducing the calm carrel, in order to ensure they have the necessary skills to engage in this process.

Another self-evaluative aspect of the calm carrel follows from the fact that the students are given the option of completing a problem-solving form while at the carrel, on which they essentially make an informal self-assessment about their behaviour, by documenting the precipitating factor(s) in their decision to remove themselves from the class at that point, as well as indicating the behaviour they will undertake to perform upon leaving the carrel and rejoining the rest of the group, so as to ensure that they will be able to participate appropriately in the ongoing activities of the classroom. The use of a similar type of worksheet has been described, anecdotally, in the literature (Moorefield, 2005). Immediately prior to and immediately following the experimental phase of the study, students will also complete pre- and post-intervention surveys, through which they will be self-assessing the quality of their behavioural response to challenging or frustrating situations in the classroom. Although a self-reinforcing aspect of the carrel may not be immediately apparent, the intent of the intervention is that the students are also, ideally, reinforced for their appropriate use of the carrel as a tool to aid self-control, insofar as it is expected that they will derive some degree of pleasure or benefit from the activities they will engage in while there.

Compared to self-monitoring, there is substantially less research focused specifically on the use of self-evaluation/self-reinforcement techniques for purposes of facilitating behavioural improvement among children with EBD, in

large part because these approaches are less often employed independently of self-monitoring strategies. Nevertheless, encouraging results have still been forthcoming. For instance, a blending of teacher-administered rewards and self-evaluation was found to be more effective than either the use of rewards alone or the use of rewards plus discussion about students' behaviour, in improving the peer interactions of students with EBD between the ages of 8 and 13 (Kern et al., 1995). Further, self-evaluation of behaviour was found by McQuillan and DuPaul (1996) to be more effective than group- and teacher-based evaluation, as a means of fostering both improved on-task classroom behaviour and, in particular, improved academic performance. Teacher acceptability ratings also favoured the use of self-evaluation (McQuillan & DuPaul). Such a finding would seem to suggest the value of fading traditionally teacher-imposed methods of management such as the token economy, in favour of the introduction of more student-directed approaches. Indeed, this is consistent with a review of self-management studies conducted in elementary-level mainstream school settings, indicating that self-selected behavioural performance standards and self-determined reinforcing consequences generally have proven effective, albeit difficult to draw firm conclusions about, owing to the lack of consistency with respect to the specifics of the methods employed, across studies (Panagopoulou-Stamatelatou, 1990).

It is probable that self-evaluation strategies will usually be most successful when students have received training to enable them to accurately assess their behaviour and performance. For instance, in the case of a study conducted with students with ADHD-related behaviours, self-evaluation alone

proved minimally effective in reducing disruptive behaviours, whereas when accompanied by accuracy training, the students' behaviour improved substantially, as did the accuracy of their self-assessments (Ardoin & Martens, 2004). There is some suggestion that self-assessment ratings are liable to depart quite significantly from teacher and peer evaluations of student behaviour, when accuracy training has not been provided (Pakaslahti & Keltikangas-Jarvinen, 2000).

As with self-monitoring, self-evaluation appears well-suited to assisting students as they transition from a segregated EBD setting to an inclusive classroom environment. It has been found, for example, that a systematic progression from teacher-directed token reinforcement, to teacher-mediated self-evaluation, both taking place in the self-contained EBD class, followed by peer-mediated self-evaluation occurring in the inclusive class context, can result in students successfully transferring their self-assessment skills into their new environment, resulting in less need for teacher intervention during this period (DuPaul, McGoey, & Yugar, 1997). Further, also in the inclusive setting, the use of a combined self-monitoring and self-evaluation procedure, paired with video-taped feedback, has been found to result in marked improvements in behaviour among students in grades 6-8 with both externalizing and internalizing behavioural difficulties (Falk, Dunlap, & Kern, 1996). Self-reinforcement, in particular, has also shown itself to be an effective adjunct to methylphenidate medication for purposes of improving academic productivity among students with ADHD (Ajibola & Clement, 1995), indicating its utility in consort with this

frequently applied form of treatment for students with behavioural difficulties in both segregated and inclusive classes. Although, overall, the use of self-evaluation appears well-supported within the existing, if rather limited, literature, there is some indication that it may be relatively more effective in improving academic accuracy and productivity, and less so for reducing disruptive, off-task behaviour, at least for students with ADHD (Reid, Trout, & Schartz, 2005). With self-reinforcement, there is also the possibility that students may manipulate the additional responsibility this strategy affords them, with an aim to increasing their rewards, if checks are not in place to guard against this (Speidel & Tharp, as cited in Panagopoulou-Stamatelatou, 1990). Nevertheless, there is also evidence that, with the provision of appropriate training and supports when introducing a combined self-monitoring/self-evaluation/self-reinforcement package technique, students with EBD are capable of employing it honestly, and while demonstrating acceptable behaviours, even in unsupervised environments (Ninness & Fuerst, 1995).

Apart from the increased opportunity for self-determination inherent in the use of self-evaluation and self-reinforcement techniques, which in turn provides students with skills necessary to function more effectively in the inclusive class context (Agran, Blanchard, Wehmeyer, & Hughes, 2001), the use of self-evaluation, in particular, also provides teachers with potentially valuable insights into children's own perspectives on their behaviour and performance, which can then inform subsequent instruction and programming (Ardoin & Martens, 2004). The calm carrel intervention is designed in such a way as to encourage students to

take advantage of opportunities to exercise, and fine-tune the accuracy of, their own judgements about their emotional and behavioural needs, and to take steps to remedy problems independently. To the extent that the strategy itself is also a reinforcing one, the students should find that they are rewarded for their efforts. It is hoped, as well, that teachers will also find students' use of the carrel to be reinforcing, insofar as the frequency of teacher-student conflicts should be reduced, and teachers will be gaining additional perspective on students' capacity to self-regulate, and thus their progress towards, and readiness for, transitioning to an inclusive class setting.

Self-Instruction

Whereas self-monitoring, self-evaluation, and self-reinforcement are most commonly conceptualized as contingency-based approaches to self-management, in that they focus chiefly upon the consequences of students' actions, self-instruction is a more clearly cognitively-based method, in that it provides children with mediational tools and strategies designed to pre-empt misbehaviour before it becomes problematic (Cole & Bambara, 1992). With cognitively-based methods such as self-instruction, the aim is generally to alter the student's way of viewing difficult situations, such that they will then be better able to exert self-control and apply coping and problem-solving techniques in order to reach positive behavioural outcomes (Shapiro, DuPaul, & Bradley-Klug, 1998).

The calm carrel approach incorporates a self-instructional component in the sense that it allows students the opportunity to learn and apply basic, self-initiated relaxation techniques when they are feeling frustrated, or otherwise

upset, during class time. Apart from a deep breathing exercise the students will learn from their teacher at the outset of the experimental phase, for the most part the children will be using audio recordings to prompt and walk them through the different relaxation strategies at the carrel. The intent, however, is that using the carrel in this way will provide students with the necessary skills and attitudes to be able to eventually undertake such self-soothing techniques with even greater autonomy, and increased automaticity, without the scaffolding afforded by the carrel, both in the self-contained EBD setting and, ideally at some point, within an inclusive classroom environment as well. This anticipated outcome is in keeping with the progression from external to internal mechanisms of control, as posited by Meichenbaum & Goodman (1971) to come into play during the course of developing self-guiding speech as a means of exerting self-control over impulsive behaviour.

Self-instruction is quite frequently regarded as a type of self-management that is, at least to some degree, inherent to both self-monitoring and self-evaluation/reinforcement, and hence it is not uncommon for studies addressing either of these strategies to also include some element of self-directed instruction. It has, nevertheless, been examined independently as well, and with generally positive results (Panagopoulou-Stamatelatou, 1990). A component analysis, for instance, of the key aspects of self-management interventions (self-monitoring, self-evaluation/reinforcement, and self-instruction), resulted in the finding that a combination of all three was most effective in facilitating behavioural improvement, but that, when implemented in isolation, self-instruction was the

most integral one of these components (DiGangi & Maag, 1992). Very similar findings, resulting from a review of the literature focusing, in particular, on academic self-management interventions for students with EBD, have been forthcoming more recently (Mooney et al., 2005). The application of self-instructional types of approaches, as an element of multicomponent interventions, has been supported for use with students with, and at risk for, EBD for purposes of reducing angry and aggressive behaviour (Kellner, Bry, & Colletti, 2002; Larson, 1992; Presley & Hughes, 2000), fostering academic performance (Miller, Miller, Wheeler, & Selinger, 1989), improving social skills (Ninness, Fuerst, Rutherford, & Glenn, 1991), and reducing off-task behaviour (Smith & Young, 1992).

Self-instructional strategies addressed in the literature that target behaviour are intended not only for students with EBD, but for the general school population as well. They range from complex social skill-based anger management programs, like the Second Step Violence Prevention Curriculum, delivered over the course of multiple student training sessions (Grossman et al., 1997; Taub, 2001), to simple four-step problem clarification and decision-making sequences used to guide self-dialogue (Swaggart, 1998). Notable among studies of self-instruction, is what appears to be a growing trend (albeit rather slowly) towards the use of such programs within a whole class context. Whereas researchers assessing token economy and time-out interventions have typically included smaller sample sizes, those studying antecedent-based cognitive-behavioural self-management approaches are more often examining the strategy's

success on a whole-class basis, thus suggesting that such methods are likely better-suited for use in inclusive classroom environments. Indeed, Mitchem and Young (2001) found a peer-assisted form of self-management, which included a component with the provision of self-instruction type skills pertaining to classroom rules, to be particularly promising for long-term use within a whole-class, inclusive context. The fact that the implementation and monitoring of programs incorporating self-instruction generally requires only minimal time and effort on the part of the teacher, while allowing students to take greater ownership over their behaviour (King-Sears & Bonfils, 1999) and to develop coping strategies that can be applied in other environments (Peterson et al., 1999), makes this form of self-management a particularly valuable alternative to traditional teacher-imposed behavioural methods (Prater, 1994).

Self-instruction is also unique from the more strictly behavioural approaches, owing to its suitability for application with students with less overt kinds of emotional and behavioural difficulties. Given, for instance, that negative self-talk is clearly associated with childhood anxiety problems (Kendall & Treadwell, 2007), and the fact that self-instructional approaches frequently include a self-talk-based element, such techniques can be viewed as having strong potential for use with students with EBD who may have a comorbid anxiety disorder. Although disruptive, belligerent, and aggressive behaviours are clearly the more common areas of interest, among studies examining interventions for use with the EBD population, this should not be taken to imply that internalizing types of EBD are not of concern for these students. Further, research highlights

the predictive value that anxiety disorders in childhood can have in forecasting externalizing behaviour problems, such as conduct disorder, in adolescence (Bittner et al., 2007), and the fact that internalizing disorders such as anxiety can often co-occur with externalizing disorders such as oppositional defiant disorder (Nock, Kazdin, Hiripi, & Kessler, 2007). The use of self-instructional approaches, therefore, not only for purposes of addressing behavioural difficulties, but also for helping students to feel less stressed about challenging academic tasks and more confident in their skills and abilities (e.g. Kamann & Wong, 1993), is no doubt a worthwhile aim.

Whether employed to assuage anxiety or to alleviate angry or aggressive behaviour, self-instruction could quite appropriately take the form of relaxation exercises of various types. Relaxation techniques can be viewed as a type of self-instruction, in that, although oftentimes the students may receive considerable scaffolding support or prompting initially, whether from a teacher or a recorded relaxation script, the actual application of the techniques is very much dependent on students' own investment of effort, and the expectation may also frequently be that the skills will be generalized to other settings, once they are fully learned. Insofar as feelings of agitation can be seen as contributing to any number of externalizing and internalizing emotional and behavioural problems that might manifest themselves within the classroom setting, and insofar as relaxation strategies, if they are effective, serve no purpose better than that of relieving agitation, it follows that stress reduction techniques have tremendous potential for use as a means of self-management, with students with EBD. With this in mind,

the chapter will conclude with a consideration of different types of relaxation strategies that have strong potential for use with this population of students, with specific reference to those which are components of the calm carrel intervention.

Relaxation Strategies

In addition to combining various features common to self-monitoring, self-evaluation/reinforcement, and self-instruction-based techniques, the calm carrel also relies heavily upon relaxation-based approaches (calming music, progressive muscle relaxation exercises, visualization narratives, and deep breathing) as strategies to be used in helping students to soothe themselves while taking a break from the proceedings of the class.

Although nothing quite comparable to the calm carrel technique has been studied empirically for purposes of evaluating the effectiveness of a self-management-based relaxation program within an EBD class setting, the general premise has certainly been employed by teachers in both segregated and inclusive classes. An educational catalogue, for example, advertises a “time-in chair” as a multisensory “quiet, positive place....for calming movement, listening, fidgeting, and smelling, where good kids go to get their bodies ready for the next activity” (Premier Integrations, 2005, p. A6). Although not directed at students with EBD specifically, one of the closest approximations of the calm carrel mentioned in the literature, is the notion of a “peace corner”. A component of the Inner Resilience Program being implemented in select classrooms in New York City and other locations, the peace corner is described as “a special place set aside either in home or classroom where children can go whenever they need to regain their inner

balance and flow” (Lantieri, 2008a, p.45). It is further depicted as being intended for use “when a classroom member is feeling over-whelmed, stressed, angry, or otherwise out of control emotionally - times when being alone would be helpful” (Lantieri, 2008b, p. 34), and as incorporating, among other possibilities, “a CD player and earphones with soothing music or recordings of sounds from nature” (p. 34). The basic idea underlying this, and the way in which it is manifested, certainly, is very similar to that of the calm carrel.

The peace corner is, however, just one element of a multicomponent intervention, which, in a pilot project assessment taking place in Vermont during the 2008/2009 school year, also included ten months’ worth of intensive work with participating teachers (including training workshops and retreats), and up to an hour of weekly instruction and mindfulness activities conducted over the course of a six-month period with participating students (New England Network for Child, Youth & Family Services, 2009). Although it would appear that the blending of the peace corner strategy with the various other aspects of the Inner Resilience Program has prevented researchers from drawing firm conclusions about the efficacy of the peace corner itself as a single intervention, a preliminary evaluation of the Program as a whole, as implemented in Vermont, has indicated that it was well-received and perceived as helpful by students and teachers alike. A subsequent assessment of the intervention in New York provided similarly encouraging results (Simon, Harnett, Nagler, & Thomas, 2010). While such findings further support the premise behind the calm carrel, the complex nature of the Inner Resilience Program, focusing as it does, on easing stress and fostering

wellbeing among both teachers and students, and attempting to bring about these improvements through the application of a wide range of different approaches, does make it difficult to pinpoint the effectiveness of the peace corner, specifically.

Although there is much research still to be done on the use of stress-management tools with students with EBD in particular, preliminary results suggest there is definite value in teaching children, both with and without EBD diagnoses, the basics of relaxation. For instance, a large-scale study conducted in Germany with 826 students in Grade 3 to 6 general education classes, concluded that mood and subjective feelings of calmness, as well as key physiological parameters, including pulse rate and systolic blood pressure, are impacted positively, at least in the short term, by systematic relaxation training comprising both imaginative visualizations and progressive muscle relaxation (Lohaus & Klein-Hebling, 2000). The results are qualified, although not compromised, by the fact that similar effects were also achieved by the use of a control condition involving the presentation of “neutral (non-tension-producing) stories” (Lohaus & Klein-Hebling, p. 195). However, although certainly not a systematic approach in the way that progressive muscle relaxation is, stories are calming to many elementary-aged children, so the effectiveness of this control condition in bringing about results generally consistent with the relaxation conditions should not be regarded as particularly surprising. The absence of long-term effects in this study was seen as indicative of the fact that the relaxation procedures were valuable for “the immediate aim of inducing calmness”, but less so for “inducing

children to learn elements of a relaxation program to be used transsituationally” (Lohaus & Klein-Hebling, p. 208). This distinction is an important one since, as was mentioned previously, relaxation-based interventions are often aiming for transference of skills. Nevertheless, knowing that particular relaxation strategies are able to bring about a physiologically and psychologically relaxed state at the time of implementation is an important conclusion, and this alone would merit the employment of such techniques in the classroom. The researchers in this case, though, speculated that transference may well have occurred with the provision of a greater number of training sessions (Lohaus & Klein-Hebling).

The potential value of relaxation-based stress-management approaches is also reflected in the results of a study conducted with third grade students, which found that the children developed a greater internal locus of control and scored higher on self-concept measures and self-reported use of coping strategies, subsequent to their completion of a structured training program which included, among a wide range of other topics, sessions on the use of muscle relaxation, deep breathing, and imagery for purposes of fostering positive responses to stressful situations (Henderson & Kelbey, 1992). Thus, an important benefit of teaching children techniques which they can employ at their discretion to handle frustration (whether these strategies pertain to anger management in general, or to relaxation more specifically), is that it can also help the students to recognize that they have a greater degree of control over their behaviour than they might previously have realized, as well as a responsibility to exercise that control appropriately. The association between students’ level of familiarity with stress-management

techniques and their self-perceived locus of control, is one worth exploring further in future research. Studies such as this highlight the fact that interventions of this type may lead to significant changes, not only in overt behaviour, but also in the way children think about their behaviour and their capacity to affect improvements with relative independence, when given the appropriate tools. The pre- and post-intervention behaviour surveys that will be administered to students participating in the calm carrel study, for instance, should provide a general sense of the extent to which the children may regard their behaviour, and, more importantly, their ability to self-manage their behaviour, differently, after learning to use the intervention.

With respect to the reduction of physically violent behaviour specifically, research conducted in a segregated setting with elementary school students with EBD diagnoses, revealed that their participation in scripted, 40-minute daily progressive muscle (tense and release) relaxation exercises delivered by their teachers over the course of a four-week period, significantly lessened the frequency of aggressive incidents during the week following treatment (Lopata, 2003). The decrease in violent behaviour apparent at this point, however, did not carry forward to the follow-up assessment three weeks after the intervention had concluded, and although there continued to be fewer aggressive incidents at this point than at the time of the pre-test, the difference was no longer a significant one (Lopata).

The fact that a difference was apparent at follow-up at all, does suggest that exposure to the progressive muscle relaxation sessions continued to exert a

positive influence upon students' behaviour after the fact (Lopata), but the intervention's effectiveness was clearly most notable immediately after having been administered on a daily basis throughout the treatment period. Indeed, one might suspect that the value of the relaxation sessions would be even greater on the actual days they were conducted, and that, although not acknowledged in Lopata's study, this might have been a better indicator of the intervention's utility on a short-term basis. Children's behaviour and emotions, as influenced by a multitude of personal and situational variables can, of course, vary markedly from one day to the next, and it cannot necessarily be expected that the positive outcomes of a teacher-administered relaxation technique that proves effective as a means of coping with frustration, would extend three weeks beyond the time it was concluded. Such an intervention need not require a 40-minute block of time in order to be worthwhile, but it would not be unreasonable to expect that a daily investment of 5 or 10 minutes may be necessary to reap the benefits of this type of approach on a longer-term basis. With this in mind, the calm carrel program is intended to serve, not as a one-time treatment, but as a self-management strategy available to students on an ongoing basis. Its value, therefore, will be assessed as it is being implemented, when it is expected that behavioural improvements will be most apparent, rather than by means of a post-test after the fact.

Progressive muscle relaxation exercises constitute one strategy students participating in the calm carrel study can choose to use, while taking a session at the carrel. The techniques in this case differ from those utilized in Lopata's (2003) study, in that, for purposes of the calm carrel, the exercises are five

minutes or less rather than 40; are played on a CD, rather than being teacher-administered; are carried out by the children individually, rather than as a group; and can be done from a seated position at the carrel, rather than requiring full-body movements and space to lie on the ground. These departures from Lopata's approach allow for the muscle relaxation strategies to be employed by students independently without need for involvement on the part of teachers, and are more compatible with the constraints of time and space within the average classroom, and thus better suited for use in either a segregated class setting or an inclusive one.

Progressive muscle relaxation as a means of stress reduction first received attention in the literature in 1929, through the work of Edmund Jacobsen (1938). He posited that "the average person does not know when he is tense" (Jacobsen, p. 35), and that even when one is lying down in an apparently relaxed position, signs of "residual tension" (p. 29) may often be present. Progressive muscle relaxation, then, evolved out of an attempt to alleviate this, thereby allowing individuals to calm themselves more completely. By developing greater "muscle sense" (p. 36), by consciously tensing and relaxing various muscles, those who are stressed are better able to recognize the corresponding sensations, and to learn how to transition to a more fully relaxed state. Given that "to be excited and to be fully relaxed are physiological opposites", that "both states cannot exist in the same locality at the same time" (p. xv), and that "mental relaxation is a natural consequence of physical relaxation" (Margolis & Pica Jr., 1990, p. 4), Jacobsen recognized the important goal of helping people to become aware of, and able to

reproduce, sensations that are incompatible with tension. Although there have been a number of variations on Jacobsen's approach in later years, the basic approach has remained the same (Bernstein & Borkovec, 1973). The technique has been successfully employed, either alone or as an aspect of multicomponent interventions, not only for purposes of reducing the aggressive behaviour of students with EBD (Lopata, 2003), but also for lessening both state anxiety (Rasid & Parish, 1998) and trait anxiety (Kiselica, Baker, Thomas, & Reedy, 1994) among adolescents, and facilitating improved academic performance of adolescents with emotional disturbances (Margolis & Pica Jr., 1990).

Also specific to children with behavioural disorders, and consistent with the premise underlying Jacobsen's approach as described above, Jackson and Owens (1999) highlight the importance of ensuring students are aware of the physiological and emotional signs of stress. In order to successfully utilize relaxation strategies to quell feelings of agitation or anger and to pre-empt the behaviours that such emotions commonly produce, children must first be able to recognize signals indicative of the likelihood of forthcoming difficulties. Because students with EBD often tend to have particular challenges thinking rationally about stressors in their environment, and are thus more likely to react inappropriately, in ways which detract from their success in the school context (Jackson and Owens), it is essential that they be able to anticipate probable difficulties early enough to maintain the presence of mind to implement the coping strategies they have learned. Being familiar with relaxation techniques without having a strong sense of specifically when to put them into place, could

easily render even the most effective stress-management tools all but useless. In light of this consideration, the introduction of the calm carrel intervention in the present study will be preceded by the delivery of a teacher-administered training session, aimed at helping the children develop an awareness of the types of situations that trigger their personal feelings of anger or frustration, and how using the relaxation techniques at the carrel can alleviate these troublesome emotions.

The inclusion of visualization narratives, also sometimes referred to as guided imagery, to supplement the progressive muscle relaxation exercises on the calm carrel CDs, is informed by recommendations from various articles and resources on stress management. Consisting, most commonly, of audio-taped or orally read stories, scenarios, or prompts describing pleasant and relaxing situations with which listeners can both identify and engage to create personally meaningful calming experiences, visualizations have, among other things, been suggested for use with students experiencing test anxiety (Austin & Partridge, 1995), for helping to ease stress among children with learning disabilities (Gately & Siperstein, 1992), and as a means of promoting conflict management among adolescents (Dacey, DeSalvatore Jr., & Robinson, 1997). There is indication that it may also prove helpful for purposes of improving elementary students' self-esteem (Omizo, Omizo, & Kitaoka, 1998) and retention of information (Cabot, 1997), and for general use by school counsellors (Myrick & Myrick, 1993). Although research is lacking on the use of visualization as a stand-alone technique with students with EBD, its versatility with different populations and for a variety of purposes, is promising.

A study incorporating another approach to self-soothing which is, for the most part, in keeping with the spirit of using relaxation-based self-management to reduce the need for more restrictive teacher-imposed time-outs, involved the use, by elementary students with EBD, of what has been termed “active-response beads time-out” (Grskovic et al., 2004). A simple relaxation technique, it involves having misbehaving students, who would otherwise have been assigned a normal nonexclusion time-out, remain at their desks with their heads down for approximately ten seconds, while slowly counting down from ten, engaging in deep breathing, and moving beads from one side of a velvet cord to another, in time to each exhale (Grskovic et al.). Classroom observations conducted with the intervention in place evidenced significant reductions in the number of ordinary time-outs assigned by teachers, as well as the amount of time students spent in time-out situations (Grskovic et al.). While the active-response beads time-outs were prompted by direction from teachers, the actual successful implementation of the technique was the responsibility of the students, and in this sense it could still be regarded as contributing to the children’s capacity to self-manage their behaviour, although the general approach here was more reactive, as compared to the calm carrel’s preventative focus. It is encouraging, however, that research such as this is emerging to examine ways of reducing teachers’ reliance on punitive techniques, while introducing students to stress-management strategies that can be employed with relative independence.

The simplicity inherent in many relaxation strategies tends to make them not only easy to implement, as was found in the study just mentioned, but also

more likely to generalize to other contexts. Something as basic as deep, relaxed breathing, for instance, can prove to be a very worthwhile technique. Although the process of teaching students the benefits and methodology of deep breathing and relaxation exercises can, of course, be made as complicated as one wishes to make it, employing, for instance, a biofeedback-based video game training package (Amon & Campbell, 2008), a technique need not be complicated to be helpful. Indeed, it could certainly be argued that the more simplistic a strategy is, the more likely students will be able to remember and employ it when needed, both in and out of school. Deep breathing, for use with students with behavioural difficulties, or students more generally, has not been the subject of much in the way of empirical research as a single-component intervention, consistent with the fact that generally it is a strategy employed in combination with other techniques (Smith, 2005). One of the few existing studies was limited to six participants, and had fairly mixed results (Gaines & Barry, 2008). Nevertheless, it is sometimes referred to as an aspect of effective multipronged approaches (e.g. Dacey, et al., 1997; Peck, Kehle, Bray, & Theodore, 2005; Stueck & Gloeckner, 2005), and is not uncommonly recommended for use, in articles and guides providing direction to educational practitioners on the use of relaxation techniques with their students (e.g. Napper-Owen, 2006; Scully, 2003).

Research outside the field of elementary and secondary education also clearly highlights the potential value of engaging in slow, relaxed breathing. It has, for instance, proven successful in reducing blood pressure and improving results on various tests of autonomic function, among individuals with

hypertension (Kaushik, Kaushik, Mahajan, & Rajesh, 2006; Mourya, Mahajan, Singh, & Jain, 2009), as well as easing feelings of test-anxiety, self-doubt, and loss of concentration among medical students who were guided through a scripted deep breathing meditation exercise for five minutes at the start of each class (Paul, Elam, & Verhulst, 2007). Well-suited to generalization across a wide variety of contexts, and easily learned and implemented by students, deep breathing, though perhaps sometimes overlooked due to its simplicity, has considerable potential as a stress-management tool for children with EBD. The calm carrel intervention, as such, incorporates it in several respects. When first introducing the carrel to their students, for example, the participating teachers will teach the children about the way in which deep breathing can bring about feelings of relaxation and ease feelings of tension. During this initial training, the teachers will also walk their students through the process of simple, relaxed breathing, so that this can serve as a strategy the children can employ independently, at their desks, if they are feeling upset or angry and the calm carrel is already occupied or they have used up their allotted sessions for the day. Building upon the students' knowledge of deep breathing as a relaxation tool, the progressive muscle relaxation exercises and visualization narratives included on the CDs available to students at the carrel itself will also include references to breathing, and prompts to slow their rate of breathing while carrying out the exercises and imagining the scenarios.

The use of soothing music as a means of relaxation is, likewise, well substantiated by research. By way of transitioning from the above discussion, it might first be stated that it has been studied in combination with deep breathing,

in the medical literature, and found to be an effective means of reducing physiological symptoms of stress such as ambulatory blood pressure (Modesti et al., 2010). However, support for its use as an independently employed strategy is not at all lacking, either. Indeed, entire journals, most notably the *Journal of Music Therapy*, are devoted expressly to examining the nature of the relationship between music and listeners' emotional, physiological, and behavioural responses. Broadly, there is indication that exposure to soothing instrumental music has the potential to facilitate positive emotional responses which may not only serve to alleviate anxiety, but may also improve performance on cognitive tasks of various types (Graham, Robinson, & Mulhall, 2009). Although some degree of mystery remains, as to the specific mechanisms at play, it has been pointed out that "music exercises more parts of the brain than almost any other single activity" (Foran, 2009, p. 56), and, in short, it would seem that its wide array of benefits follow from this. Although the majority of studies supporting the role of music as a calming influence appear to have been conducted with adults, quite commonly hospital patients (e.g. Lee, Henderson, & Shum, 2004), those with long-term illness or injury (e.g. Hitchen, Magee, & Soeterik, 2010) and post-secondary students (e.g. Knight & Rickard, 2001), there has nonetheless been scattered, and increasing, support for its use with the school-aged population in educational settings, as well. It should also be noted that there is also some suggestion that those under the age of 18 might reap greater benefits than adults from the use of music as a means of relaxation (Pelletier, 2004). It has also been recommended for use specifically with students with EBD (Jackson & Owens, 1999; King &

Schwabenlender, 1994), and with students who have experienced traumatic events (Foran, 2009).

Research has indicated that playing calming background music during math seatwork in a classroom for students with EBD resulted in both behavioural and performance gains, particularly among those children with hyperactivity, though to a lesser degree for those whose EBD stemmed from more severe and long-standing emotional problems (Hallam & Price, 1998). Similar research found that the use of pleasant, relaxing background music with students aged 10 to 12 in a regular elementary classroom context, resulted in the children displaying greater productivity, improved short-term memory, and altruistic intentions on a series of several hypothetical tasks (Hallam, Price, & Katsarou, 2002). Illustrating the fact that not just any music will necessarily effect such changes, however, the researchers also examined the impact of music they deemed to be “unpleasant, arousing, and aggressive” (p. 116), and found it to negatively impact both academic performance and altruistic tendencies (Hallam, Price, & Katsarou). It has been found that ‘new age’ music tends to evoke positive emotional states (including relaxation) among elementary school children, while the same music tends to elicit negative reactions (namely, feelings of irritation or boredom), among students in their early teenage years (Boal-Palheiros & Hargreaves, 2002). Interestingly, there is indication that even listening to rock music can potentially serve as a calming influence, reducing stress hormone (cortisol) levels of depressed adolescents to an extent comparable to levels after the receipt of a massage, while also altering EEG patterns in a

favourable direction, though not impacting upon self-reported mood, nor upon the results of behavioural observations (Field et al., 1998). That being said, generally speaking, certain types of music consistently emerge as being seen as optimal, from the perspective of both music therapy experts/musicians and non-musicians alike, for use as a means of aiding relaxation efforts (Wolfe, O'Connell, & Waldon, 2002). More specifically, music containing "low bass sounds, slow tempi, small number of instruments, and few changes (in tempo, volume, or instrumentation)" (Wolfe et al., p. 54) tends to be regarded as most conducive to relaxation. The music selections featured on the CDs to be used at the calm carrel are predominantly instrumental, cover a variety of genres (with new age being most prevalent), and are for the most part in keeping with the aforementioned qualities often seen as characteristic of relaxing music.

Research examining the relative effects of music, progressive muscle relaxation, and music combined with progressive muscle relaxation when employed with an adult (university student) population, has indicated no significant differences in the calming effects of these different treatment conditions, though greater positive mean differences on measures of anxiety were apparent with the combined approach (Robb, 2000). Studies of this nature with school-age students would further inform our understanding of the positive impact of various relaxation strategies. Working from the perspective that allowing children themselves to decide whether they find deep breathing, progressive muscle relaxation exercises, calming music, visualization narratives, or some combination of these options, to be most effective for them personally, the calm

carrel will include a 'menu' listing the full variety of audio selections available on the CD, and the students will be able to choose according to their preferences.

Conclusion

The research discussed in this chapter constitutes the multifaceted framework upon which the calm carrel intervention has been built. Informed by an understanding of common teacher-directed behavioural management techniques used in self-contained classes for students with EBD (namely, the token economy system and the isolation time-out) and, in particular, the potential drawbacks of these, the calm carrel borrows and blends elements of self-monitoring, self-evaluation, and self-instruction, to create a relaxation-based approach to self-management. By embracing recent and growing findings on the value of calming strategies such as progressive muscle relaxation, visualization narratives, deep breathing, and the use of soothing music, the calm carrel intervention should prove to be functional, appealing, and well-suited as a student-centred behavioural management tool within both segregated and inclusive classroom settings.

CHAPTER III

METHOD

Participants and Sampling

The study participants consisted of six fully self-contained classes of Division II (Grade 4 to 6) students with severe emotional and behavioural disorders (EBD), and their teachers. The classes were situated in four different elementary schools within the Edmonton Public School Board (EPSB), in Edmonton, Alberta. In this district, special education classes for students with EBD are termed Behaviour and Learning Assistance (BLA) classrooms. EPSB describes these classes as providing programming for “students whose severe, chronic, extreme and pervasive behaviours significantly interfere with learning at school” (Edmonton Public School Board, n.d., p. 2). In order to code and grant funding for a student with severe EBD who is being placed in this setting, Alberta Education (2006) requires that the student is one who:

displays chronic, extreme and pervasive behaviours and requires close and constant adult supervision, high levels of structure, and other intensive support services in order to function in an educational setting. The behaviours significantly interfere with both the learning and safety of the student/ECS child and other students/ECS children. (p. 6)

Alberta Education also indicates that a student in Grades 1 to 12 coded with severe EBD should have “a diagnosis including conduct disorder, schizophrenia or bi-polar disorder, obsessive/compulsive disorders, or severe chronic clinical depression; and may display self-stimulation or self-injurious behaviour. In the

most extreme and pervasive instances, severe oppositional defiant disorder may qualify” (p. 6). All of the students participating in the present study met the above criteria, as confirmed by their teachers.

With respect to securing the specific BLA classes for the study, random selection of participating classes was not a feasible option, due to the limited number of such classes in the district, and, in particular, the limited number of teachers willing to take part in a research study of this type, entailing, as it did, some demands upon their time and attention and the need for some degree of flexibility within their approach to behavioural management. Also owing to the small number of classes available as possible study participants, it was decided not to incorporate control classes into the research design. Random assignment to treatment conditions was not an issue, as all classes served as their own controls, during the baseline phase of the study.

After ethics approval and permission to conduct research in the schools were granted, letters were sent out to principals of schools in the district containing Division II EBD classes, in May of 2006, requesting that they forward information about the study, along with a request to participate, to interested teachers. The information letter/consent form provided to teachers is included as Appendix A1. Initially, nine teachers, at six different schools, expressed an interest in having their classes take part in the project.

During the month of June, the researcher met with these teachers, as well as interested teacher aides, to discuss the study in greater depth, and to gather basic information about the classes and the approach to behavioural management

employed by each teacher, in order to ensure the classes' suitability for the project. A summary of notes of relevance that were made at these teacher meetings, is included as Appendix B. In confirming the classes' eligibility to take part in the study, the researcher ensured that the teachers would all be making use of isolation time-out as a punitive consequence within their classrooms, and that none of them would be implementing a structured self-management or relaxation program in their classes (apart from that of the calm carrel), during the period of the study. Teachers were also asked about anticipated class sizes for the next school year, and the availability of space in their rooms for a standard-sized carrel. Teachers' questions about the study were addressed in detail during these meetings, as well. All nine teachers who met with the researcher at this time, indicated a desire to participate in the study, and signed a copy of the consent form at the conclusion of the meeting. The teachers were then provided with a timeline outlining the plans for the study, to commence in the Fall of 2006 (included as Appendix C), and copies of parental information letters/consent forms (included as Appendix A2) to distribute to students in September.

Towards the end of August, one teacher (the teacher of Class 8, as per Appendix B) contacted the researcher to indicate that, due to staffing changes and the enrolment of students with more complex needs than she had previously anticipated (and for whom the calm carrel would not be conducive), she would be unable to take part in the study. In early September, the teacher of Class 7 informed the researcher that, because of revised teaching assignments, she would be unable to participate, but that several of the students who would have been in

her class were now to be taught by the teacher of Class 5, meaning that the number of participating children would not be substantially less. The remaining seven teachers sent the parental information letters/consent forms home with their students during the first week of classes. The researcher maintained regular contact with the teachers to monitor the number of consent forms that were signed, and to address any questions raised by parents during this period. By the third week of September, the teacher of Class 9 indicated that only two of his students had submitted signed consent forms, and that it was extremely unlikely that further forms would be submitted at this point. The researcher met with the teacher, and it was mutually decided that the limited response rate would not warrant including that classroom in the study. Having such a large proportion of the class not using the intervention, nor participating in the data collection, would have created confusion among the students and additional complications for the teacher, so it was determined that it would be preferable for the class as a whole not to take part.

The other six classes remained in the study for the duration. Aided by teacher reminders and follow-ups with individual parents, most of the outstanding parental consent forms were returned, and the vast majority of the students (a total of 51, across all six classes) were granted permission to take part in the project, by the start-date in late September. As discussed further in the results chapter, during the course of the study, five of the participating students either transferred schools or had such poor attendance as to render their data from days present quite meaningless, and, as a result, they were not included in subsequent analyses.

Table 1, on page 70, indicates the number of students per class who were given permission to take part in the study at the outset, the number who were excluded from the final analyses due to either school transfer or significant attendance issues, and the remaining number of participants within each class.

Owing to privacy concerns, and in order to ensure the complete anonymity of the participating students, the researcher did not collect any demographic-type information about the children taking part in the research. To disclose the specific ages, grade levels, EBD diagnoses, or even the male-female ratios of the classes involved, would potentially be enough for readers familiar with the classes in question to recognize one or more students, thus compromising the commitment the researcher made to students' parents and teachers that no personally identifiable information would be gathered or reported. The very small class sizes, coupled with the limited number of Division II BLA classes in the school district, made privacy issues a special priority in the case of this study, and every effort was undertaken to make certain that confidentiality was maintained. Even apart from this consideration, in the interests of ensuring enough classes would participate in the project, it was necessary for the researcher to exercise a significant degree of caution in determining the demands that were to be made upon teachers, relative to the amount and type of information to be gathered and reported. For these reasons, little can be stated with respect to student characteristics, aside from class size and grade level span (4 to 6), and the fact that all students had been coded as having severe EBD according to the aforementioned Alberta Education criteria, and were being educated full-time in a

segregated setting with a teacher and varying levels of paraprofessional support. It can also be reported that, in total, 40 of the 46 students whose data was used in the analysis were male.

Table 1

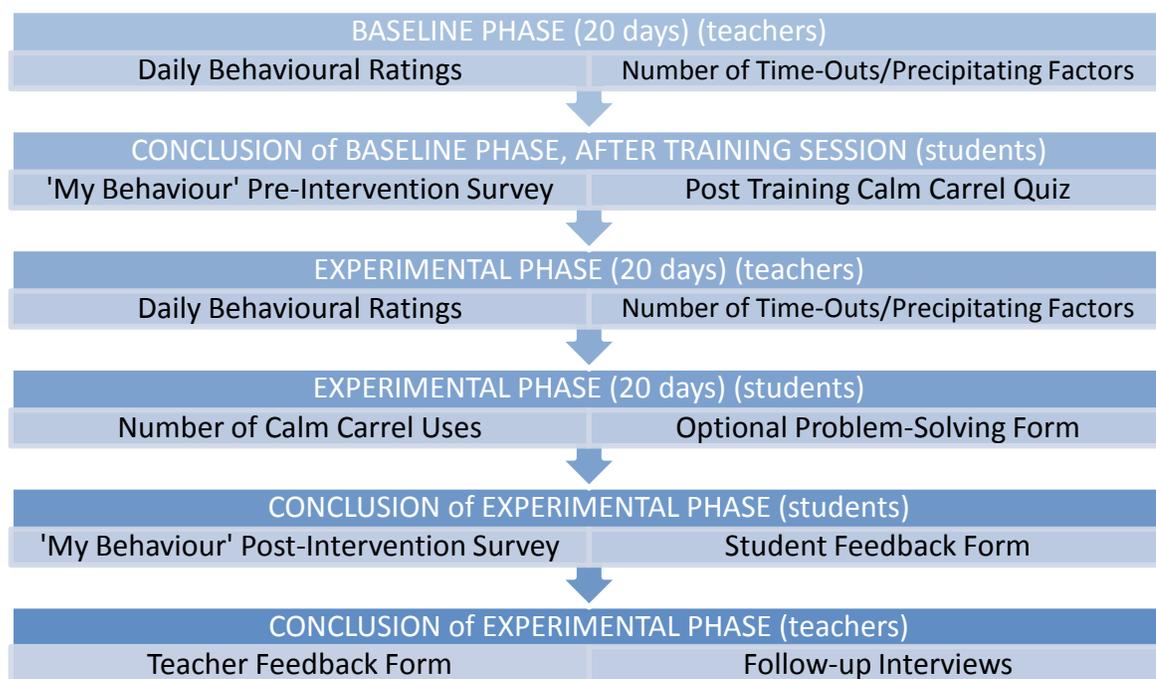
Participant Count

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
Number Initially	5	10	9	8	9	10
Number Excluded	0	1	1	0	1	2
Number Remaining	5	9	8	8	8	8

Procedures and Measures Employed

Several types of data were collected over the course of the study. Figure 1, on the following page, provides a visual overview of the various measures, as well as the timeline according to which each type of data was gathered. The remainder of this section will then address the measures in detail, in the order they were implemented.

Figure 1

Overview of Measures Employed and Timeline for Data Collection*Baseline Phase*

Subsequent to securing the signed parental consent forms, the researcher met with the participating teachers to review procedures for record-keeping (initially discussed during the meetings held the previous June). The baseline phase began on September 25th, and continued until 20 regular school days had elapsed (the specific endpoint varied slightly, due to professional development and field trip days, which lengthened the period for some classes, as these days were not counted in the total). Throughout both phases of the study, the teachers maintained daily records of two types. The researcher made provisions for

teachers to complete the record-keeping either electronically or in hard copy form, according to their preference.

The first type of daily record-keeping required that the teachers make note of the number of isolation time-outs assigned to each child in their class, as a result of behavioural transgressions. It should be noted that some of the teachers indicated, at the outset, that they also ask individual students to go to the time-out room when they need a quiet place to focus due to background noise in the class, or when they are behind in their work or had neglected to complete their homework, as well as for other non-behavioural reasons. All teachers were instructed, as such, not to record these as time-outs for purposes of the study, and that only time-outs resulting from misbehaviour were to be noted on the datasheets.

When recording the time-outs assigned, teachers were asked to classify each as falling into one of four possible categories, according to the precipitating behavioural factor that prompted the time-out. Specifically, to quote from the “time-out coding key” provided to teachers, the number 1 was to denote a time-out assigned due to “an inappropriate vocalization (e.g. calling names, swearing, interrupting, speaking rudely)”; 2 was to represent a time-out stemming from “a refusal to cooperate (e.g. not following instructions, refusing to complete assigned work or to participate appropriately)”; 3 to signify a time-out caused by “an instance of physical violence (e.g. throwing objects, damaging property, or assaulting/attempting to assault others)”; and 4 to refer to a time-out given “for another reason, not addressed by this categorization scheme”. The coding key,

with these descriptors, was included at the bottom of each weekly record-keeping chart, for easy reference. A copy of the chart that was provided to teachers is included as Appendix D1.

The maintenance of time-out records, during both the baseline and experimental phase of the study, was intended to allow for one major point of comparison, as an indicator of both the general extent of students' misbehaviours, and the particular form those misbehaviours took. As all participating teachers had confirmed their use of isolation time-out as a behavioural management strategy, it was felt that records documenting the number of time-outs assigned to each individual child over the course of the study, would provide one valid means of determining whether incidents of misbehaviour were reduced, for some or all of the students, during the period when the calm carrel was in place, as compared to the baseline phase.

In the event that no notable trend was apparent in this respect, it was determined that having data on the specific behaviours leading to the time-outs could allow the researcher to ascertain whether particular misbehaviours had decreased during the experimental phase, even if this was not reflected in the total number of time-outs. The categories of time-out used in the coding key created by the researcher were intended to be general enough so as to reflect most types of behavioural transgressions that might occur, while specific enough so as not to overlap considerably. To avoid confusions, the teachers were asked to classify each time-out as falling into only a single category, according to the most

prominent precipitating factor. Research questions 3 and 4, as listed later in the chapter, will be answered through use of the time-out data described above.

The second type of daily data maintained by the teachers, throughout both the baseline and experimental phase, involved assigning each child a global behavioural rating (on a 7-point rating scale, with higher ratings denoting better behaviour) at the end of every afternoon, to reflect the overall quality of their behaviour during the school day as a whole. At the meetings prior to the commencement of the baseline phase, teachers were provided with a set of descriptors for each point on the rating scale (this document is included as Appendix D2). The intent of the scale, as reflected by the rating criteria, was to concisely capture the essence of students' behaviour, as objectively as possible, in a measure that teachers would find quick and easy to administer. The scale descriptors make reference to the extent and nature of students' behavioural difficulties (including those which may have led to a time-out consequence), along with their overall attitude, and the degree of effort invested in their work. Specific scenarios, including in-school suspensions, out-of-school suspensions, and absences (whether due to an ongoing out-of-school suspension, or other reasons) were denoted by ratings of 1, 0, and A, respectively. The ratings were strictly to serve as data to gauge behavioural improvement or deterioration over the course of the study and, as such, were not shared with the students.

The fact that the rating criteria alludes to students' attitude and effort (as additional indicators of their behaviour), recognizes the unique interplay and range of factors that affect a given child's performance in school on a day-to-day

basis. As such, a low rating on the scale could be the result of overtly disruptive or aggressive behaviour, or, for a particular child, the result of an extremely poor attitude or an unwillingness to put any real degree of effort into their work that day. As individual variability can certainly come into play here, it follows that what a teacher determines to be a “7” day for one student, may be considered only a “4” day for another student. Even if the behaviour, attitude, and effort is comparable, for the first student it might constitute an excellent day (given their typical behaviour and their capacity for self-control at the present time), whereas for the second child it may be merely an adequate day.

Likewise, although all teachers participating in the study were utilizing the same rating scale, there was no pretense about the fact that their individual standards for what is considered acceptable and unacceptable behaviour, attitude, and effort in their particular classroom, would be reflected in the ratings. Though the researcher strived to create clear and objectively-phrased descriptors for the rating scale criteria, within this framework the teachers were encouraged to use their own professional judgment in arriving at the daily ratings as, ultimately, what was of interest was whether they themselves perceived student behaviour to be improving or deteriorating over the course of the study. Research question 2, listed later in the chapter, will be addressed through the use of the behavioural ratings data described here. Note that an instruction sheet detailing procedures for maintaining both the time-out and behavioural rating records, was provided to teachers along with copies of the record-keeping document and rating scale criteria, and is included as Appendix D3.

During the 20-day baseline phase, the researcher kept in regular contact with the teachers, and addressed any record-keeping questions that arose during this period. The data were also checked, one week into the study, to ensure the teachers were maintaining their records correctly. Near the conclusion of the phase, between October 17th and 20th, the researcher met once again with each teacher, to discuss procedures for implementation of the calm carrel intervention itself.

Calm Carrel Training

Immediately subsequent to the collection of 20 regular (in-class) school days' worth of baseline data for the class as a whole (individual student absences during this period, of course, could not be avoided), each teacher delivered a single 45- to 60-minute "calm carrel training session" to their students, to familiarize them with the use of the carrel, and with how the strategies there could be of benefit. In order to ensure consistency of presentation across the six classes, a comprehensive, and partially scripted, "lesson plan" was created by the researcher and provided to teachers to use in delivering the training session to their students. Although the teachers were encouraged to answer any questions from students during the course of the lesson, apart from this they were requested to adhere to the detailed plan provided by the researcher, to make certain that the students in all classes were receiving comparable instruction with respect to the calm carrel and procedures for its use.

The lesson plan, included as Appendix E, began by addressing the nature of stress, and by having students reflect upon the types of situations that might

evoke feelings of frustration or anger in the classroom. The assumption here was that increased awareness of particular situations or conditions which trigger problematic behaviour and/or emotions would help students to realize when a relaxation-based strategy like the calm carrel might prove to be a useful option for them. As such, the discussion then segued into a description of the basics of the calm carrel itself, and a consideration of the particular tools available to students while there, on the CD (soothing music selections, progressive muscle relaxation exercises, and visualization narratives). In the process of speaking about the value of the aforementioned strategies, teachers were asked to walk students through a short tense-and-release progressive muscle relaxation procedure, for purposes of illustration, as it was assumed students may be unfamiliar with what this entails. Although not stated in the lesson plan itself, the researcher also encouraged teachers to allow their classes to have a “trial run” of the carrel, after the lesson yet prior to the first day of experimental phase data collection.

During the course of the training session, as noted in the lesson plan, teachers were also to instruct their classes in the use of basic deep breathing, as a technique the students could employ either in concert with the audio-based strategies at the carrel, or independently, while sitting at their desks. Given the possibility that a student may occasionally feel a need to utilize the carrel when it is already occupied by another child, it was felt that it would be helpful for the children to have at their disposal a simple, all-purpose calming strategy, which could be used in any circumstance. As references to deep breathing were also incorporated within the progressive muscle exercises and visualization narratives

on the calm carrel CDs, it was logical to address this as a relaxation technique in its own right, as well.

After the delivery of the training session, which concluded with a discussion of the specific rules governing use of the carrel (discussed further below), the teachers had their students complete a “post-training calm carrel session quiz” (a blank copy of which is included as Appendix F1). The quiz, which consisted of a total of six questions, was created by the researcher, and was based entirely on information included within the lesson plan. The intent of the quiz was to reinforce the important concepts addressed during the training session and, importantly, to allow the researcher to determine whether students correctly understood the procedures for use of the calm carrel, prior to the commencement of the experimental phase. The quiz results were also intended to provide an indication of whether students in any particular class had ideas about what the carrel involved that departed from either what had been taught, or what students in the other classes had retained from the training. As such, the quiz also served as a check on the extent to which teachers adhered to the lesson plan that had been provided. To ensure that reading and writing difficulties did not interfere with the students’ ability to complete the written quiz, teachers were encouraged to read the questions aloud, and to scribe students’ responses to the short answer items, as needed.

Also immediately subsequent to the calm carrel training session, students were to complete a short survey regarding their perceptions of their own behaviour at the present time (a blank copy of this survey, titled “Pre-Intervention

and Post-Intervention ‘My Behaviour’ Survey”, is included as Appendix F2). This survey was re-administered at the close of the experimental phase of the study. The written-answer questions included on the survey asked the students to reflect upon the kinds of situations that cause them to feel upset or angry at school, the form that their resulting frustration takes (behaviour-wise), and the types of things they do to help themselves feel better when encountering such situations. In addition, two multiple choice questions asked the students to indicate the extent to which they felt happy about the way they deal with frustration and anger at school, and the extent to which they felt their teachers were pleased with their overall behaviour. The survey was used to secure an initial reading on students’ views about their own behavioural difficulties and coping strategies, with the intent being to compare this to the post-intervention survey at the conclusion of the study, to determine if the children’s perceptions had altered, and whether this might in part be attributed to their use of the calm carrel strategy. As with the post-training quiz, teachers were encouraged to read the survey questions aloud to students, and to scribe the responses of students with writing difficulties.

Experimental Phase

On the next full school day following completion of the calm carrel training session and the subsequent quiz and survey, the calm carrel intervention was made available for student use, for a period of 20 days, constituting the experimental phase of the study. The actual start date varied slightly, as different classes had concluded the baseline phase on different dates, as mentioned

previously, due to professional development and/or field trip days which had not been counted in the 20-day total for the baseline phase. The following is a more detailed description of the calm carrel and the procedures involved in students' use of this intervention.

The standard-sized, three-walled carrel (provided, in each case, by the participating school) was situated at either the back or side of each classroom. Several of the teachers expressed a particular desire to have it placed where they could easily observe the goings-on while students were using it (whether this meant having it near their desk or in a position with a clear sightline from the front of the class). In all cases, ultimately, the location was left up to the teachers, in order to ensure that the arrangement was most practical for their particular classroom.

The interior of the carrel itself, as shown in the photograph incorporated as Appendix G1, included a compact disc player securely affixed to the desk (so as to prevent tampering or the temptation for students to insert their own CDs of perhaps a less relaxing nature). A pair of earphones was also attached to the desk, as was a digital countdown timer set to five minutes and enclosed in a plastic casing to prevent students from making their own adjustments. A listing of the contents of the CD, colour-coded according to whether they were music, progressive muscle relaxation, or visualization narrative tracks, was posted at the carrel. The CD was replaced midway through the 20-day period with a second disc (of new tracks), and the posted "listening menu" was updated at this point as well. The two basic track listing sheets, as posted at the carrel, are included as

Appendix G2, along with two, more specific track listings, detailing the actual song title, artist name, album of origin, and year of release, for each of the musical selections used. Also affixed to the wall of the carrel were two poster-sized sheets (included as Appendix G3) with illustrations, and corresponding descriptions, depicting, in brief, several of the tense-and-release progressive muscle relaxation exercises included on the CD, as well as prompts for the deep breathing technique taught during the calm carrel training session. Finally, a single-page summary of the required procedures for use of the carrel (included as Appendix G4) was also posted at the desk to serve as a reminder for the students.

The progressive muscle relaxation exercises and visualization narratives featured on the calm carrel CDs were all read and recorded by the researcher, in as calm and soothing a voice as he could muster. The scripts for these spoken word tracks were based on an amalgamation of text and ideas from a number of sources. The transcripts of these tracks are included as Appendix G5, and the resources upon which they were based are credited in a footnote at the base of the first page (as well as in the references section). Soothing, intentionally meandering and nondescript instrumental music tracks were selected to provide background for the spoken word tracks. In compiling the CDs, an effort was made to create a blend of different types of tracks for the students to choose from, with a special emphasis on music selections, as these provided the greatest degree of variety. The result was 13 music tracks, 2 progressive muscle relaxation exercises, and 3 visualization narratives on the first CD, and 12 music tracks, 3

progressive muscle relaxation exercises, and 3 visualization narratives on the second.

The music selections, as chosen by the researcher, covered a range of genres, including new age, classical, worldbeat, and folk. Most of the tracks were instrumental in nature, and those with vocals were in foreign languages, as it was thought that English lyrics might present a distraction to the students. An attempt was made to select tracks on which different instruments were featured most prominently, to further enable students to tailor their listening experience to their own unique musical preferences. As such, some selections are predominantly piano-based, others string-based (including both guitar and violin), and others with more of a percussive quality. In compiling the discs, particular attention was paid to the mood or emotional quality suggested by the songs. Songs in minor keys which might tend to evoke or exacerbate feelings of sadness, were avoided, with the exception of a few lullaby-like tracks on which the calming influence was seen as outweighing the more somber quality of the tune or arrangement. Similarly, songs which were felt to be too energetic or which contained erratic rhythms or brash instrumentation (i.e. “rock” and “rap” songs), were also avoided.

With respect to the progressive muscle relaxation tracks on the CDs, these either took the form of a series of tense-and-release exercises targeting various muscle groups in succession, or a more focused concentration on a smaller group of body parts (hands and arms; neck, shoulders, and back; face). As per the background information presented in the literature review chapter, the aim of the exercises was to aid the children in becoming more aware of their physiological

reactions to stress and, through this increased awareness, to develop the capacity to employ self-soothing techniques, at least with the provision of audio-based prompting.

The visualization narratives on the CDs were scripted with the intention of capitalizing on the children's power of imagination, by helping them to picture peaceful and positive scenarios, in order to shift their thoughts away from their frustrations and towards a frame of mind more conducive to cooperative and productive behaviour in the classroom setting. As apparent from the transcripts in Appendix G5, the narratives asked the children to imagine themselves in various settings (such as a forest, beach, boat at sea, or sitting on the back of a kindly bald eagle), and then proceeded to lead them through short, pleasant, hypothetical journeys, asking them to observe their surroundings (as descriptions were being provided), while emphasizing the tranquil nature of the environment and how calm and happy it makes them feel. In one of the visualizations, the setting was left unspecified and the students were cued to imagine a scene of their own that they found to be calming. In all cases, the narratives were presented at a leisurely pace, with particular emphasis placed on positive imagery likely to be perceived as soothing or reassuring to the students.

Having outlined the specifics of the calm carrel itself, attention will now turn to the procedures for its use by the participating children. Upon recognizing feelings of frustration, anger, or general agitation/anxiety during class time, a student was permitted to check to see whether the calm carrel was occupied and, if not, to proceed there quietly, taking their personalized record-keeping duotang

with them (the location of the duotangs varied according to teacher preference, meaning that these were stored either at the child's own desk, at a storage rack elsewhere in the classroom, atop the teacher's desk, or beside the carrel itself).

Students were permitted to leave their desks and proceed to the carrel (if unoccupied) without requesting teacher permission. Nevertheless, during the calm carrel training session, they were made aware that the teacher could ask them to refrain from using the carrel if they were, or had been, using it inappropriately (e.g. misbehaving while there), or if they attempted to use it at an inappropriate time (e.g. just as the students were lining up to go to music class). The teachers were also informed by the researcher that if any particular child was abusing the privilege of having the carrel available to them, it could either be withdrawn in their case for a period of time, or they could be required to ask permission prior to using it until such point as they could demonstrate responsible use of it independently. All students were limited to a maximum of three, 5-minute sessions at the carrel, per day.

Having arrived at the carrel, and as prompted by the posted reminder sheet referred to earlier, the child was then to put on the earphones attached to the desk, and start the 5-minute digital countdown timer, immediately upon sitting down. Although students were not required to listen to the CD while at the carrel, putting on the earphones was a necessity, as these were connected to the timer such that the timer would sound through the earphones once five minutes had elapsed, without disrupting the rest of the class. The child was then expected to open the duotang containing their student record-keeping charts (a blank sample copy of

which is included as Appendix H1), and to place a sticker with the current date (taken from an envelope that was also affixed to the carrel), onto their data chart, as indication that they had made use of the carrel on that particular day. The date stickers were provided for the students, rather than having them mark the date in themselves, in order to ensure, to the extent possible, the accuracy of their self-recording. Further, so that the children's use of the carrel could correctly be attributed to a particular date, the envelope was filled by the teacher at the start of each day, with a sufficient number of stickers corresponding to the current date.

Also as part of the record-keeping process, students were to circle, on the aforementioned chart, the track numbers of any selections they listened to on the CD during the course of each visit to the calm carrel. If a child chose not to listen to any tracks, they were to circle the word "Nothing" on the line corresponding to that particular instance of their usage of the carrel. This aspect of the record-keeping was, in large part, a way of giving the students a reason to update their chart each time (which simply adding a date sticker to the chart may not have done), in order to provide the researcher with clear indication of specifically which days they were using the carrel. It was also, however, a means of providing students with a record of their track preferences, or the selections they had sampled to date, from previous carrel uses. Space was allotted on the record-keeping chart for a child to make a total of three visits to the carrel during any given day.

Students using the intervention were also given the option of completing a basic problem-solving form (included as Appendix H2), during their 5-minute

session at the calm carrel. The form, copies of which were included after the series of record-keeping sheets in each duotang, asked the students to indicate, firstly, why they had opted to go to the carrel on the occasion in question. They were given three possible options to select from (“I was mad”, “I was unhappy”, “I was having trouble with my work”), and a blank space was provided for them to indicate “another reason” if the alternatives provided did not apply. The second question on the form asked the students to specify what they intended to do, upon returning to their own desk, in order to deal with what had been bothering them previously and had prompted their visit to the carrel. In this case, four options were listed (“I will ask the teacher for help with my work or my problem”, “I will try not to think about what was bothering me before”, “I will remember how relaxed I felt at the calm carrel”, “I will practice deep breathing”), and, again, additional space was provided, should the child choose to specify “something else” they planned to try instead of, or in addition to, the listed alternatives. To guard against the completion of multiple problem-solving forms during a single visit, and so as to secure a reasonably accurate sense of how often students were electing to fill out these forms, the children were requested to include a date sticker on this sheet as well, and to indicate whether the form was being completed on their first, second, or third trip to the carrel that day.

Due to the fact that it was anticipated some of the students may avoid the carrel if they felt that a visit there would necessarily entail additional reading or writing (which might well have been what had been contributing to their aggravation in the class to begin with), the optional nature of the problem-solving

form was clearly communicated to the children, during the initial training session. At the same time, the teachers showed and read the form through for the class at this point, and made them aware of the fact that it could be a helpful tool, if they wished to take advantage of it. The questions on the form were intentionally phrased as simply as possible, to aid students in completing the form independently. The form was intended to guide students through a simple process of self-reflection and planning, wherein they were overtly prompted to consider why they were feeling upset or frustrated, and specifically what they might do to address it, after leaving the carrel. Further, it could reasonably be anticipated that even for those students who might simply read the problem-solving form without completing it, some benefit might still be derived from the process.

Apart from listening to and/or working through the various selections on the CD, practicing deep breathing or progressive muscle relaxation exercises as prompted by the posters at the carrel, and completing the problem-solving form, students were also permitted to simply put on the headphones and put their head down and rest for the duration of their visit. The freedom to choose and employ what worked best for them individually, was an important element of the intervention, and, it was hoped, an important contributor to the students' increased awareness of their own coping strategy preferences and, hence, their capacity to self-regulate emotions and behaviours. Regardless of how they chose to spend their time at the carrel, upon hearing the beeping of the 5-minute countdown timer through the headphones, the students were to promptly stop the CD player, reset

the timer, return their duotang to its place of storage, and quietly return to their own desk.

A significant factor in promoting students' voluntary use of the carrel when it was actually most needed, was anticipated to be its wholly non-punitive, and even reinforcing, nature. As such, teachers were instructed never to send, or require students to go there as they would in the case of a time-out. They were, however, encouraged to remind a child who appeared to be having difficulties and perhaps heading towards the point where a time-out might be necessary, that said child might wish to make use of the calm carrel at that point, and that to do so might be effective in pre-empting the need for a time-out. Teachers were also encouraged to provide reminders to the class as a whole, when appropriate, about the availability of the carrel and about the types of occasions when it might prove to be especially helpful.

All participating teachers agreed that, in the interests of ensuring students did not see the calm carrel as in any way punitive, the children would not be required or expected to complete any work at the carrel, nor to make up any work missed, or in any other way compensate for the time they spent at the carrel. The established maximum of three 5-minute uses of the carrel per child over the course of a single day, was seen as reasonable in the sense of not representing a sizable amount of class-time missed, particularly insofar as 15 minutes at the carrel might conceivably serve to avert a much longer period of off-task or otherwise problematic behaviour, which might in turn have disrupted the class as a whole. Nevertheless, as mentioned, if teachers felt students were in any way

misusing the carrel or abusing the privilege of being able to use it according to their own discretion, they were permitted to intervene and restrict usage, as needed. Further, teachers were instructed not to depart from their customary approach to classroom management, including use of the time-out room, token economy or point system, and any other strategies or techniques they already had in place. As such, for instance, if a child demonstrated a behaviour that would ordinarily have resulted in a time-out assignment, it was still to result in a time-out during the period that the carrel was in place. The researcher was interested in assessing the potential value of the calm carrel intervention in the typical special class setting for students with EBD and, as such, it was important that teachers be permitted to continue with their usual disciplinary practices during the experimental phase. This also served to ensure that the calm carrel was perceived as minimally invasive by the participating teachers.

After each teacher had collected 20 days' worth of behavioural rating and time-out data for their class as a whole (again, individual student absences during the course of these 20 days could, of course, not be avoided), this signaled the conclusion of the experimental phase of the study. At this point, the teachers were to re-administer the "My Behaviour" survey (Appendix F2) that students had completed just subsequent to the calm carrel training session. Again, teachers were asked to read the questions aloud, and to scribe the responses of students with writing difficulties. The intent of having students fill out this survey again at the close of the study was to allow the researcher to compare it to their earlier responses, for purposes of determining if there was any apparent distinction

between the way they regarded their behaviour prior to, and following, implementation of the calm carrel technique.

Also at the close of the study, the teachers had their students complete a short feedback form (included as Appendix I1), so as to secure their views about the overall value of the carrel within their classroom, as well as the degree to which students preferred the different strategies available there (music, progressive muscle relaxation exercises, and visualization narratives). In addition to likert scale type questions (taking the form of stars to be shaded in) addressing the aforementioned areas, the feedback survey also included short-answer questions asking the children to expand upon whether or not they personally found the calm carrel helpful, and in what way, as well as what they liked most about the carrel, and whether they had any suggestions for its improvement. Again, the teachers were instructed to read the questions aloud to students and assist with scribing responses where needed.

The teachers themselves also completed a feedback survey (included as Appendix I2) at the conclusion of the experimental phase. This was likewise comprised of likert-scale type questions (regarding the extent to which the carrel was a useful option to have available for students, fit in well with the teacher's existing approach to management, was used appropriately by the children, and would be worth implementing with students again in the future), as well as written response questions (asking for comment on the rules that had been established for use of the carrel, the techniques available for students to use while there, the suitability of the carrel as a tool to aid in classroom management and in the

facilitation of student self-management, and any other comments the teachers wished to share).

Subsequent to reviewing the completed teacher feedback surveys, the researcher met with the teachers in December of 2006, either individually or in pairs (in the two cases where two participating teachers were based out of the same school), in order to conduct a tape-recorded follow-up interview, of approximately 30 minutes in length. Prior to the interview, a set of questions (included as Appendix J) was prepared to guide the process. The interviews were intended to allow the researcher an opportunity to further explore teachers' comments on the surveys, and to engage in a dialogue about the calm carrel in order to get a better sense of teachers' perceptions of its effectiveness in their classes, the factors affecting its use, and ways in which it might be improved upon. All teachers expressed a desire to keep the calm carrel materials in their classrooms for continued and future use, so although the study itself had concluded, the actual use of the intervention was not discontinued at this point.

List of Research Questions and Rationales for Each

Prior to listing the research questions themselves, following is a brief overview of the rationale for grouping and presenting them in the order they are sequenced here. The first question serves as a means of validating the calm carrel training process. It is listed first, not because it is more important than the other questions, but because without establishing that the students gained the required knowledge about use of the calm carrel from the pre-intervention training, examination of the degree to which their behaviour might have improved as a

function of carrel use would be a moot point, due to the possibility of their using it incorrectly. The second and third research questions comprise the key quantitative questions of the study, following directly from the main behavioural measures (daily behavioural ratings and time-outs). These questions will be examined not only for the group as a whole, but also with several subsets of the data (by class, with carrel users only, with students who completed problem-solving forms at the carrel, and with and without outliers), in the interests of determining whether trends may be apparent in some cases but not others. Although this is not a typical approach, it is appropriate in light of the exploratory nature of the present study. The fourth research question explores outcomes on different categories of the time-out measure, thus expanding on the third question. The fifth through eighth research questions revisit the behavioural rating and time-out measures in relation to the extent of actual use of the calm carrel intervention, and the ninth question looks at results on these measures in relation to students' attitudes towards the carrel. In the tenth question, students' perceptions of their own behaviour, before and after implementation of the carrel, are examined. Finally, the eleventh and twelfth questions focus upon both qualitative and quantitative feedback received from students and teachers at the conclusion of the study.

Following, then, is a list of the twelve research questions established for the project, as well as a description of the rationale underlying each.

1. *Was the pre-intervention training administered by the teachers effective in helping students to understand the procedures necessary for use of the calm carrel (as determined by looking at students' post-training quizzes)?*

The intent of this question was to ascertain both whether there were any initial differences between the classes with respect to the students' understanding of the calm carrel intervention subsequent to the training session, and also whether all students, across classes, had a good general sense of the correct procedures required for use of the carrel. As such, addressing this question served as a means of determining both the degree of consistency of the teacher training from one class to the next, and the overall effectiveness of the training lesson itself, as reflected by the degree to which students retained key points they had been taught. Without relatively comparable results across classes, the possibility of either inadequate student training in one or more cases, or preexisting class-specific variables impacting upon the children's understanding of the intervention, would need to be recognized as a significant complicating factor from the very outset of the study. Conversely, if low results on the quiz are apparent across classes, this would most likely invalidate any behavioural gains, or positive feedback, that might be forthcoming during the experimental phase. If students' initial understandings of what the carrel entails are largely inaccurate, it would follow that they may then use it incorrectly, thus rendering any conclusions about behavioural changes as a function of its use, highly unreliable.

2. *Do participating students receive higher daily behavioural ratings (on a scale of 0 to 7) from their teachers during the 20-day experimental phase of the study as compared to the 20-day baseline period?*

As one of the two main quantitative behavioural measures in the study, the daily behavioural ratings are intended to serve as a holistic index of a student's behaviour during the course of a particular day. Of interest in this research question, therefore, is whether students' overall behaviour, on a day-to-day basis, was rated more highly by teachers during the baseline phase or the experimental phase. If ratings are found to increase significantly during the latter period, this would indicate that teachers noted a global improvement in student behaviour during the span of time that the calm carrel was in place. Since students' behavioural difficulties can take many different forms in the average EBD classroom, an overarching rating taking into account the essential character of each child's behaviour throughout a given day, was seen as an important means of getting a clear sense of progress or deterioration, both within and across the six participating classes. Further, by also examining the ratings of only those students who actually reported using the carrel, and of those who did or did not complete a problem-solving form while there, it will be possible to determine whether behaviour changes were apparent, or varied, for a certain subset of the participating students.

3. *Do participating students receive fewer teacher-imposed time-outs during the experimental phase of the study as compared to the baseline period?*

The other chief behavioural measure in the study, the number of isolation time-outs assigned to students, provides an additional indicator of whether behaviour in the classrooms varies in any marked way during the period that the calm carrel is in place. Given that teacher-administered time-outs are a common means of addressing behavioural difficulties in classes for students with EBD, it clearly follows that their prevalence is also an effective index of the extent to which the children are meeting teacher expectations and behaviour standards. Using this measure to supplement the daily behavioural ratings measure, is in recognition of the fact that not all misbehaviour (as reflected by the ratings) necessarily leads to a time-out (making the time-out count by itself insufficient), whereas the actual number of time-outs will be obscured if using the rating variable alone. Hence, having the two types of data ensures a clearer and more complete picture of students' behaviour on a day-to-day basis. As with the daily ratings, a significant increase or decrease in the extent of time-outs during the experimental phase of the study, would be indication that the teachers perceived student behavior as having changed in a notable way while the calm carrel was in place. Looking at the data as a whole, but also by class, for carrel users only, and for students who completed one or more problem-solving forms at the carrel, will make it possible to discern any trends that might be present for particular groups of children.

4. *Does there appear to be improvement in certain specific behaviours (as evidenced by the teachers' classification of the reasons for administering time-outs) during the experimental phase of the study (as compared to the baseline period)? (e.g. Perhaps incidents of 'physical violence' leading to*

time-out assignment show a particularly marked decrease within the class as a whole during the experimental phase of the study).

This research question is premised on the assumption that certain types of student behaviour may vary as a function of carrel use, to a greater or lesser extent than others. Whether or not overall time-outs evidence a significant increase or decrease, it could be important to know whether the extent of time-outs administered as a result of a particular type of behavioural transgression, change in a marked way during the period the carrel is in place. If the carrel was to prove helpful in reducing a certain type of behaviour (such as physical violence), while having no impact upon other types of misbehaviours that lead to time-outs, this would nevertheless still be important information about the intervention's utility. It may be, in other words, that the carrel is best suited for alleviating specific types of behavioural difficulties. Having teachers categorize each time-out assigned, according to the classification scheme detailed earlier, will allow the researcher to determine whether this is the case.

5. *Is there a relationship between individual students' use of the calm carrel and their respective behavioural ratings on the specific days they chose to use the carrel? (If so, what is the relationship?)*

Even if significant changes are not apparent within the overall behavioural ratings data during the experimental phase as compared to the baseline period, if it is found to be the case that students' ratings are typically better (or worse) than their own average ratings (from the experimental phase), on the particular days they visited the carrel, this could still say something important about the nature and

extent of the intervention's impact. In the absence of overarching behavioural gains, localized improvement on the daily ratings measure on the actual days the intervention is used, would still speak to its potential effectiveness. Further, assuming that overall changes are evident during the experimental phase as a whole, if it turns out that there are also trends within this data associated with the individual days the children chose to go to the carrel, this could further increase the likelihood that the larger changes throughout the study might reasonably be attributed to the fact that the carrel was in place. Conversely, if overall rating changes are apparent but there does not appear to be any clear link to the students' actual use of the intervention, this may suggest that other factors could be responsible. For these reasons, looking at the behavioural ratings in relation to day-to-day carrel use, was deemed a worthwhile way of securing a more detailed picture of the strategy's possible influence in the classroom.

6. *Is there a relationship between the extent of individual students' use of the calm carrel and the quality of their daily behavioural ratings over the course of the entire experimental phase of the study? (i.e. not on individual days) (If so, what is the relationship?)*

This research question serves as an additional way of examining the data from the preceding question. While the previous question will indicate the extent to which students' individual behavioural ratings are higher or lower than their average on the days they visited the carrel, it will not take into account the degree of difference. What is of interest in that case is simply whether students' behaviour was better or worse on those specific days. Another way of considering the data,

as in the case of the present research question, is to look for the possible presence of an overarching relationship, not between use of the carrel and behavioural ratings on particular days, but between the total extent of carrel use and the total quality of the children's behavioural ratings during the experimental phase.

Knowing whether behaviour ratings are strengthened or weakened in a significant way as a function of increased carrel use, is useful information to supplement the data forthcoming from the other research questions. Thus, this question essentially asks, "If use of the carrel is good, is more use better?"

7. *Is there a relationship between individual students' use of the calm carrel and the number of teacher-imposed time-outs they were assigned on the specific days they used the carrel? (If so, what is the relationship?)*

This research question is akin to the fifth research question, except in this case pertaining to time-outs (during the experimental phase), as opposed to behavioural ratings. It is useful to examine both of these key behavioural measures in the same manner. It may be the case, for instance, that use of the carrel appears to impact upon overall behaviour (as reflected in the behavioural ratings) to a greater or lesser extent than it does upon the number of discrete incidents of misbehaviour (as indexed by the time-outs measure). Alternatively, it may be the case that comparable trends are apparent within the two types of data, as a function of carrel use on a day-to-day basis. Either way, the results will further inform conclusions that might be made regarding the specific type of behavioural influence the carrel is likely to have within classes for students with EBD.

8. *Is there a relationship between the extent of individual students' use of the calm carrel and the number of teacher-imposed time-outs they were assigned over the course of the entire experimental phase of the study? (If so, what is the relationship?)*

This question serves the same purpose as the sixth research question, except in this instance relating to time-outs rather than daily behavioural ratings. Again, if an overarching trend is indicative of a strong association between increased carrel use and reduced time-outs (or, for that matter, between increased carrel use and increased time-outs), this would be worthwhile knowing, even in the absence of similar findings with behavioural ratings. Although the two measures both pertain to behaviour, they pertain to different aspects of behaviour (the general versus the specific), so it is important that a comprehensive assessment of the calm carrel's effectiveness is fully informed by both measures.

9. *Did those students with particularly favourable attitudes towards the calm carrel intervention (as determined by the post-intervention feedback forms) also demonstrate more prominent behavioural gains during the experimental phase (as determined by the behavioural ratings and the number of time-outs assigned), as compared to students with less favourable attitudes towards the calm carrel?*

The student feedback form measure, considered in its own right within the eleventh research question, also provides an additional means of examining the behavioural rating and time-out data for possible trends that may not be apparent within the dataset as a whole. Specifically, by using students' responses to the

likert-scale question pertaining to their overall view of the calm carrel, as a way of classifying the children as having liked or disliked the intervention, it becomes possible to look at the two main behavioural measures for each respective group in order to determine whether those who felt more positively about the carrel also evidenced greater behavioural gains on one or both of the measures. Examining the data for these subgroups may bring to light results that might be obscured when considering the group as a whole.

10. Do participating students appear to view the manner in which they deal with stressful or upsetting situations differently at the end of the study (as determined by comparing their pre- and post-intervention behaviour survey results)?

The two multiple choice questions on the 'My Behaviour' surveys, described earlier in the chapter, provide an indication of the children's own satisfaction with, and perception of their teacher's satisfaction with, the appropriateness of their behaviour in the classroom. Comparing the students' responses to these questions from just prior to, and just following, the experimental phase, will help to shed light on whether they viewed their behaviour, or their teacher's opinion of their behaviour, differently at the close of the study. Although this is achieved in greater detail (and with explicit reference to the calm carrel), through the student feedback surveys (making this the much more valuable measure), the 'My Behaviour' surveys nevertheless provide an efficient means of discerning students' overall feelings about their behaviour, in a single quantitative measure which is well-suited to analysis.

11. Do participating students have generally positive attitudes towards the calm carrel intervention (as determined from their post-intervention feedback forms)?

The student feedback form will provide considerable insight into students' views of the calm carrel, and their sense of the extent of its direct impact upon their behaviour. If the intervention is to prove effective in classes for children with EBD, it should appeal to students and teachers alike. However, given the fact that it is largely intended as a student-directed strategy, it is especially important that the children themselves view it as helpful, enjoyable (reinforcing), and a viable alternative to existing courses of action, when they are feeling upset or frustrated in class. Without such student approval, the intervention will be of no use as a self-management technique. For this reason, it is essential to get a clear reading of the children's feelings about it, at the close of the study.

12. Do participating teachers have generally positive attitudes towards the calm carrel intervention (as determined from post-intervention teacher feedback forms and interviews)?

As important as students' opinions of the intervention are, the teachers are the ones who must implement and monitor it, while ensuring a good fit within their existing approach to classroom behavioural management. Informed by their experience working with students with EBD, teachers' feedback will be most invaluable in assessing the practicality and effectiveness of the calm carrel as a self-management tool for purposes of facilitating behavioural change. The use of

in-person interviews will allow the teachers to expand upon and further explore points made on their feedback forms.

Having described the specifics of the calm carrel intervention along with the procedure employed in assessing it, and having outlined the research questions and the reasoning underlying each of these, attention in the following chapter will focus on reporting the outcomes of the study.

CHAPTER IV

RESULTS

Introductory Notes

This chapter will proceed, in sequence, through results for the 12 research questions listed and described in the final section of the preceding chapter. For purposes of providing some explanatory notes to open the chapter, however, it is worth referring initially to Table 2 on the following page, for a summary of the extent and nature of the data collected for the entire group of students taking part in the study, as well as to Appendix K, which is comprised of a series of six tables providing the same information for the individual students within each of the participating classes. As apparent from Table 2, the amount of data collected ended up varying somewhat, both within and across classes. As such, prior to addressing the research questions themselves, this introductory section of the chapter will examine how certain incongruities within the data were dealt with.

Dealing with Student Absenteeism

Firstly, it is worth speaking to the question of how student absences were addressed when working with the data. As had been anticipated with this population of children, many of whom encounter difficult circumstances in their home environment, and some of whose parents may tend to be less concerned with school matters than the average parent, it was evident from the data that the number of absences fluctuated fairly considerably over the course of the study, from one student to the next. In examining the entire dataset, the researcher established a cut-off of a minimum of seven days present during both the 20-day

Table 2

Overall Summary of Data Collected

Class	Number of students	Days of data collected (baseline)	Days of data collected (experimental)	Carrel uses (#)	Post-training quizzes completed (#)	Pre-intervention behaviour surveys completed (#)	Post-intervention behaviour surveys completed (#)	Feedback form ratings all or partly completed (#)
1	5	90/100	93/100	6	5	5	5	5
2	10	192/200	156/200 ¹	39	10	10	8	7
3	9	156/180	161/225 ²³	9	6	0	5	5
4	8	134/160	122/160	32	8	7	7	7
5	9	170/180	141/180 ⁴	25	7	7	7	9
6	10	161/200	194/240 ⁵⁶	8	7	0	6	6
Overall	51 ⁷	903/1020	867/1105	119	43	29	38	39

¹ Without including the student (2-10) who moved schools early in the experimental phase, this total would be 154/180.

² Without including the student (3-3) who moved schools early in the experimental phase, this total would be 159/200.

³ The Class 3 teacher collected data for an additional 5 days at the conclusion of the experimental phase

⁴ Without including the student (5-8) whose poor attendance during the experimental phase excluded him from the data analysis, this total would be 136/160.

⁵ Without including student 6-1 (whose poor attendance during the baseline phase excluded him from the data analysis) and student 6-4 (who moved schools early in the experimental phase), this total would be 181/192.

⁶ The Class 6 teacher missed one day of data collection, but then collected data for an additional 5 days at the conclusion of the experimental phase (amounting to 4 extra days' worth of data).

⁷ Of the 51 students, 5 were present fewer than 7 out of 20 days during the baseline and/or the experimental phase, and hence have not been included for purposes of data analysis. Of these remaining 46 students, 33 chose to make use of the calm carrel once or more during the course of the study.

baseline and the 20-day experimental phase (i.e. a minimum of 14 days present over the course of the study) in order for a student to be included in the analyses.

As a result, the five students who had more than 13 absences during a single phase of the study, were removed from the dataset for purposes of the analyses, as noted in Table 2, and in each of the corresponding tables, by class (in Appendix K). This left a total of 46 students for the main analyses, as conducted on the behavioural rating and time-out data. To have excluded students who were present more than six days per phase would have reduced the total number of participants by too great a number, resulting in insufficient data on which to base conclusions. At the same time, it was decided that students having 14 or more absences during either phase of the study had missed too much school to merit their inclusion in the dataset, and that it would have been problematic to draw inferences about behavioural trends in cases with that degree of absenteeism. It was inevitable that a cut-off of this type would have to be established at some point and, having considered the dataset as a whole, the aforementioned criteria emerged as being that which would allow the researcher to make the best use of the available data.

To avoid the difficulty of working around missing data-points resulting from variations in attendance among students both within and across classes, a system of averaging was used as a means of ensuring comparable amounts of behavioural data for all participating students. Specifically, student absences were dealt with by averaging the behavioural rating and time-out values for all the days that each individual student was present, and substituting the resulting means

for missing data of each type from the days when the given student had been absent (again, up to a maximum of 13 days per phase of the study). With this approach to drawing reasonable inferences based entirely on the existing data for each child, the researcher was able to create behavioural rating and time-out totals for the equivalent of 20 full days of data collection per phase, for every student in the study. Had this step not been taken, student absences would have rendered the data impossible to work with in any meaningful way.

Dealing with Additional Data Collected in Classes 3 and 6

Also with respect to the volume of data collected, it should be noted that the teachers of Classes 3 and 6 (both housed in the same school) requested an opportunity to collect additional days of data with the calm carrel in place (five and four days extra, respectively) at the conclusion of the 20-day experimental period. During the course of their interview with the researcher, both teachers came to the conclusion that the location in which they had each chosen to situate the calm carrel for the duration of the experimental phase may, in fact, have contributed to inadequate usage of the intervention by their students. As such, they requested permission to place the carrel in a new location and collect some additional data in order to ascertain whether students might be using it more as a result. The researcher consented to this and, in the interests of creating a more representative portrait of the students' behaviour with the calm carrel in place in these two classes, endeavoured to incorporate the additional records into the dataset, in such a way as to flesh out the existing information. More specifically, behavioural rating and time-out data from the additional days was first used to fill

in for data that was missing due to individual student absences during the experimental phase.

For example, if a particular student in Class 3 was absent five days during this 20-day timeframe, the additional five days of data collected were substituted for the days they had missed, thus resulting in 20 full days' worth of data during the experimental period. In cases where a student in Class 3 or Class 6 had fewer absences than the number of additional days of data collected, any surplus days were incorporated in the calculation of a ratio used to provide a "richer" figure for total behavioural ratings and time-outs over the course of the phase. For instance, if a child was present 24 days and had a behavioural rating total of 123, this was then converted to a comparable value of 102.5, equating to a total of 20 days. Thus, the cumulative rating and time-out figures were, by means of the ratio calculation, rendered equivalent to those of students in the other classes, thereby allowing for appropriate comparisons to be made, while still taking into account the additional data that had been forthcoming in the case of these two classes.

Missing Data on Student-Completed Measures

Apart from the behavioural rating and time-out data, it should also be observed that there was some variation, as apparent from Table 2, in the number of completed post-training quizzes, pre- and post-intervention behaviour surveys, and student feedback forms, by class. Not every student for whom behavioural data was collected, filled out the aforementioned documents. This can be attributed primarily to student absences on the dates the various forms were being administered (and failure to complete the materials at a later date). In the case of

Classes 3 and 6, however, the participating teachers forgot to have their students complete the pre-intervention behaviour survey, thus accounting for the lower number of forms there. It should be noted that ample instruction and reminders were provided to all participating teachers but that, with the pressures of a busy schedule and working with high-needs students, it is not surprising that an aspect of the procedure might be overlooked in this way.

Incorrect Application of the Calm Carrel Intervention in Class 1

At this juncture, it is also important to note the reasoning behind removing Class 1 from the dataset for certain aspects of the analyses reported in this chapter. Although it did not become apparent during the course of the study itself, upon reviewing the teacher's feedback form and conducting the follow-up interview with her, it was clear that she had misunderstood a key element of the intervention, and that her actions as a result may have interfered with students' use of the carrel, thus providing a less than representative dataset for her class. More specifically, she had mistakenly believed that, as the teacher, she was not to intervene and stop students from using the carrel in cases where she felt they were going there, without just cause, at inappropriate junctures, and for purposes of getting out of having to complete work at particular times of day (e.g. during the five minutes prior to recess).

Although the researcher had made it clear to all participating teachers that they were permitted (and indeed encouraged) to temporarily deny particular students the privilege of utilizing the carrel if they were taking advantage of it in any way, behaving inappropriately while there, or using it at inconvenient times,

the Class 1 teacher had misunderstood this. As such, after becoming frustrated with what she perceived to be manipulative use of the carrel on the part of her students, she intervened and spoke with the class as a whole about the situation. Although, according to the follow-up interview, this involved her merely indicating to the students that she could deny them use of the carrel if they were visiting it at inappropriate times, her lecture nevertheless apparently (according to the teacher interview, and borne out by data from the children's own record-keeping duotangs) resulted in the students ceasing to use the carrel almost entirely, during the latter half of the study. Owing to the uniqueness of this situation, and the fact that the teacher's misunderstanding of the intervention appeared to have impacted upon carrel usage and, hence, quite possibly, upon the validity of the behavioural data she had collected for purposes of gauging the carrel's effectiveness, it was decided that tests on the overarching behavioural measures (daily ratings and time-outs) would also be conducted with Class 1 removed from the dataset.

Results, Reported by Research Question

Throughout the section to follow, an alpha level of .05 was used for determination of significance in the case of all tests conducted. Note also that, wherever applicable, all tests are two-tailed in nature. As indicated in the preceding chapter, a large number of follow-up analyses were carried out on the main quantitative dependent measures (daily behavioural ratings and time-outs), examining various subsets of the overall dataset. In addition to looking at the data in its entirety, for instance, it was re-examined to seek out possible trends within

individual classes, amongst carrel users only, for students who did or did not complete problem-solving forms, and for children who reported liking or disliking the intervention. Key analyses were also repeated with outliers removed. It should be reiterated that, although this would not be a typical approach in the absence of significant findings on the chief measures, the additional analyses were undertaken with an aim to determining whether any suggestion of trends could be discerned for particular subgroups of the overall sample of participants. In light of the unique and exploratory nature of the study, it was less possible to anticipate exactly how the calm carrel's influence could be expected to manifest itself. It was thus deemed worthwhile, and indeed necessary, to examine the data in greater detail in the interests of searching for possible effects of the intervention.

Research Question 1

Was the pre-intervention training administered by the teachers effective in helping students to understand the procedures necessary for use of the calm carrel (as determined by looking at students' post-training quizzes)?

As discussed in the preceding chapter, this research question served as a means of validating the effectiveness of the calm carrel information/training session delivered by each of the classroom teachers. It was intended to provide assurance that the students understood what was expected of them, with respect to use of the intervention. To attribute any apparent behaviour changes to use of the intervention, it must first be established that the children were equipped with the information necessary to be able to employ the intervention correctly.

In order, then, to determine if there were any initial significant differences

between the six participating classes with respect to the students' level of understanding about what was entailed by the calm carrel intervention, the post-training quiz results were compiled by class and then compared by means of a one-way ANOVA. The results showed there to be no significant differences among the classes, $F(5, 37) = 1.45, p = .231$. This should be taken to confirm the fact that the calm carrel training session delivered at the close of the baseline phase was administered with relative consistency, as well as with adherence to the detailed lesson plan provided by the researcher, on the part of the respective teachers. This is important, as it implies that none of the classes were unfairly disadvantaged at the outset due to not being fully aware of what the intervention entailed and how to go about using it. The fact that the Class 1 teacher had not entirely understood the specifics of her role with respect to monitoring and enforcing time-appropriate use of the carrel (as discussed previously), clearly did not detract from her students' comprehension of the procedural aspects of the intervention's use. In fact, as apparent from Table 3, detailing the descriptive statistics following from the quiz results, the students in Class 1 had the highest overall scores from among the six groups.

Examining the mean quiz scores across classes, the fact that the lowest total score, by class, was 73%, and that the average score for all students who completed the quiz was 84%, suggests that, on the whole, the training sessions were administered effectively, and the students retained a majority of the important points. The children's specific responses to the post-training quiz questions are fully transcribed in Appendix L, as further evidence of the

correctness, for the most part, of their understanding of the expectations and requirements governing use of the carrel.

Table 3

Summary of Student Results on Post-Training Calm Carrel Quiz

Class	Number of Students Who Responded Correctly						Total
	Q1	Q2	Q3	Q4	Q5	Q6	
1	5/5	5/5	5/5	5/5	5/5	4/5	29/30 (96%)
2	9/10	10/10	7/10	10/10	10/10	8/10	54/60 (90%)
3	4/6	6/6	4/6	6/6	5/6	5/6	30/36 (83%)
4	4/8	8/8	7/8	8/8	8/8	7/8	42/48 (87%)
5	7/7	7/7	4/7	6/7	7/7	1/7	32/42 (76%)
6	5/7	5/7	5/7	6/7	7/7	3/7	31/42 (73%)
Total	34/43 (79%)	41/43 (95%)	32/43 (74%)	41/43 (95%)	42/43 (97%)	28/43 (65%)	218/258 (84%)

Research Question 2

Do participating students receive higher daily behavioural ratings (on a scale of 0 to 7) from their teachers during the 20-day experimental phase of the study as compared to the 20-day baseline period?

As previously indicated, the daily behavioural ratings served as one of the two key quantitative dependent measures in the study. As an index of teachers' impressions of their students' overall behaviour over the course of each school day, a comparison of the ratings from the two phases of the study was intended to determine whether, on the whole, students' behaviour changed in any significant way during the period that the calm carrel was in place.

By way of providing an overview of the approach to analysis undertaken here, this research question was addressed by carrying out paired sample t-tests and Wilcoxon signed-rank tests with the behavioural rating totals from both phases of the study, for the entire group of student participants, as well as for the subset of students who, according to their own records, made use of the carrel. The reason that both t-tests and Wilcoxon signed-rank tests were done, is that, in the case of both ratings and time-outs, the data could potentially be conceptualized as either interval or ordinal, depending on one's perspective, and hence either the parametric or non-parametric test could be justified. In this way, one test was also able to serve as something of a check upon the other.

These tests were also conducted by class, and by class with carrel users only. In addition, a univariate repeated measures ANOVA was carried out with the entire group of students, minus Class 1 and one student from Class 2.

Revising the dataset in this way for the ANOVA allowed for class sizes to be equivalent (eight students in each of five classes) for easier comparison. It was also seen as justified, owing to a probable misapplication of the calm carrel intervention on the part of the Class 1 teacher (as detailed previously). The student removed from Class 2 was one of two in the class who had not used the carrel (and, more specifically, the one with the greatest number of days absent). Having altered the dataset somewhat for purposes of conducting the ANOVA, the t-test and Wilcoxon signed-ranks test were also re-run with this new population of students, and with carrel users only from this group. In the interests of determining whether those students who chose to complete a problem-solving form during their calm carrel sessions would evidence different behavioural outcomes from those who did not, the t-test and Wilcoxon signed-rank test were also carried out on the behavioural rating data of the students who completed a form while at the carrel, those who used the carrel but did not complete a form, and the larger, combined group of those who either did not complete a form or did not use the carrel at all. Finally, the number of students who had higher overall behavioural rating totals during the baseline phase as a whole, was tallied for comparison to the number of students who had higher overall rating totals during the experimental phase in its entirety.

Overall Outcomes

In addressing this research question, the Shapiro-Wilk test of normality was first conducted to determine whether the behavioural rating totals (over the course of the baseline and experimental phases, respectively) could be deemed to

have normal distributions. In both cases, the Shapiro-Wilk (W) statistic was not significant, and, as such, the null hypothesis of normality would not be rejected in either instance. It can also be noted that, having created boxplots of the data, no outliers were apparent in the resulting output.

This having been established, a paired t-test was then carried out for purposes of ascertaining whether there was any significant change in ratings between the two phases of the study. The results indicated there was no significant difference between total ratings in the baseline ($M = 91.32$, $SD = 20.48$) and the experimental phase ($M = 91.50$, $SD = 17.69$), $t(45) = -.08$, $p = .938$. As such, given the lack of significance and the almost imperceptible mean difference between the two phases, it cannot be stated that the calm carrel intervention had any measurable impact, in either direction, upon the behavioural ratings of the students participating in the study, as an entire group. A Wilcoxon signed-rank test conducted for purposes of comparison, likewise did not reveal any significant difference between rating totals for the group as a whole, between the two phases, as $z = -.28$, $p = .781$.

Outcomes for Carrel Users Only

To determine whether there was any difference for those students who self-reported having made use of the calm carrel intervention in their record-keeping duotangs (comprising 33 of the total of 46 children), the above tests were re-run with this subgroup. The normality assumption was met for the data from both phases of the study, according to the non-significant Shapiro-Wilk test results, and no outliers were apparent on the resulting boxplots. The outcome of

the paired t-test again indicated no significant difference between the data from the baseline ($M = 91.53$, $SD = 20.95$), as compared to the experimental phase ($M = 91.93$, $SD = 19.17$), $t(32) = -.16$, $p = .877$. The Wilcoxon signed-rank test result was similarly non-significant, $z = -.12$, $p = .908$. It can thus be concluded that, as with the study population as a whole, those students who, according to their own records, had made use of the calm carrel while it was in place, did not evidence any significant change in their behavioural ratings in relation to their ratings during the baseline phase.

Outcomes by Class

In the interests of determining whether behavioural ratings might have varied between the two phases within individual classrooms, the above tests were also conducted by class. The Shapiro-Wilk test confirmed that the normality assumption could be considered met in each case. Table 4, on the following page, provides the relevant descriptive data (number of students, mean total behavioural rating, and standard deviation), by class, for both the baseline and experimental phase. Below that, Table 5 presents the results of the t-test and Wilcoxon signed-rank test by class.

By way of summarizing the data included in this latter table, it can be stated that there was a significant decrease in behavioural ratings during the experimental phase in the case of Class 1, a significant increase in the case of Class 5, and no significant difference in the four remaining classes. In all instances, the t-tests and Wilcoxon signed-rank tests were consistent with one another in terms of their findings of significance and non-significance. Apart

Table 4

Behavioural Rating Totals, By Class: Descriptives

Class	N	M	SD	M	SD
		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1	5	123.83	7.78	110.47	15.73
2	9	81.66	16.25	72.89	10.41
3	8	86.97	20.23	93.36	17.43
4	8	100.41	18.20	90.12	16.19
5	8	91.86	12.48	106.02	10.95
6	8	76.59	14.99	85.59	8.51

Table 5

*Behavioural Rating Totals, By Class: T-Test and Wilcoxon Signed-Rank Test**Results*

Class	T-Test			Wilcoxon Results	
	df	t	p	z	p
1	4	3.08	.037	-2.02	.043
2	8	1.80	.109	-1.60	.110
3	7	-1.85	.107	-1.68	.093
4	7	2.17	.067	-1.82	.069
5	7	-4.11	.005	-2.38	.017
6	7	-1.89	.101	-1.40	.161

from the matter of significance, and similarly highlighting the lack of any apparent trend in the data, it can be noted that the number of overall mean total rating increases versus decreases was evenly split among the six classes. Further, although the behavioural rating measure clearly indicated a significant degree of improvement in the case of Class 5, this is balanced by the equally clear evidence of behavioural deterioration (at least, as measured by the rating system), among the students in Class 1. Thus, whereas it may be that the calm carrel intervention played a contributing role in the more favourable result seen in Class 5, it could just as easily also have been a factor in the less positive outcome in Class 1 (though, as stated previously, little can be concluded about the results from this class, owing to misunderstandings on the part of the teacher). Nevertheless, apart from some variation by class, based solely on the results presented here, it must be concluded that implementation of the calm carrel program had no discernible effect, overall, on the behavioural rating data, and that any impact it might have had on the ratings within individual classrooms was, to the extent that this can be attributed to the carrel, negative as often as it was positive.

This was also the case when examining the data on a student-by-student basis. As seen in Table 6, on the following page, roughly equivalent numbers of children demonstrated behavioural rating improvements and deteriorations during the experimental period. This did, however, vary quite substantially by class.

Table 6
Behavioural Rating Trends, By Class

Class	Students with Improved Total Ratings in Experimental Phase	Students with Reduced Total Ratings in Experimental Phase
1	0	5
2	3	6
3	7	1
4	2	6
5	7	1
6	5	3
Total	24	22

Outcomes by Class for Carrel Users Only

A further set of tests was undertaken, again by class, but in this case with carrel users only, in order to determine whether examining the behavioural ratings of this subset of each class would alter, or shed any further light upon, the aforementioned results. Again, the Shapiro-Wilk test was conducted with each group, and the normality assumption was found to be met during both phases of the study, for the data of carrel users only, in each of the classes. One outlier, in Class 3, was apparent on the accompanying boxplots, and was hence removed from a subsequent test. Table 7, on the following page, comprises a summary of the descriptive data for carrel users only, by class. Table 8 then details the results of the t-tests and Wilcoxon signed-rank tests for these students.

Table 7

Behavioural Rating Totals, By Class (Carrel Users Only): Descriptives

Class	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1	4	125.34	8.09	114.84	14.23
2	7	80.27	16.19	71.52	10.97
3	5	88.43	18.19	93.44	15.83
3b ¹	4	84.04	17.68	87.75	10.89
4	7	96.41	15.41	89.42	17.36
5	6	93.50	13.13	106.08	12.81
6	4	69.83	18.97	86.06	11.42

Table 8

Behavioural Rating Totals, By Class (Carrel Users Only): T-Test and Wilcoxon Signed-Rank Test Results

Class	T-Test Results			Wilcoxon Results	
	<i>df</i>	<i>t</i>	<i>P</i>	<i>z</i>	<i>p</i>
1	3	2.50	.088	-1.83	.068
2	6	2.09	.081	-1.69	.091
3	4	-.93	.403	-.94	.345
3b	3	-.55	.619	-.73	.465
4	6	1.78	.126	-1.52	.128
5	5	-2.98	.031	-1.99	.046
6	3	-2.02	.137	-1.46	.144

¹ 3b, in both Tables 5 and 6, is used to refer to Class 3 with the single outlier having been removed from the dataset.

To summarize the aforementioned tables, representing the data of carrel users only, the mean behavioural rating total in Class 5 showed a significant increase during the experimental phase of the study as compared to the baseline, while no significant differences were apparent in the other five classes. In other words, the significant behavioural rating improvement that had been forthcoming in the case of all eight students in Class 5 taken together, remained when the two students who did not report having made use of the carrel were removed from the dataset. Yet, it can also be noted, the significant deterioration in behavioural ratings that had been evident for the five students in Class 1 as an entire group, disappeared when the one student in the class who did not use the carrel was removed from the inputted data. Put another way, the behavioural ratings of the one student in that class who did not use the carrel were those which had “tipped the scale” in creating a significant decrease in ratings during the experimental phase, for the class as a whole.

As such, among carrel users only, when the results were considered by class, the single significant result was a positive one. The enduring nature of the behavioural rating improvement seen in the case of Class 5 might possibly suggest that the carrel played some part in the findings, as the higher ratings were substantial enough among the six carrel users that the significant improvement remained when the tests were re-run without data from the two other classmates. Nevertheless, although this possibility exists, there is no means of proving it with any degree of certainty and, given the large number of tests conducted and reported upon throughout this chapter, the chances of positive (and negative)

findings being spurious (in other words, the likelihood of both Type I and II errors), is considerable, rendering any firm conclusions inappropriate. Again, when looking at mean differences (irrespective of significance) among the six classes, based on the data of only the self-reported carrel users, decreases in ratings during the second phase of the study were evident as often as were increases.

Outcomes as a Function of Problem-Solving Form Completion

With an aim to determining whether those students who completed problem-solving forms at the carrel differed in any way, with respect to their behavioural ratings, from those students who did not (as having completed a problem-solving form could be seen as indication of a child's taking the self-management process more seriously), several additional t-tests and Wilcoxon signed-rank tests were conducted. More specifically, the tests were carried out for carrel users who completed a problem-solving form at some point during the course of their visits to the carrel, carrel users who did not complete such a form, and all students (including those who did not use the carrel at all) who did not complete a form. The normality assumption was met in the case of data from all three groups. The descriptive statistics and t-test and Wilcoxon results of the tests are included in Appendix M, as Tables M1 and M2. No significant improvement or deterioration in ratings was apparent in any of the three groups, and, as such, it does not appear that those who completed problem-solving forms at the carrel differed with respect to behavioural outcomes, from those who did not.

ANOVA Results

As a further check on the behavioural rating data, a univariate repeated-measures ANOVA was also conducted. In the interests of creating equivalent class sizes to allow for easier comparison, while also providing an opportunity to examine the overall dataset in the absence of Class 1 (on account of the reasons discussed earlier in the chapter), Class 1 and one student from Class 2 (one of two non-carrel users, and the one with the greatest number of absences) were removed from the data prior to conducting the ANOVA. As such, the ANOVA was carried out on a total group of five classes, each consisting of eight students. The normality assumption was met for this dataset, according to the Shapiro-Wilk test. The results indicated no significant main effect of condition (baseline versus experimental) on behavioural rating totals for the group as a whole, $F(1, 35) = 1.96, p = .171, \text{partial } \eta^2 = .05$. A significant interaction between condition and class was apparent, $F(4, 35) = 5.99, p = .001, \text{partial } \eta^2 = .41$, consistent with the variation between groups that was observed in the t-tests conducted by class.

Wilcoxon and T-Test Results under ANOVA Conditions

Having removed Class 1 and one student from Class 2 from the dataset, for purposes of creating equivalent class sizes for the ANOVA, a further t-test and Wilcoxon signed-rank test were conducted with this same population (eight students per class, in Classes 2 to 6), for the sake of consistency. Again, the result of the paired t-test indicated no significant difference within the data from this group of 40 students within the baseline ($M = 86.99, SD = 17.89$), as compared to the experimental phase ($M = 89.64, SD = 16.60$), $t(39) = -1.14, p = .262$. The

Wilcoxon signed-rank test result, $z = -1.32$, $p = .188$, is also consistent with this finding. Finally, one additional set of tests with only the carrel users ($n = 29$) from these five classes, likewise did not reveal a significant difference between baseline phase ($M = 86.87$, $SD = 17.57$) and experimental phase rating totals ($M = 88.77$, $SD = 17.69$), in the case of either the t-test, $t(28) = -.69$, $p = .496$, or the Wilcoxon signed-rank test, $z = -.70$, $p = .482$.

It may be worth noting, albeit very cautiously, the fact that the overall increase in mean behavioural rating totals during the experimental phase, was slightly higher when Class 1 was removed from the dataset. However, the difference between the baseline and experimental phase was, nevertheless, not a significant one.

Concluding Statement

Ultimately, the above tests are indicative of the fact that, apart from some variation across classes, including a significant improvement in ratings in Class 5 with the calm carrel in place, no trends are apparent within the data, and behavioural ratings did not evidence any notable change during the experimental phase of the study.

Research Question 3

Do participating students receive fewer teacher-imposed time-outs during the experimental phase of the study as compared to the baseline period?

Focusing on the other main quantitative dependent measure in the study, this research question was concerned with determining whether the number of specific instances of student misbehaviour warranting time-outs, changed in a significant way, during the period the calm carrel was in place. This is as distinguished from the preceding research question, which was concerned with changes in the teachers' overall impressions of students' behaviour, as reflected by holistic daily ratings. Because the two measures are likely to have captured different elements of the children's classroom behaviour, it was deemed appropriate to examine each one, independently, in some degree of depth. However, in terms of the analyses conducted, this research question was addressed in the same manner as the preceding one, that being primarily through the use of paired sample t-tests, Wilcoxon signed-rank tests, and a univariate repeated measures ANOVA. The tests compared the total number of time-outs during the respective phases of the study, for the same groups and subgroups examined in the previous question. As outliers were apparent in some of the resulting output, the tests were also re-conducted in several cases, with outliers removed from the dataset. An attempt will be made here to avoid duplication of explanations of the tests themselves.

Overall Outcomes, With and Without Outliers

The Shapiro-Wilk test was employed on the dataset as a whole ($N = 46$), and its significant result was indicative of the fact that normality could not be assumed for either the baseline or experimental phase, with respect to the time-out data. Prior to removing outliers, however, a paired t-test was conducted with the entirety of the dataset. It can be noted that the t-test is robust to violations of normality with sample sizes of 30 or more participants (Lee, 2008). The t-test results showed no significant difference between mean total time-outs in the baseline ($M = 9.64$, $SD = 12.39$), as compared to the experimental phase ($M = 8.62$, $SD = 9.12$), $t(45) = .70$, $p = .487$. This was also consistent with Wilcoxon signed-rank test results of $z = -.13$, $p = .898$.

To determine if it would impact upon the results at all, ten outliers from this group (as apparent on a series of 4 successive boxplots) were removed, and the tests re-run. The t-test outcome in this case, again showed no significant change from the baseline ($M = 4.50$, $SD = 5.07$) to the experimental phase ($M = 5.08$, $SD = 5.01$), $t(35) = -.73$, $p = .472$, and the Wilcoxon signed-rank test was, likewise, non-significant, with $z = -.98$, $p = .326$. Nevertheless, it could be noted that, with outliers removed, the mean number of time-outs increased during the experimental phase, whereas with the ten students with extreme values included in the dataset, the time-outs had been reduced while the calm carrel was in place. As this is not a significant finding, nothing can be safely concluded from it, but, at most, it could be indication of the possibility that having the intervention available in the classroom may have had something of an impact in reducing time-outs,

among those students who had considerably more time-outs to begin with.

However, the results reported just below might suggest otherwise.

Outcomes for Carrel Users Only

In examining the time-outs of carrel users only ($n = 33$), (for whose data the normality assumption was, again, not met), a t-test indicated no significant difference between time-outs assigned in the baseline ($M = 8.91$, $SD = 10.99$), and the experimental phase ($M = 9.03$, $SD = 9.01$), $t(32) = -.07$, $p = .942$, and this was also borne out by the Wilcoxon signed-rank test result, of $z = -.71$, $p = .481$.

Three outliers were apparent within the dataset, so the tests were also re-run with these students excluded. Once more, neither the t-test, $t(29) = -.98$, $p = .335$, nor the Wilcoxon signed-rank test, $z = -1.23$, $p = .219$, showed a significant difference between the baseline ($M = 6.14$, $SD = 6.33$), and the experimental phase ($M = 7.37$, $SD = 7.00$). It can be noted that, although not significant, there was a slight increase in the mean number of time-outs among the carrel user group during the experimental period, a finding which was not apparent when all students were included in the analysis.

Outcomes by Class, and Outcomes by Class for Carrel Users Only

The mean total number of time-outs was then considered by class, as well as by class with carrel users only, in both cases utilizing the same tests as above. Initially, the Shapiro-Wilk normality test was carried out for each class (and again for the self-identifying carrel users in each class), and boxplots were constructed to identify outliers in the data. The normality assumption was met in the case of some datasets but not others, and a number of outliers were apparent. As such,

the resulting tests were conducted both with and without outliers included. Tables 9 and 10, respectively, present the pertinent descriptive statistics, and the t-test and Wilcoxon signed-rank test results, by class, while Tables 11 and 12 do the same, but for carrel users only. Appendix M includes Tables M3 to M6, depicting the same types of data for these groups, but specifically in cases where outliers were removed.

To summarize these results, it can be stated that, when looking at time-outs by class, and including data from all participating students within each class, there were significant increases in time-outs during the experimental phase (as compared to the baseline) in the case of Classes 1 and 4 (as apparent on both the t-test and the Wilcoxon signed-rank test), and a significant decrease in time-outs for Class 3 (evident in the Wilcoxon results, but not on the t-test). There was also a decrease approaching significance on both the Wilcoxon and t-test, for Class 5.

When considering the data of carrel users only, it is evident that the increase in time-outs for Class 1 (on both tests) and the decrease for Class 3 (on the Wilcoxon), are no longer significant. Further, among carrel users, the increase in time-outs for Class 4 is only significant on the Wilcoxon, and the decrease for Class 5 is no longer approaching significance on either test. As such, with the self-identifying carrel-using population, the only significant change in the number of time-outs between the two phases, is an increase, as measured by the Wilcoxon signed-rank test, for Class 4.

Significance aside, in the case of both the entire group and the subgroup of carrel users only, the results here indicate that three of the classes saw mean

Table 9

Time-out Totals, By Class: Descriptives

Class	N	M	SD	M	SD
		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1	5	11.04	4.99	21.33	10.15
2	9	3.70	5.21	5.39	5.14
3	8	10.89	11.80	6.22	5.63
4	8	1.56	2.51	5.10	5.09
5	8	28.53	14.21	16.45	11.03
6	8	3.36	4.25	2.39	1.60

Table 10

Time-out Totals, By Class: T-Test and Wilcoxon Signed-Rank Test Results

Class	T-Test			Wilcoxon Results	
	df	t	p	z	p
1	4	-3.71	.021	-2.02	.043
2	8	-1.12	.296	-.68	.499
3	7	1.80	.115	-2.24	.025
4	7	-2.54	.039	-2.52	.012
5	7	2.31	.054	-1.96	.050
6	7	.89	.403	-.42	.674

Table 11

Time-out Totals, By Class (Carrel Users Only): Descriptives

Class	N	M	SD	M	SD
		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1	4	9.35	3.77	18.41	8.98
2	7	3.62	5.76	5.83	5.77
3	5	8.62	6.30	6.42	4.91
4	7	1.78	2.63	5.47	5.38
5	6	25.97	13.85	16.66	13.02
6	4	4.99	5.89	3.25	1.81

Table 12

Time-out Totals, By Class (Carrel Users Only): T-Test and Wilcoxon Signed-Rank Test Results

Class	T-Test			Wilcoxon Results	
	df	t	p	z	p
1	3	-2.83	.066	-1.83	.068
2	6	-1.37	.221	-.94	.345
3	4	1.66	.173	-1.48	.138
4	6	-2.31	.061	-2.37	.018
5	5	1.53	.187	-1.57	.116
6	3	.78	.494	-.73	.465

increases in time-outs and three saw mean decreases, as was also the case with the behavioural rating data. It can also be noted that the classes which evidenced mean increases in time-outs during the experimental phase were also those which showed mean decreases in behavioural ratings, and vice versa. This level of agreement between the measures could perhaps be seen as validating the use of the rating scale as an effective indicator of overall student behaviour.

Having re-conducted the above tests in several instances where outliers had been apparent, very brief comment on the outcomes of these additional analyses (the data from which are included in Appendix M) is also warranted. In looking at the entire classes (both carrel users and non-carrel users), minus the outliers, the only significant findings were a decrease in time-outs (on both tests) for Class 5, and a decrease on the Wilcoxon signed-rank test (while approaching significance on the t-test), for Class 3. One change in directionality was apparent in that, with the two outliers having been removed from Class 6, the mean number of time-outs within that group now showed a slight (non-significant) increase, whereas with all eight students included in the dataset, and with the four carrel users only, a decrease had been present. The results of t-tests and Wilcoxon signed-rank tests in the two classes where outliers were removed from the subset of carrel users only, were all non-significant.

Looking at the data of individual students, as per Table 13, on the following page, it is evident that more children showed increases in time-outs during the experimental phase, than decreases. Again, however, it is worth noting that this did vary by class. Further, this table does not take into account the

degree to which each child's time-outs increased or decreased. As such, it is merely intended to provide an additional way of conceptualizing the data, and further evidence of the fact that no overarching trend was apparent in the results.

Table 13

Time-out Trends, By Class

Class	Students with Reduced Time-Outs in Experimental Phase	Students with Increased Time-Outs in Experimental Phase	Students whose Time-outs Remained Consistent Between the Two Phases
1	0	5	0
2	2	5	2
3	7	1	0
4	0	8	0
5	6	2	0
6	4	4	0
Total	19	25	2

Outcomes as a Function of Problem-Solving Form Completion

As with the behavioural rating data, the above t-tests and Wilcoxon signed-rank tests were also re-run with three subsets of the overall group of students, in order to ascertain whether the children's completion of one or more problem-solving forms at the calm carrel distinguished them, with respect to number of time-outs assigned during the experimental phase, from those students who used the carrel but did not complete a problem-solving form, and from all those students (both carrel users and nonusers) who did not complete a form. Use

of the Shapiro-Wilk test on these three datasets indicated that the normality assumption was not met in any of the cases. One outlier was removed prior to conducting the analysis on the second subgroup. Tables with the relevant descriptive statistics as well as the t-test and Wilcoxon signed-rank test results, are included in Appendix M, as Tables M7 and M8. As with the findings from the tests conducted for behavioural ratings, none of the groups evidenced any significant changes in number of time-outs during the experimental phase. In other words, completing a problem-solving form did not distinguish students, as a group, from those who did not complete such a form, with respect to mean total time-out assignments while the calm carrel was in place.

ANOVA Results

A univariate repeated-measures ANOVA was also conducted on the time-out data, with Class 1 and one student from Class 2 having been removed from the analysis (as discussed previously), leaving a total of 40 students. Although this data could not be deemed normally distributed according to the Shapiro-Wilk test, the ANOVA is considered robust to violations of normality for samples of 30 or more participants, so this need not affect interpretation of the outcomes. The test indicated that the main effect of condition (whether or not the calm carrel was in place) upon reducing the number of time-outs during the experimental phase, was approaching significance, with $F(1, 35) = 4.13, p = .050$, partial $\eta^2 = .11$. A significant interaction between condition and class was evident, $F(4, 35) = 4.68, p = .004$, partial $\eta^2 = .348$ which, again, was in keeping with the variation across classes that was noted previously in the t-test and Wilcoxon results. It should be

mentioned that the assumption of equal variances was not met here and, although ANOVA can be reasonably robust to violations of this type, the results should nevertheless be regarded cautiously.

Wilcoxon and T-Test Results under ANOVA Conditions

As was done with the behavioural rating data, an additional t-test and Wilcoxon signed-rank test were carried out on the time-out records with Class 1 and the single student from Class 2 deleted from the dataset, as per the ANOVA just reported. Neither the results of the t-test, $t(39) = 1.73, p = .091$, nor the Wilcoxon test, $z = -.92, p = .357$, were indicative of a significant difference between the mean total time-outs assigned in the baseline phase ($M = 9.68, SD = 13.13$), versus the experimental phase ($M = 7.11, SD = 7.88$) within this subset ($n = 40$) of the overall group. It could be noted, however, that there was a greater mean decrease in time-outs in this case, compared to the results when Class 1 had been included in the analyses. Finally, the tests were re-run with this subset of the data, but for carrel users only ($n = 29$). There was again no significant difference between the baseline ($M = 8.85, SD = 11.69$) and the experimental phase ($M = 7.73, SD = 8.36$), on either the t-test, $t(28) = .70, p = .490$, or the Wilcoxon signed-rank test, $z = -.02, p = .981$.

Concluding Statement

On the basis of the above-reported tests, it should be concluded that, except in the class-specific cases previously noted (wherein differences in both directions were evident), there was, on the whole, no significant change in number of time-outs during the experimental phase as compared to the baseline period.

That being said, the ANOVA that was conducted with Class 1 having been removed, did depict a reduction in mean number of time-outs which was approaching significance ($p = .05$). The distinction between this and the other whole-group tests, is indicative of the effect that the larger number of time-outs in Class 1 had upon the overall findings.

Research Question 4

Does there appear to be improvement in certain specific behaviours (as evidenced by the teachers' classification of the reasons for administering time-outs) during the experimental phase of the study (as compared to the baseline period)? (e.g. Perhaps incidents of 'physical violence' leading to time-out assignment show a particularly marked decrease within the class as a whole during the experimental phase of the study).

As indicated previously, having the teachers classify each time-out they assigned their students, as falling into one of four categories on the basis of its precipitating factor, allowed for a clearer sense of the specific kinds of behavioural transgressions that were occurring. Examining this collected data was thus intended to highlight whether particular misbehaviours were occurring significantly more or less frequently during the experimental phase of the study as compared to the baseline period, with an aim to inferring whether the calm carrel might have had a greater or lesser impact on certain kinds of behavioural difficulties.

For purposes of addressing this research question, again t-tests and Wilcoxon signed-rank tests were conducted, in this case on time-out totals (during

the two phases of the study) for each of the four categories of time-out. The tests were run with data for the entire group of student participants, for carrel users only, and for both groups after removing Class 1 from the analysis. Owing, however, to the fairly large number of students without time-outs in particular categories (thus substantially increasing the number of zero values), ANOVA was not conducted in the case of this research question. In addition to considering the overall dataset, the tests were also conducted by class, and by class for carrel users only. Where appropriate, outliers were removed from the dataset and tests were re-run.

Overall Outcomes, for All Students and for Carrel Users Only

Firstly, the Shapiro-Wilk test was carried out with the entire dataset ($N = 46$), for each of the four time-out categories. It was determined, from the significance of the results, that the normality assumption could not be considered met for the data in any of the categories. A number of outliers were apparent, and these were removed from later analyses. Both t-tests and Wilcoxon signed-rank tests were then conducted, first for the group as a whole, and then for carrel users only, on the mean totals for each of the four types of time-out. The related descriptive data is reported in Table 14, and the results of the analyses themselves are detailed in Table 15.

To summarize, the analyses did not indicate any significant increases or decreases in the mean number of time-outs assigned, in any of the four categories, over the course of the study, for the group as a whole ($N = 46$), nor among the carrel users only ($n = 33$). In other words, there was no significant difference, in

Table 14

Time-out Totals, By Category: Descriptives

Category	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
and group		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1 (All students)	46	1.78	2.90	2.61	3.67
1 (Carrel users)	33	1.78	2.45	2.84	3.70
2 (All students)	46	6.22	11.20	4.11	5.60
2 (Carrel users)	33	5.69	9.96	4.49	6.18
3 (All students)	46	.93	2.70	.87	2.17
3 (Carrel users)	33	.74	1.67	.75	1.77
4 (All students)	46	.70	1.80	1.04	1.91
4 (Carrel users)	33	.71	2.05	.95	1.51

Table 15

Time-out Totals, By Category: T-Test and Wilcoxon Signed-Rank Test Results

Category and group	T-Test Results			Wilcoxon Results	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>Z</i>	<i>P</i>
1 (All students)	45	-1.74	.088	-1.46	.144
1 (Carrel users)	32	-1.75	.089	-1.60	.110
2 (All students)	45	1.78	.082	-1.01	.314
2 (Carrel users)	32	1.09	.285	-.51	.609
3 (All students)	45	.33	.746	-.18	.861
3 (Carrel users)	32	-.06	.953	-.05	.959
4 (All students)	45	-1.00	.325	-1.02	.310
4 (Carrel users)	32	-.71	.486	-1.04	.297

either direction, with respect to the number of time-outs assigned to students as a result of inappropriate vocalizations (Category 1), refusals to cooperate (Category 2), instances of physical violence (Category 3), or other reasons not specified in the time-out coding system established for the study (Category 4). Although all mean differences were non-significant, it can, nevertheless, be noted that Category 1 and 4 time-outs increased during the experimental phase, for the entire group of students, as well as for carrel users only; Category 2 time-outs decreased for both groups; and Category 3 time-outs decreased for the group of students as a whole, but showed an (extremely negligible) increase for those students who used the carrel. Given the non-significance of the results, it would be inappropriate to attempt to draw any inferences about the role of carrel use, or the presence of the carrel in the classroom, in influencing the number of time-outs assigned in particular categories.

Outcomes with Outliers Removed

Tests conducted subsequent to the removal of outliers (the results of which are summarized in Tables M9 and M10, within Appendix M) did not end up adding useful information to the aforementioned analyses. Owing to the large number of zero values within the different time-out categories, the mean totals that resulted from the deletion of outliers were so small as to make meaningful comparisons an impossibility. The only significant result stemming from these follow-up tests, was an increase in time-outs in Category 1 (inappropriate vocalizations), among carrel users only, after the removal of 8 outliers. The magnitude of the standard deviations (for both the baseline and experimental

phase data) and the slightness of the mean difference in this case, render this a rather inconsequential finding. If anything, it suggests only that, among the carrel users with less extreme numbers of time-outs stemming from inappropriate vocalizations, a minimal increase in the relative number of time-outs assigned for this reason (though not in the overall number of time-outs assigned) was noted during the experimental period.

Outcomes by Class

As had been done with the time-out data in its entirety, the time-out records by category were also examined on a class-by-class basis. The results of these analyses are reported in Tables M11 to M22, within Appendix M. The outcomes of the tests revealed a small number of significant results within particular classes, though no overarching trend of any type. In Class 1, there was a significant increase in Category 2 time-outs (refusal to cooperate) among the class as a whole during the experimental phase (according to both the t-test and Wilcoxon signed-rank test). This significant increase was also apparent for carrel users when examined separately, although, in this case, according to the t-test only. There was also a significant increase, within this class, in Category 4 time-outs (those which did not fit into any of the other three specified categories), evident on the Wilcoxon but not the t-test, and for the class as a whole but not for carrel users only). In Class 4, there was a significant increase in Category 1 time-outs (inappropriate vocalizations), as indicated by the Wilcoxon but not the t-test, for both the class as a whole, and for carrel users only. Finally, in Class 5, there was a significant decrease in Category 2 time-outs, for the class as an entire

group, evident on both the t-test and Wilcoxon signed-rank test. The difference was not statistically significant, however, for the carrel users when considered as a subset of the larger group.

No significant differences, in either direction, were apparent in Classes 2, 3, 4, or 6. It might be noted that, significance aside, in looking at the four categories of time-out across the six classes (a total of 24 class-by-category combinations), in 13 cases time-outs increased during the experimental phase, in one case they remained the same, and in 10 instances they decreased. Further, in considering the data of carrel users only, in 12 cases time-outs increased during the period the carrel was in place, in three cases they remained the same, and in nine instances they decreased. Again, this varied, markedly, as a function of class, with those classes (3, 5, and 6) which saw gains on the behavioural rating measure and reductions in overall time-outs, also showing the only cases of decreases in time-outs by category.

Although supplementary tests of time-outs, by category, were conducted on a class-by-class basis with outliers having been removed from the dataset, these did not allow for any additional insights into the data. Indeed, due to the already small number of time-outs assigned in some of the individual classes, diminishing further when the time-outs were examined in accordance with the classification scheme, and further still when outliers were then removed, the resulting values were so far removed from the original data as to be of no use reporting.

Wilcoxon and T-Test Results under ANOVA Conditions

One further set of analyses was carried out on the data for time-out by category. Specifically, as per the two preceding research questions, Class 1 was removed from the dataset (along with the single student from Class 2, for consistency), and the t-tests and Wilcoxon signed-rank tests were re-run, first with all students, and then with carrel users only. These conditions were comparable to the ANOVA tests conducted for the previous two questions, although, as stated earlier, an ANOVA was not carried out in this instance.

The relevant descriptive statistics and the results of these analyses are presented in Tables 16 and 17, respectively. By way of brief summary, it can be stated that the only notable result here was a significant decrease in Category 2 time-outs (refusal to cooperate) during the experimental phase, as assessed by both the t-test and the Wilcoxon, for the students as an entire group. This significant decrease, however, was not maintained on either test when examining the carrel user group independently. Apart from the reductions in Category 2 time-outs, there were non-significant increases in Category 1 time-outs (inappropriate vocalizations), for the entire group and for carrel users only; a minimal non-significant decrease in Category 3 time-outs (physical violence), for the group as a whole; an extremely slight non-significant increase in Category 3 time-outs, for carrel users only; and minor non-significant decreases in Category 4 time-outs (not otherwise classified) for all students, as well as for the carrel-using subgroup. Although the single significant difference with Class 1 removed from the analysis, was indicative of behavioural improvement, the fact that the specific

Table 16

Time-out Totals, By Category (minus Class 1 and single student from Class 2):

Descriptives

Category	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
and group		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1 (All students)	40	1.08	1.65	1.91	2.84
1 (Carrel users)	29	1.19	1.81	2.22	3.01
2 (All students)	40	6.93	11.86	3.81	5.88
2 (Carrel users)	29	6.24	10.51	4.16	6.51
3 (All students)	40	.93	2.88	.81	2.29
3 (Carrel users)	29	.73	1.75	.74	1.86
4 (All students)	40	.73	1.88	.58	1.06
4 (Carrel users)	29	.70	2.13	.62	1.13

Table 17

Time-out Totals, By Category (minus Class 1 and single student from Class 2): T-Test and Wilcoxon Signed-Rank Test Results

Category and group	T-Test Results			Wilcoxon Results	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>Z</i>	<i>p</i>
1 (All students)	39	-1.75	.087	-1.51	.130
1 (Carrel users)	28	-1.75	.092	-1.69	.091
2 (All students)	39	2.43	.020	-2.17	.030
2 (Carrel users)	28	1.80	.083	-1.55	.122
3 (All students)	39	.56	.579	-.53	.594
3 (Carrel users)	28	-.06	.950	.00	1.000
4 (All students)	39	.64	.523	-.31	.760
4 (Carrel users)	28	.27	.791	-.28	.779

change (a decrease in time-outs stemming from refusal to cooperate) was not significant among the self-reported carrel users, would seem to indicate that this reduction in time-outs cannot be attributed with any degree of certainty to the calm carrel intervention (unless simply having it in the classroom was sufficient to elicit positive changes within the group as a whole).

Concluding Statement

Ultimately, with respect to the fourth research question, as was the case with the preceding two, and as highlighted throughout the above summary of results, it cannot be concluded that there was any marked trend of either behavioural improvement or deterioration, as gauged by the assignment of time-outs for particular categories of misbehaviour. It does not appear, in other words, that any one type of behavioural transgression was, on the whole, displayed either more or less frequently during the period of time that the calm carrel was in place. As noted previously, some degree of variation was apparent on a class-by-class basis.

Research Question 5

Is there a relationship between individual students' use of the calm carrel and their respective behavioural ratings on the specific days they chose to use the carrel? (If so, what is the relationship?)

This question was established for the purpose of looking more closely at students' behaviour on a day-to-day basis, in relation to their actual usage of the calm carrel intervention. Although subsets of the data examined in the second research question, also on the topic of behavioural ratings, distinguished between

those students who did and did not use the carrel, the question of how teachers rated students' behaviour on the particular days they utilized the carrel was not taken into account there. The present question, as such, serves as a way of attempting to pinpoint the more specific and immediate impacts of the strategy.

This question was addressed non-parametrically, by means of a thorough consideration of the data on a day-to-day basis. In examining the data, a lengthy Excel spreadsheet chart was created, wherein were listed the 20 daily behavioural ratings assigned during the experimental phase for each of the 46 students participating in the study. A total mean behavioural rating was then calculated for each child. Following this, the ratings, by date, were matched up with the days on which the individual students indicated (in their record-keeping duotang) having paid a visit to the calm carrel. For each day on which a child made use of the carrel, their behavioural rating for that date was compared to their own average rating for the entirety of the experimental phase. This allowed for an examination of students' ratings on the specific days they used the calm carrel.

In this way, it was determined that the carrel was used on 102 individual days (where "days" are regarded, in this context, as separate for each child), by students whose attendance was sufficient to merit inclusion in the study, over the course of the 20-day experimental period. Of these 102 individual daily uses (not factoring in repeated uses by a single child on the same date), in 50 cases the students' daily behavioural ratings on the dates in question were higher than their average behavioural ratings for the phase as a whole, and in the remaining 52 instances, they were lower. This evenly balanced finding can be taken to indicate

that there does not appear to be any relationship between actual usage of the carrel and behavioural ratings on a day-to-day basis.

Table 18 summarizes the individual student data, by class. It indicates the number of days on which children utilized the carrel (again, uses by different students on the same day were counted as separate “days” for this purpose, but multiple uses by a single student on the same day were only counted once), along with the proportion of these occasions on which students’ ratings were higher, versus lower, than their experimental phase average.

Again, some variation by class is apparent here, both in terms of the overall extent of carrel use, and the degree to which students’ behavioural ratings

Table 18

Behavioural Ratings in Relation to Carrel Use

Class	Number of days carrel used	Above average days	Below average days
1	6	2	4
2	30	8	22
3	7	2	5
4	30	20	10
5	23	14	9
6	6	4	2
Total	102	50	52

were above or below their personal averages on days they visited the carrel. The lack of any overall trend in one direction or the other would seem to suggest that the differences are a function of teacher- and student-based factors at the classroom level.

Research Question 6

Is there a relationship between the extent of individual students' use of the calm carrel and the quality of their daily behavioural ratings over the course of the entire experimental phase of the study? (i.e. not on individual days) (If so, what is the relationship?)

In contrast to the previous research question, of interest here is whether students' overall use of the carrel (as opposed to their day-to-day use) is in any way correlated with the extent of their total behavioural ratings from throughout the experimental period. Knowing this, was intended to further inform an understanding of the strength of any apparent association between the actual number of carrel visits by individual students and their overall behaviour, as assessed by the teachers' ratings.

For purposes of addressing this research question, a Pearson correlation coefficient was calculated between students' total experimental phase behavioural rating values and their total number of carrel uses during the study, to determine if, and to what extent, there was any significant relationship between the two variables.

Calculation of the Pearson correlation coefficient revealed there to be no significant relationship between carrel usage and behavioural ratings, $r(44) = -.14$,

$p = .357$. There was, in other words, no marked tendency for those students who utilized the carrel more often to have higher or lower ratings during the course of the study as a whole, than those students who used it less often.

Research Question 7

Is there a relationship between individual students' use of the calm carrel and the number of teacher-imposed time-outs they were assigned on the specific days they used the carrel? (If so, what is the relationship?)

This research question serves much the same purpose as the fifth question, except pertaining here to time-outs rather than daily behavioural ratings. It was intended to help shed light on the way in which students' visits to the carrel may have impacted upon the number of incidents of misbehaviour that resulted in time-out assignments, on a day-to-day basis.

The question was examined, non-parametrically, in the same manner as the fifth question, except that, in this case, average and daily time-out values from the experimental phase were utilized in place of the behavioural rating data.

It was determined that, of the 102 days on which the carrel was utilized by individual students, on 65 occasions students had fewer time-outs than their own average daily time-outs over the course of the experimental phase in its entirety, on 35 occasions they had more time-outs than average, and in 2 instances they had the same number. The fact that the result is skewed towards the children having fewer time-outs than their personal averages on the days they visited the carrel, may be indication that the intervention played a role in pre-empting the

kinds of severe behaviours that can lead to time-outs, for some of the participating students. The correlation calculated in addressing the eighth research question, to follow, however, would suggest the need for caution in drawing any conclusions on this basis.

The contrast between the finding observed here, pertaining to daily time-outs relative to carrel usage, and that noted for the fifth research question, with respect to daily ratings as a function of carrel visits, need not be seen as a contradiction, insofar as larger numbers of time-outs would generally reflect more problematic behaviours than would low behavioural ratings (except in cases of extremely low ratings). As such, the results reported here could be indicative of students having fewer serious misbehaviours (severe enough to merit increased time-outs) on the particular days they used the carrel, though not necessarily better overall behaviour over the course of the day (as reflected by the lack of any trend in the ratings data).

Table 19 presents the individual student data for each classroom, again illustrating the fact that some degree of variation was present across the different classes, in terms of the proportion of students having higher versus lower numbers of time-outs on the days they used the carrel. Again, the appearance of some discrepancy between this table and Table 18, for behavioural ratings, can be accounted for by recognizing that decreases in ratings (if minor in nature) need not necessarily imply that there would be comparable increases in time-outs.

Table 19

Time-outs in Relation to Carrel Use

Class	Number of days carrel used	Better than average days	Worse than average days	Average days
1	6	2	4	0
2	30	14	11	5
3	7	4	3	0
4	30	25	5	0
5	23	15	8	0
6	6	5	1	0
Total	102	65	32	5

Research Question 8

Is there a relationship between the extent of individual students' use of the calm carrel and the number of teacher-imposed time-outs they were assigned over the course of the entire experimental phase of the study? (If so, what is the relationship?)

Whereas the previous research question was concerned with determining whether time-outs were assigned more or less often on the individual days students visited the calm carrel, the present question is aimed at discerning whether, overall, greater use of the carrel was associated with either reduced or increased time-outs over the course of the period the calm carrel was in place. This again serves as a means of expanding upon the results reported earlier with

respect to time-outs, by taking into account the actual extent of self-reported carrel usage.

As with the sixth research question, the analysis here involved the calculation of a Pearson correlation coefficient, except in this case for purposes of determining the degree to which individual students' total time-outs during the experimental phase may have varied as a function of calm carrel usage. Once again, according to the resulting correlation, there was no indication of a significant relationship, in either direction, between the two variables, $r(44) = -.02, p = .889$. In other words, although the results for the preceding research question had highlighted a slight tendency for individual students to have fewer time-outs on the particular days they visited the carrel, there is no sign of an overarching relationship between total number of experimental phase time-outs and total number of carrel uses within the group as a whole.

Research Question 9

Did those students with particularly favourable attitudes towards the calm carrel intervention (as determined by the post-intervention feedback forms) also demonstrate more prominent behavioural gains during the experimental phase (as determined by the behavioural ratings and the number of time-outs assigned), as compared to students with less favourable attitudes towards the calm carrel?

This question served as one additional way of seeking out possible trends within the behavioural rating and time-out data. It could be speculated that students' attitudes may have played a role in the extent to which they embraced

the novel calm carrel intervention and, quite possibly, in the extent to which they benefited from it, as well.

For purposes of determining whether this was the case, the children's overall rating of the calm carrel on the initial likert-scale question on the student feedback form, was used to create a binary variable. Ratings of three, four, or five stars (indicating the student felt the carrel to be an "average", "good", or "very good" idea) were converted to 1's, to represent a favourable overall opinion of the carrel, and ratings of one or two stars (indicating the student believed the carrel to be either a "bad" or "fair" idea) were converted to 0's, to signify an unfavourable overall opinion of the carrel. Following this, two independent samples t-tests were conducted, examining behavioural rating and time-out totals during the experimental phase, in relation to the binary variable indicative of students' overall attitude towards the calm carrel, in order to determine if there was any difference in behavioural outcomes for those who liked the carrel, as compared to those who did not.

Thirty-eight of the 39 students who completed the question on the feedback survey pertaining to their overall view of the carrel's value, had presented with sufficient behavioural rating and time-out data to be included in the study, and 32 of these 38 students rated the carrel as average, good, or very good overall. The remaining six students rated it as fair or bad. Hence, for purposes of creating the binary variable, the former group was deemed to have viewed the carrel positively, and the latter group negatively.

With respect to the behavioural rating variable, the t-test revealed there to be no significant difference between the ratings of the students in the group that viewed the carrel favourably ($M = 93.04$, $SD = 19.32$), and those who viewed the carrel unfavourably ($M = 87.39$, $SD = 15.55$), $t(36) = .67$, $p = .504$. Likewise, those students who expressed a preference for the carrel did not differ significantly with respect to the number of time-outs they received ($M = 8.91$, $SD = 8.68$), compared to those who disliked the intervention ($M = 14.41$, $SD = 13.29$), $t(36) = -1.31$, $p = .200$. Although the results of the tests were not significant, it could nevertheless be noted that the mean difference between the two groups was such that those who viewed the carrel positively did, indeed, have higher behavioural ratings and fewer time-outs during the experimental period overall, than the students who regarded the carrel in a negative light.

Research Question 10

Do participating students appear to view the manner in which they deal with stressful or upsetting situations differently at the end of the study (as determined by comparing their pre- and post-intervention behaviour survey results)?

This research question, although not in any way based on the behavioural rating or time-out data, provides another means of investigating the possible outcomes of the calm carrel intervention. The question was examined through the use of paired t-tests to compare students' responses to the two likert-scale type questions ("How happy are you with the way you handle frustration/anger at school?", and "How happy do you think your teacher is with your *overall*

behaviour at school?") which appeared on the pre- and post-intervention "My Behaviour" surveys, in order to determine if there was a significant difference, in either case, between students' perceptions of their behaviour prior and subsequent to the implementation of the calm carrel program. The letters A, B, C, and D, comprising the response choices for these questions (as appearing in Appendix F2) were converted to the numbers 4, 3, 2, and 1, respectively, for purposes of the t-tests (with higher numbers therefore indicating more positive responses from the students' perspectives).

With respect to the first question, pertaining to the children's own level of satisfaction with their ability to handle feelings of anger or frustration, the t-test did not indicate the presence of any significant difference between the pre-intervention ($M = 2.62$, $SD = 1.10$) and post-intervention ($M = 2.88$, $SD = 1.08$) survey results, $t(23) = -1.24$, $p = .228$, for the 24 students who completed both surveys. There was, likewise, no significant difference between the students' responses to the second question, relating to their perception of their teacher's level of satisfaction with their overall behaviour before ($M = 2.75$, $SD = 1.03$) and after ($M = 2.67$, $SD = 1.09$) the experimental phase of the study, $t(23) = .44$, $p = .664$. On this basis, it can be concluded that those students who completed both the pre- and post-intervention survey did not, as a group, appear to feel markedly different about their capacity to self-manage challenging emotions, nor about their behaviour in the classroom as seen through their teacher's eyes, at the conclusion of the study.

The “My Behaviour” survey also included three short-answer questions (as indicated previously), the responses to which also provided some insight into students’ thoughts about their behaviour in the classroom, and the types of coping strategies they most commonly employ in attempting to deal with frustrations. The fact that 12 of the 24 students who completed the survey made explicit reference to the calm carrel by way of indicating (on open-ended questions) how they handle frustration at the close of the study, can be seen as indication of their receptiveness to the intervention, and its perceived effectiveness as a strategy they learned to utilize to aid in self-managing their behaviour. The transcripts of all students’ responses to the complete pre- and post-intervention “My Behaviour” survey, have been included in Appendix M.

Research Question 11

Do participating students have generally positive attitudes towards the calm carrel intervention (as determined from their post-intervention feedback forms)?

Although the quantitative behavioural dependent measures provide a good general sense of the students’ overall behaviour and number of incidents of misbehaviour in the classroom, a complete evaluation of the calm carrel intervention warrants consideration of the opinions of those who used it on a day-to-day basis. This research question, as such, focused on the perspectives of the students themselves. Given that the calm carrel is a self-management strategy, its potential value is largely dependent upon the degree to which it appeals to the

children who, it is hoped, will elect to use it when experiencing feelings of frustration or anger at school.

This research question was first considered by examining the children's responses to the likert-type questions on the student feedback form, asking for their overall view of the carrel, as well as for their ratings of the various strategies that were available to them there (musical selections, progressive muscle relaxation exercises, and visualization narratives). Secondly, the students' written responses to the short-answer questions on the feedback survey were also examined, in order to secure a more complete sense of their thoughts about the calm carrel intervention. The typed transcript of the children's answers to all questions on the survey (including both likert scale and written response format), broken down by class as well as by student within each class, is included as Appendix N.

Table 20, on the following page, depicts the students' average ratings, both by class and overall, in response to the portion of the survey comprising likert-based questions. For each of the individual questions, a rating of 1 corresponded to a child's viewing the aspect of the carrel in question as "bad"; 2 denoted a "fair" rating; 3, an "average" rating; 4, a "good" rating; and 5, a "very good" assessment of the element under consideration. On the basis of these results, it is apparent that, overall, the students quite clearly reported having a favourable view of the calm carrel. Preference for the use of particular types of relaxation-based strategies varied somewhat across classes, but ultimately the different techniques fared quite comparably overall. The visualization narratives

Table 20

Average Ratings Based on Student Feedback Form Responses

	Overall	Music	Relaxation	Visualization	Total Average
Class	Rating	Rating	Exercises Rating	Stories Rating	Rating ¹
1	4.00(5) ²	3.50(4)	3.25(4)	3.25(4)	3.53(17)
2	4.43(7)	3.33(6)	2.67(3)	2.50(4)	3.45(20)
3	3.40(5)	4.00(2)	4.67(3)	4.50(2)	4.00(12)
4	5.00(7)	3.86(7)	4.33(6)	4.43(7)	4.41(27)
5	4.11(9)	4.38(8)	4.38(8)	4.00(8)	4.21(33)
6	4.17(6)	3.80(5)	3.20(5)	4.60(5)	3.95(21)
Total ³	4.23(39)	3.84(32)	3.86(29)	3.93(30)	3.98(130)

emerged, albeit by a very small margin, as a slight favourite. Variations across classes for the total average rating were all within a single likert-scale point of one another, suggesting the lack of any notable disparity in students' opinions of the carrel, as a function of their classroom placement.

In the following chapter, certain aspects of the children's answers on the written response component of the feedback survey will be considered in tandem with findings on the other dependent measures (including feedback from the participating teachers). Nevertheless, it is worth briefly highlighting here, the

¹ The averages listed in this column are based upon *all* individual ratings on all aspects of the carrel in each case (ratings for which there were more respondents thus receive greater weight in the total average).

² The number in parentheses following each average rating indicates the number of students on which the average in question is based.

³ The totals listed in this row are averages based upon *all* individual ratings (rather than class averages) from each respective column (classes in which there were more respondents thus receive greater weight in the total average).

largely encouraging feedback received from the children on the aforementioned survey.

When asked if the carrel was helpful to them when feeling angry or unhappy in class, the children's responses ranged from the very positive (e.g. "Yes! It helps you forget about the bad things and it calms you down", "Yes, it was very relaxing", "It help me lots", "Yes, I got happy and I falt (sic: felt good)", to the moderately positive ("Sometimes it helps", "Yes it made me feel a little bit better"), to the negative ("I (sic: It) did not becuse (sic: because) it's gust (sic: just) music", "I did not like it"). Nevertheless, of the 38 students who responded to this question, 29 were complimentary of the carrel's value to them personally. Of the remaining nine responses, four were from students who did not utilize the carrel, thus leaving only five negative comments.

Research Question 12

Do participating teachers have generally positive attitudes towards the calm carrel intervention (as determined from post-intervention teacher feedback forms and interviews)?

As the counterpart to the preceding research question, of interest here are the teachers' assessments of the carrel's value within their classrooms. Again, it is felt that, particularly given the exploratory nature of the research, much can be learned from the informal opinions and feedback of those who were directly involved in implementation of the intervention.

This question was addressed in much the same way as the previous one.

The teachers' answers to both the likert-based and written response questions on the feedback form (as distinct from the student feedback survey), have been included as Appendix O1. Further, as mentioned previously, follow-up interviews were conducted with the teachers at the conclusion of the study, for purposes of delving deeper into their perceptions of the intervention's effectiveness. While the Class 1 and 5 teachers were interviewed individually, the Class 2 and 4 and Class 3 and 6 teachers were interviewed in pairs, as they were based out of the same two schools. The complete transcripts of all four interviews are included as Appendix O2, and salient points and quotes that emerged from each of these are summarized in Appendix O3, and will also be discussed in the next chapter.

Table 21, on the following page, summarizes the results of the teachers' responses to the likert scale questions from the feedback form, and the corresponding footnotes provide explanatory detail. From these results, it is evident that all participating teachers regarded the calm carrel as a positive and worthwhile intervention, and one well-suited to their classrooms. The only question receiving any neutral responses was that pertaining to the extent to which students used the carrel appropriately. The teachers' replies to this question were probed for further insights, during the interviews.

As explained at the outset of the following chapter, the qualitative teacher feedback will play a major role in informing the discussion of the study's outcomes, and, as such, teacher quotes and interpretation of these will feature prominently there. A summary of some of the major themes emerging from the teacher feedback (elaborated upon within the discussion chapter in the context of

Table 21

Teacher Feedback Form Ratings

Teacher	Question 1 ¹	Question 2 ²	Question 3 ³	Question 4 ⁴	Overall ⁵
Class 1	5 ⁶	4	3	4	4
Class 2	5	5	3	5	4.5
Class 3	4	4	3	4	3.75
Class 4-1 ⁷	4	4	3	4	3.75
Class 4-2	4	5	4	4	4.25
Class 5	4	4	4	4	4
Class 6	4	5	4	4	4.25
Overall	4.29	4.43	3.43	4.14	4.07

¹ Question 1 on the survey was: "Overall, the calm carrel was a useful option to have available for students in my class."

² Question 2 on the survey was: "The calm carrel fit in well with my existing approach to classroom management."

³ Question 3 on the survey was: "Students used the calm carrel appropriately."

⁴ Question 4 on the survey was: "I would consider implementing a similar self-management intervention with my students in future years."

⁵ This column indicates averages based on the respective teachers' responses to the four rating questions.

⁶ Throughout this table, the number 5 represents a response of 'Strongly Agree', 4 represents 'Agree', 3 represents 'Neutral', 2 represents 'Disagree', and 1 represents 'Strongly Disagree'.

⁷ There were two teachers in Class 4, and both completed a follow-up feedback form. Only the second teacher was able to participate in the follow-up interview, however.

synthesizing all results from the study), are outlined and briefly described below.

With respect to the extent of carrel use, the teachers encountered varying trends. The Class 1 teacher felt students in her class took advantage of the intervention, using it too much initially, and opting to visit it at inappropriate times as a means of getting out of work. Subsequent to her intervening and speaking to the class as a whole, usage dropped off entirely. The other teachers, however, observed that, apart from the occasional incident easily dealt with, most students were visiting the carrel for the right reasons, and at appropriate junctures. Unlike the Class 1 teacher, they, for the most part, indicated that they would have anticipated and welcomed greater use of the carrel than students in fact demonstrated. The Class 3, 5, and 6 teachers in particular, felt that students had not visited the carrel as often as they might have. All teachers made reference to certain children as having chosen to utilize the carrel more often than others. The Class 3 teacher, for instance, referred to one student who “used it more, I think, in the last week than some of them used it ever.”

In a similar vein, the teachers noted variation in the extent to which individual students appeared to benefit from the carrel. Their comments highlighted the fact that certain children within each class had evidenced much more notable behavioural improvements than others, immediately following visits to the carrel. Speaking, for instance, about one particular child who showed marked gains deemed to be directly attributable to his use of the calm carrel, the Class 6 teacher, commented:

My goodness what a change. Like he would...the frustration level was through the roof...he had extremely aggressive behaviour before he came into the classroom....and, he definitely did exhibit hostility when he would go to the time-out room too...and, after a week of, when he found out about the carrel, and he'd go back and listen to it... then he came back, sat down, finished off a couple more questions... you can notice the difference when he had some time to himself....It saved him a lot of frustration, and, *both* of us frustration, from using that.

Likewise, the Class 1 teacher referred in particular to one child in her class of five for whom the carrel “did break the cycle” of aggression, and “seemed to definitely calm him down and relax him when he would return back to his desk.” Similarly, the Class 3 teacher recalled one child for whom, “it was like, when the timer went off (at the end of the calm carrel session) then she was fine, and then she wouldn't be still at that state where you could really set her off easily, so that was nice to see.”

Although the teachers spoke to the fact that the carrel tended to be of special benefit for particular students, it was also noted, in this case by the Class 4 teacher, that, for all children, “it did initially have an impact each time they went to the calm carrel, for sure.” Similarly, the Class 1 teacher commented that, regardless of the student using the carrel, there was “always a smooth transition” as they returned to their desk afterwards, and never any difficulties or issues “within a realistic time frame after using it”. Such comments are indicative of the fact that all carrel users could be seen as having benefited to some degree.

In considering the reasons why certain students may have used the carrel more often, or appeared to gain more from it, than others, the teachers speculated about several possibilities. For instance, particular diagnoses, such as ADHD, conduct disorder, Fragile X syndrome, and obsessive-compulsive disorder, were referred to as potential correlates of greater or lesser carrel use or benefit. The location of the carrel was seen as a factor discouraging use in Classes 3 and 6, while both the novelty of the intervention and students' familiarity with related relaxation techniques, were cited as likely contributors to greater employment of the technique.

With respect to the specific types of behavioural gains noted as most often following from students' visits to the calm carrel, the Class 4 teacher made reference to the children coming back from the carrel "more on task" and "ready to focus". Similarly, the Class 5 teacher described students returning to their desks relaxed, ready to go back to work, and "like a breath of fresh air". The calming effect of the carrel noted by the participating teachers was generally of an immediate and short-term nature. In this sense, while the carrel was seen as effective in averting problematic behaviour and bringing about a sense of relaxation, the duration of the impact was somewhat limited.

The teachers offered helpful commentary, during the follow-up interviews, on the suitability of the main dependent behavioural measures (daily ratings and time-outs) as indices of the improvement they had observed as a function of student carrel use. Consistent with the researcher's own conclusions after analyzing the data (as expanded upon in the chapter to come), it was speculated,

in particular by the Class 4 teacher, that a more immediate measure of behavior change might have more effectively reflected the gains that were forthcoming from use of the carrel.

Asked for their input on the particular relaxation-based strategies available to students at the carrel (specifically, soothing music, progressive muscle relaxation exercises, and visualization narratives), the teachers indicated their definite satisfaction with the appropriateness of the techniques. Apart from the Class 5 teacher, who suggested perhaps also incorporating more of a multisensory component, the teachers did not appear to feel that the techniques could have been improved. There were varying opinions among the teachers, regarding the utility of the optional problem-solving form that had been available to children at the carrel, with some feeling it was worthwhile offering to the students as a supplementary strategy, and others noting that the likelihood of its being equated with “work”, ensured its minimal use, and that, had its completion been required, it would most certainly have deterred students from visiting the carrel.

All teachers (with the exception of the Class 1 teacher, for the reasons discussed previously) were satisfied with the parameters and procedures established for student use of the carrel, including the five-minute time limit and the three-visit per day maximum. All six of the participating teachers indicated a definite wish to continue using the carrel at the conclusion of the study and, for the most part, it appeared that they planned to use it in essentially the same manner as it had been employed during the study itself.

With the results of the study having been detailed, by research question, the next chapter will undertake to evaluate the effectiveness of the calm carrel, by synthesizing and interpreting data from the quantitative measures, in light of feedback received from the teachers and their students. In so doing, special focus will be placed on attempting to reconcile the largely positive and receptive feedback, with the fact that the behavioural measures employed in the study did not capture any substantive improvement for the group as a whole.

CHAPTER V

DISCUSSION

Introductory Comments and Overview

This chapter will comprise an examination of key themes that emerged from the data reported in the preceding section, for purposes of drawing tentative conclusions regarding both the effectiveness of the calm carrel in this particular research project, and its potential value as a technique deserving of further study and wider application within the schools. In charting a course through the data, comments from the teacher interviews conducted at the conclusion of the experimental phase will serve as a key means of linking the different findings together.

Given the especially important role of the participants in an exploratory study of this type, it is appropriate that the teachers' opinions be regarded not only as results per se, but also as providing an essential framework within which to interpret the other findings. Indeed, feedback from the children themselves (though much less extensive than that provided by the teachers), can be viewed in a similar way. As such, while brief mention of some key feedback was incorporated in the preceding chapter, it is felt that the commentary of the teachers in particular is of greatest value, in the context of this research, in informing the actual interpretation of the results, and, as such, it is featured prominently within the present chapter¹. In this way, discussion of the findings, quite rightly, takes into account the perceptions of teachers to as great a degree as

¹ It should be noted that the feedback received from teachers was quite extensive and, although all of the resulting data has been transcribed and included in the appendices, only the more important themes and selective quotes to illustrate these, have been addressed within the body of the thesis.

it incorporates the unique interpretations of the researcher himself, thus allowing for a more balanced examination of the calm carrel intervention. As such, throughout the chapter, the discussion will incorporate teacher and (where appropriate) student feedback, consideration of the empirical results reported previously, and explanatory and interpretive commentary from the researcher.

The following is by way of providing an overview of the topics and themes addressed in the discussion to come. Of prime interest here, as reflected by the focus of the research questions in the previous chapter, is the matter of how well the carrel functioned as a means of effecting behavioural change. All main themes of the discussion, therefore, will be approached as different elements informing a comprehensive evaluation of the carrel's effectiveness.

Two initial themes, within this, pertain to the substantial variation that was noted between individual students, with respect to their degree of use of, and the extent to which they benefited from, the calm carrel. This will segue into a consideration of the types of factors that may have contributed to this variability. Then, having examined reasons why some students may have been more or less likely to visit the carrel, attention will then turn to a more focused discussion of the nature and degree of behavioural change that was apparent and attributable to the strategy. This section will be combined, logically, with a reflection on the merits of the dependent measures employed, and why the quantitative data failed, for the most part, to corroborate the positive feedback received from the participating teachers and students. Teacher commentary regarding the dependent measures will prove helpful in addressing this point.

Following this, the discussion will look more closely at the relative merits of the particular techniques the calm carrel strategy incorporated (including the use of music, relaxation exercises, visualization narratives, and the optional problem-solving form) and, subsequent to this, at the appropriateness of the procedures governing the carrel's use. All of the aforementioned topics are addressed with an aim to both summarizing and providing additional insights into the study's outcomes. The chapter will conclude with a reflection on the present study's potential contribution to the literature, while also specifying its limitations and ways in which these might be addressed in future research. Implications for practicing teachers will then be considered, prior to presenting some concluding thoughts to close the thesis.

Evaluation of the Calm Carrel and its Impact Upon Student Behaviour

A useful assessment of the calm carrel intervention ultimately rests entirely on the question of whether or not the strategy proved effective in bringing about behavioural improvements in the participating students. Without some clear evidence of its having effected positive changes in behaviour, the technique must be regarded as, at best, flawed and in need of significant revamping, or, at worst, unworthy of further consideration in any configuration.

As was apparent from the summary, in the previous chapter, of the likert-scale question responses on the teacher feedback survey, the participating teachers all felt positively about the calm carrel strategy, and saw it as a worthwhile adjunct to their existing approach to behavioural management within the classroom. Further, they made a number of observations in their written

responses on the feedback survey (as transcribed in Appendix O1), and, as discussed further shortly, during the follow-up interviews (the transcripts of which are included in Appendix O2, supplemented by a complete summary of salient points and quotes from each interview, in Appendix O3), the vast majority of which conveyed their considerable satisfaction with the calm carrel technique and the nature of its influence upon student behaviour. Similarly, the children's own responses, on the post-intervention student feedback form, to both the likert-scale questions (reported previously) and the written response questions (as transcribed in Appendix N, and discussed further in this chapter), are very much indicative of their positive attitude towards the calm carrel and their perception of its value as a tool for behavioural self-management.

In light of the positive reception from teachers and students alike, and definite indication, from both parties, that behavioural improvements could be clearly attributed to use of the carrel, the lack of encouraging findings or probable trends within data from the chief behavioural measures employed in the study (daily behavioural ratings and time-outs), is worthy of consideration in the present chapter, by way of attempting to account for the discrepancy. Ultimately, it will be argued that the teachers' and students' obvious positive regard for the technique and their assertions that it was helpful to them, must be weighted more heavily than the non-significant results obtained on the behavioural rating and time-out measures. Consideration of the various themes to follow will serve to expand upon the data reported in the preceding chapter, while also bringing the, in some respects, incongruent results together.

Extent of Carrel Use

Validation of the calm carrel as a viable self-management technique for use on a whole-class basis is, at least in part, dependent upon its appealing to, and being employed by, a significant number of students. If the strategy were used by only a very small proportion of a given class, it may not merit the time, space, and monitoring (however minimal these are) required in the course of implementing it. The fact that, as mentioned in the previous chapter, 33 of the 46 students whose attendance was sufficient to warrant inclusion in the study, reported having made use of the carrel on at least one occasion during the experimental phase, indicates that the strategy was not being used exclusively by a small number of children. An intervention that 70% of students choose to use, of their own accord, during a comparatively short span of time, is certainly one with broad enough appeal for its value as a class-wide technique to be investigated more closely.

A certain amount of variation, however, in the degree to which individual students utilized the calm carrel, is evident from the tables summarizing the extent of data collected during the study, by class, as included in Appendix K. Within each of the classes, one or more students did not report having made any use of the carrel at all, for instance, whereas the records of those who did visit the carrel indicated that usage ranged from their having employed it on just a single occasion, to, in one case, having used it a total of 18 times over the course of the 20-day experimental phase.

However, the variability in carrel visits may not have been as significant as it appears, given that the student-maintained carrel usage records cannot be deemed entirely accurate. Indeed, comments from teachers during the follow-up interviews suggested that the records of some students almost certainly underestimated their actual use of the intervention. It is highly improbable that the level of carrel use could have been exaggerated within the students' records, however. Teachers replaced the date-specific stickers at the carrel on a daily basis (as indicated previously), meaning that the only way a student could have made an entry for use of the carrel on a given day, was if they had actually been there that day. Further, students would have had nothing to gain from marking down one or more fictitious uses during their initial visit to the carrel on a particular day, as to do so would have brought them closer to their maximum number of daily uses which, had the teacher checked their record book, could have prevented them from using the carrel again that day.

It is quite conceivable, however, that some of the children elected to use the carrel, but neglected to make note of this use in their duotang. Teachers could not reasonably be expected to closely monitor this, and, short of incorporating some type of coded access card, little else could have been done to entirely guard against it. Nevertheless, despite the strong likelihood of there having been some underrepresentation of actual use, it is certainly the case that some children did opt not to visit the carrel at all, as confirmed by the fact that their usage records to this effect are in agreement with comments made on their feedback forms (e.g. "I did not use it", "I did not go on").

Ultimately, although there was variation across classes and between individual students, it can be stated that the carrel was quite well-utilized for an optional strategy. The fact that the majority of the participants took the opportunity to visit it on one or more occasions during the four school weeks under study is encouraging, and speaks to the inherent appeal of the strategy.

Individual Variation in Degree of Benefit Derived from the Carrel

One of the common points that emerged from the teacher interviews was the fact that, while all the teachers believed the calm carrel to be a valuable tool to have available for children in their classes, it was invariably the case that some students not only utilized it more, but were also seen as having derived greater benefit from it, than others. The carrel's value, as noted by the teachers, was commonly cited in reference to improvements shown by particular individual students within their classes. The Class 4 teacher, for instance, stated:

I had one student who, for sure, every time he went to the calm carrel, came back calmer. And, he commented, he's like, "Yeah, I just press on this one song," and he's like, "I feel much better when I'm done."

Also speaking of a specific student who had shown definite signs of behavioural improvement attributable to usage of the carrel (but, unfortunately, had not received parental permission to be included in the data for the study), the teacher of Class 6 noted:

My goodness what a change....the frustration level was through the roof...he had extremely aggressive behaviour before he came into the classroom, like fighting out on the park, and so we knew that it could

escalate to restraints. And, he definitely did exhibit hostility when he would go to the time-out room too, with regards, you know, slamming a pen down, or you know, slamming the door when he went in. And, after a week of, when he found out about the carrel, and he'd go back and listen to it....And it was, I'd say, 90% of the time it was during math, that he would do it, because that's his frustration time. Any other time he just kind of copes in his own way, but math it just, he boils over, and he says, "Can I go listen to music?", and I say, "Absolutely."... then he came back, sat down, finished off a couple more questions... you can notice the difference when he had some time to himself..... It saved him a lot of frustration, and, *both* of us frustration, from using that.

Even in the case of Class 1 (where teacher interference, as noted previously, likely prevented students from using the carrel as much as they might have), the teacher, in addition to expressing her belief that, "as another intervention before time-out, I felt that it was a very useful strategy", described one specific situation where a certain student really appeared to benefit from the calm carrel, and successfully used it to avoid the need for a time-out assignment:

On this one particular day he was very aggressive and becoming violent, and very defiant and very...lots of rude...talking back, arguing, defiance. Just, very severe for him. So, at that point he had asked to go to the carrel, I believe at least two or three times in that period...I think it did help him in breaking that cycle, for sure.

The fact that particular children seemed to gain more from the calm carrel than others was also apparent from the degree of variation with respect to their opinions of its value (as evidenced by comments on the completed student feedback forms referenced in the previous chapter). Whereas a number of the students clearly recognized and appreciated the intervention's merit as a means of helping them to remain calm in the face of frustration, a small minority conveyed that they had no use for it at all, and others regarded it in neutral terms.

Although the feedback was for the most part very positive, it is not surprising that the carrel did not receive a completely unanimous vote of confidence from the participating children. No one intervention could be anticipated to appeal to all students in all circumstances, and the fact that not every child is equally pleased with a particular approach should never be taken as justification for abandoning the technique altogether. It is increasingly recognized that good teaching requires the informed selection and blending of appropriate strategies to meet the specific needs of individual students, as opposed to the uniform application of a single standard set of practices for all children (the use of a toolkit is preferable to that of a cookie-cutter, one might say). The most valuable strategies from teachers' perspectives are no doubt often those which do prove helpful to the largest number of students (for the sake of efficiency and ease of administration), but it would be an exceedingly rare, and likely somewhat suspect, intervention that would appeal greatly to every single student and teacher, while managing to achieve anything of real value.

Recent research has suggested that, when used to supplement class-wide practices, individually-tailored (student-specific) behavioural interventions informed by functional behaviour assessment, tend to have an additive effect in facilitating behavioural improvement among students with EBD (Trussell, Lewis, & Stichter, 2008). Indeed, in working with children with behaviour problems who have been integrated within the inclusive class context, there is also growing awareness of the importance of individualizing not only the instruction, but the behavioural management strategies employed, in order to best meet the needs of all students (Grossman, 2005). Teachers (and students) should not, as such, be operating under the assumption that one size will necessarily fit all.

With respect to the calm carrel, though, clearly it is the case that a majority of the students utilized the intervention (and, if anything, the extent of their use of it is underrepresented in the data), and, also, that the vast majority of actual carrel users found the approach to be advantageous to them personally, even during the relatively limited timeframe of the study. Notably, this is further supported by the fact that 12 of the 24 students who completed a “My Behaviour” post-intervention survey, made entirely unprompted reference to the calm carrel as a strategy they now employ (at the end of the study) to help themselves feel better when feeling angry or upset at school. This is a tremendously encouraging indication of the positive impact the carrel had, in providing students with what many of them clearly had come to recognize as being a viable alternative for the handling of challenging emotions.

The fact that the behavioural rating and time-out records do not, as previously discussed, suggest the presence of any marked trends, could be seen as providing further indication of the individual variation in benefit derived from use of the carrel. In other words, if behavioural improvement due to carrel use was evidenced at all on the quantitative behavioural measures, the fact that it did not emerge as significant in any notable way, could reflect the fact that the changes were specific to particular children, and thus obscured within the group as a whole. Knowing now the positive, yet localized and immediate impacts the carrel had in alleviating frustration, facilitating calmness, and averting cycles of potentially aggressive behaviour for certain students (as per the teachers' observations), perhaps conducting individual case studies would be a better means of capturing the noted changes, and more closely examining the possible influence of the carrel on the behaviour of different children, on a day-to-day basis.

Factors Impacting Upon the Extent of Carrel Use

Having established that there was some degree of variability both in the extent of students' use of, and benefit from, the calm carrel, it is worth considering what might account for the disparity in use, and why some of the children (more specifically, 13 of the 46 included in the final data analysis) apparently never used it at all, while others may have used it for the wrong reasons. Of particular interest also, in this context, is the degree to which the students were permitted, by their teachers, to exercise sufficient self-

determination in their own use of the carrel, as to make the strategy truly effective as a self-management technique.

The participating teachers expressed varying views on the matter of why some students demonstrated greater carrel use than others. The Class 5 teacher, for instance, indicated that some of the students who he had felt would have especially wanted to use the carrel, elected not to (without specifying a reason) even when explicitly reminded of the fact that this option was available to them. He also speculated, however, that the students in his class with conduct disorder were less likely to visit the carrel, simply because of the fact that they were resistant to try something that their teacher was recommending to them.

Interestingly, this is in contrast to Class 1, wherein the teacher partly attributed students' supposedly excessive and manipulative use of the carrel, to their having diagnoses of conduct disorder, oppositional defiant disorder, and obsessive-compulsive disorder. Overall, the Class 5 teacher felt that, although the carrel was helpful, it had not been used to the extent he had hoped. In spite of this, the usage in Class 5 had far surpassed that in Classes 1, 3, and 6 (as apparent from Table 2 in the results chapter, summarizing the total data collected).

The Class 3 and 6 teachers attributed their classes' underuse of the intervention to the possibility that the location of the carrel within their respective classrooms had been less than ideal (though the original configuration had been at their specific request). However, the children's record-keeping data suggests that their use of the strategy did not increase subsequent to the carrel's relocation, during the extra days of data collected at the conclusion of the study (the details of

which were discussed previously), in the case of these latter two classes. Not having secured permission to conduct in-class observations (as to do so would most likely have led to significant difficulty recruiting participants), the researcher was unable to gain additional insights into the teacher-based factors which, no doubt, must have played a significant role in accounting for the variations in carrel usage across classes.

With respect to the characteristics of students who did appear to derive greatest benefit from the carrel, the Class 6 teacher noted having seen increased use of the intervention among those of his students with ADHD, who he felt found it to be particularly relaxing. Likewise, the Class 1 teacher noted that the student who used and benefited from the carrel the most, was a child with ADHD. The Class 4 teacher, however, noted that students with ADHD were, along with those with oppositional defiant disorder, more likely to receive time-outs subsequent to calm carrel use.

The teacher of Class 3 indicated that a student with Fragile X syndrome displayed an especially significant improvement in behaviour immediately following use of the carrel, making the strategy a valuable one in defusing problematic situations that might otherwise have progressed into temper tantrums for this child (“when the timer went off then she was fine, and then she wouldn’t be still at that state where you could really set her off easily, so that was nice to see”). The Class 3 teacher also noted that a child with a diagnosis of bipolar disorder who, prior to the study, already used music on a portable MP3 player to help moderate her mood swings, found the calm carrel to be a particularly helpful

approach due to its similarity to this technique with which she was already familiar. Unfortunately, parental permission for participation in the study was not granted for this student, so behavioural and carrel use data were not maintained in her case.

While familiarity with a related strategy was beneficial in fostering carrel use in this latter instance, in Classes 1 and 4 the novelty of the intervention also proved effective in enticing larger numbers of students to try it out at the outset of the study (and, thus, to have an opportunity to learn how it could be helpful for them). However, in the case of Class 1, this increased initial use, perceived by the teacher as being due both to the novelty of the strategy and to manipulative behaviour on the part of students whereby “all they wanted was to waste that five minutes”, resulted in a situation where the teacher felt that the carrel was “taking away from my authority”. Despite the fact that she acknowledged that it was “sometimes hard to tell” whether the children were actually visiting the carrel for the wrong reasons, the teacher spoke to the class as a whole (as mentioned previously) and usage subsequently became “pretty much nonexistent”.

The students’ record-keeping duotangs do not bear out the Class 1 teacher’s concerns about excessive initial use of the carrel, showing, as they do, a total of only six carrel uses among all five students in the class combined, over the course of the entire 20-day experimental phase. That being said, the student-maintained data was certainly subject to error, as indicated earlier, and it may be the case that students were utilizing the carrel without noting this in their duotangs, thus resulting in an underestimate of their actual use in the case of this

class (as the teacher's comments clearly suggest). Although the teachers of Classes 2 and 4 also noticed situations where a minority of the children were visiting the carrel without having apparent just cause for doing so, and most probably as a means of getting out of work at certain points, these teachers did not feel the problem was widespread, nor that it interfered with students' behaviour within the class. In Class 3, the teacher intervened with one particular child who occasionally attempted to go to the carrel at inappropriate times, and stopped him before using the carrel in these instances, such that it never became a problem. The Class 5 teacher indicated that he never felt students were attempting to use the carrel as a means of getting out of work. Only the Class 1 teacher appeared to have misunderstood this process for dealing with students' attempts at inappropriate use of the carrel and, consequently, this was the only class in which children's manipulation of the intervention was a concern. It should also be noted that, in all classes (including Class 1), the teachers indicated that, while at the carrel, students were never found to be using it incorrectly or abusing the privilege of being there.

Even in cases where students may have been visiting the carrel at times that were deemed inappropriate or inconvenient, or as a means of escaping from classroom work or activities they found to be unpleasant, it is quite plausible that their use of the carrel at these occasions may still have prevented the occurrence of misbehaviour that might otherwise have been forthcoming. For instance, even if the main factor influencing a student's decision to visit the carrel was their feeling bored or tired of a given subject or activity (a condition as likely as any

other to manifest itself in the form of behavioural difficulties), this 5-minute “breather” could well have preempted any number of problems that might have arisen had the child been forced to forego the break.

It should be recognized that, for the most part, there is no way to be entirely certain, as the Class 1 teacher did acknowledge, that a given student was in fact going to the carrel without just cause. The nature of the intervention as a self-management tool, is that it is dependent upon the students’ own awareness of situations that are likely to trigger problematic behavioural or emotional responses for them individually. Thus, what the teacher may have perceived as being an unnecessary trip to the carrel, could have been quite justified from the child’s perspective. For a self-management strategy such as this to be successful, certainly there is a need for teachers to relinquish a modicum of control, and to be willing to defer to students’ judgment on this one matter, trusting that, on some level, students (even those with severe EBD) may in fact sometimes have a better sense than teachers about their own emotional states and when they are in need of a brief respite from the goings-on of the classroom.

It is apparent, for instance, from the children’s responses to the pre- and post-intervention “My Behaviour” survey (transcripts of which are included in Appendix P) that the students were generally very well aware of the kinds of classroom-based situations that most antagonized or upset them. Indeed, every child who completed a survey was able to quite clearly articulate one or more situations, in response to the first written question, that caused them to feel upset or angry (in a few cases even providing a short itemized list). There were, not

surprisingly, as many “trigger” scenarios identified as there were students participating in the study, with mentions of everything from the obvious (e.g. “getting called names, getting pushed, getting hit”, “kids laughing at me”, “when someone gives me the finger”), to the unavoidable (e.g. “I get mad from math and from social”, “math, computers, social, science”), to the all-inclusive (“school, work (sic: work), reading, people at school.”), to the uniquely student-specific (e.g. “*Student 2-3* makes me mad. Because when I do something by accident he makes a noise with his mouth (aagh) and then says ‘*Student 2-1*’”, “when other people say that the words I make up is not a word”, “when people (sic: people) say I have a mole on my nose”).

Given the children’s degree of self-awareness in this respect, it might be argued that teachers could be quite confident in letting the students themselves determine when conditions in the class were such that taking a 5-minute session at the calm carrel would be advantageous. The researcher would speculate that, barring this willingness to “give” a little on the part of the teacher, a self-management technique of any type is likely to be less than optimally effective. For students to truly learn to take responsibility for monitoring and responding appropriately to their own feelings of anger and distress, teachers must clearly convey a belief in their ability to do so.

For the most part, the participating teachers in this study were very receptive to the notion of giving students the minimal degree of self-determination necessary for them to use and benefit from the carrel at the times they most needed it. A slight amount of manipulation on the part of students is certainly not

unexpected with the introduction of a comparatively high-interest, child-directed technique in a class of students with EBD. However, with the calm carrel intervention being as highly structured as was possible for such a strategy, and with the children having been made well aware of the rules governing its use, it seems likely that any manipulative behaviour that did occur could be attributed to either a natural testing of the limits of this novel approach, or to unanticipated classroom-specific factors (which, as stated previously, clearly impacted upon the extent of students' carrel use). In either case, only in Class 1 did it become a complicating factor.

In connection with this, it should be acknowledged that teachers may, perhaps quite rightly, perceive some degree of risk in allowing students the freedom to take on a greater degree of control over the tools of behaviour change which are, more frequently, left firmly in the hands of educators in EBD class settings. Perhaps it was the case that the teacher and students in Class 1 were not ready, at the time of the study, for the minor shift of responsibility from teacher to child that was required for the intervention to be most effective. Given the population in question, teachers would be justified in exercising caution, and, certainly, in avoiding giving students free reign of the carrel. Ultimately, though, it seems most advisable to strike a balance between monitoring student use of the carrel by means of sporadic "spot-checks" (which can be gradually faded as they become less necessary), while at the same time being willing to empower students with the independence necessary to self-monitor and evaluate their own

behavioural and emotional states and the confidence to take action to remediate these on their own when possible.

In summary, it is apparent that further research would be necessary to more fully understand the types of causal factors influencing the extent of use, and, potentially, the occasional misuse, of the calm carrel, as seen in the present study. While the teachers' comments discussed in this section were helpful in getting a sense of the kinds of elements that may have contributed, their feedback was speculative in nature. Securing a larger sample of participants, coupled with the collection of more extensive data over a longer period of time, and for individual carrel users, would shed further light on the reasons underlying the variability noted in the current study and, in particular, the question of why the carrel appealed to some students more than others. With respect to deterring use of the carrel when occurring at inappropriate junctures or, insofar as the teacher can reliably determine, for the wrong reasons (as was the experience of the Class 1 teacher), clearly it is the case that some intervention is necessary on the part of the educator. Of key importance here, however, is that such intervention is not so restrictive as to quash student use of the carrel altogether, or to convey to the students that their teacher does not trust them to employ the technique responsibly.

Nature and Extent of Behavioural Gains, and Lack of Agreement Between Measures

For the most part, it appeared that the behavioural improvements which the teachers saw as resulting directly from carrel use, were short-term in nature.

The Class 4 teacher stated, for instance, that “if a student used it, it always had an initial impact”, although sometimes problematic behaviours did reappear fairly soon after the students’ carrel visits, sometimes leading to time-outs. The Class 3 teacher characterized the carrel as a good “immediate option”, as a way of preventing behaviours from becoming more extreme and, thereby, averting the need for more punitive management techniques. In Class 1, the teacher identified only one student as having demonstrated clear behavioural gains immediately following use of the carrel, but also commented that all children who used the carrel made a smooth transition when returning to the class, and that they never returned from the carrel in an “excited or hyper” state. Again, this could suggest that what this teacher had perceived primarily as unnecessary use of the carrel may have been quite warranted from the students’ perspectives and may, indeed, have prevented aggressive behaviour and losses of self-control that might have occurred, had the children not taken a session at the carrel.

The Class 5 teacher indicated that he felt the carrel was effective in bringing about a sense of calm among his students (“you know, they came out, and they were like, you know, like a breath of fresh air”), but that it didn’t “maintain the calmness”, as it did not alleviate the issues that had been causing the original frustration, and students still became upset when these were revisited. This is not particularly surprising, however, as truly addressing the precipitating factors leading to a child’s feelings of frustration or anger would often require some intervention on the part of the teacher, and/or actual change within the classroom. The Class 6 teacher commented on the feedback form that there was

“not much theraputic (sic: therapeutic) rapport being given after the carrell (sic: carrel), so for the purpose of finding out how to help the students, I have to read the log to find out.” This quote likewise highlights the importance of educators using the carrel realizing that, although the intervention is intended to serve as a means of helping students to self-manage feelings of frustration, stress, or anger, it ought not be expected to absolve teachers of the responsibility for resolving classroom-based difficulties which might have contributed to these feelings in the first place.

Consistent with the impressions of teachers that students returning from the carrel tended to be calmer, less frustrated, and, as the Class 4 teacher put it, “more on-task” and “ready to focus”, most of the children themselves also appeared to be aware of the positive impact the carrel was having upon their emotional and behavioural state. In answer to the feedback form question inquiring specifically how the calm carrel was helpful for them, the students’ comments conveyed, in simple terms, a clear understanding of the cause-and-effect relationship between their use of the intervention and their improved outlook and performance (e.g. “it help to think of something else”, “made me concentrate”, “by tellying (sic: telling) me how to stay calm and not to get mad”, “becuse (sic: because) the songs are relaxing”, “it helped me so I didn’t take my anger out on everyone”, “it made me feel happy”). These types of comments are very much in line with what the researcher was hoping to achieve with the calm carrel strategy, and hearing them from the students themselves is just as gratifying as knowing that teachers noticed the difference as well.

An intervention that is appealing to, and perceived as having an impact by, both staff and students, has a definite edge on a technique that is favourably regarded by just one or the other, as a strategy such as the use of isolation time-out invariably would be. As mentioned previously, segregated classes for students with EBD already tend to be characterized by comparatively high levels of negative teacher-student interactions (Gunter et al., 1994). Any approach that offers the possibility of reversing this trend, is worthy of further investigation on that count alone.

With respect to the matter of students' actual behaviour, worthy of special consideration is the fact that, although, as indicated, both teachers and students found the calm carrel to be a worthwhile adjunct to their classrooms and an effective means of aiding the children's efforts at self-control, and although all participating teachers expressed a definite desire to continue using the carrel and accompanying CDs in their classes after the conclusion of the study, the main behaviourally-based dependent measures used in the research (time-out and daily ratings) failed to show any clear indication or trends suggestive of significant improvement during the experimental phase of the study. During the follow-up interviews (prior to the researcher having carried out the data analyses), the teachers were asked for their thoughts about the extent to which the behavioural measures had likely captured the improvements they themselves had noted in the children, as a result of carrel use.

The Class 1 teacher felt that both measures were appropriate, but noted the fact that a single behavioural rating could mean quite different things for different

students (e.g. a “6” day for one student could constitute a “4” day for another, due to the relative nature of such judgments). This latter fact was recognized by the researcher as well (as alluded to previously), and need not be regarded as a drawback of using this measure, given that not only behaviour, but also behavioural standards within any classroom, vary as a function of individual students’ unique experiences, skills, and anticipated rate of progress. Although it is certainly advantageous for the dependent measure to control for this as much as possible, in actuality the ideal, global measure of behaviour that is simultaneously all-encompassing, objective, and able to be administered consistently across students within a class, and by different teachers across classes simply does not exist. The Class 5 teacher also made reference to the subjectivity of the behavioural ratings, and the fact that, even with the provided criteria, different teachers will bring different standards to bear in assigning these.

With something as subjective as behaviour, anything beyond a basic frequency count is liable to be subject to bias of one form or another, in spite of a researcher’s best intentions. Ultimately, having additional measures in place for validation of findings of a less than absolute nature is likely one’s best insurance in such cases, hence the use of several different types of data in the present study. Nonetheless, this does not completely rule out the possibility that actual behavioural changes might have been obscured as a result of the lack of inter-rater reliability which necessarily followed from having six different teachers evaluating the behaviour of students in six different classes, however objective the researcher attempted to make the measures they were using. Teacher “error”, for

lack of a better term, may thus have partially accounted for the lack of agreement between the data on the quantitative dependent behavioural measures and the feedback secured from staff and students at the close of the study.

The Class 6 teacher expressed an appreciation for the ease of administration of the behavioural rating scale measure, while also noting that, with respect to the time-out coding key, most of the time-outs he assigned were for reasons other than those listed in the classification scheme. From his description of these, however, it sounded to the researcher as if he may have been categorizing some time-outs incorrectly in this regard, and that some which had been classified as “4” (“for another reason”), should in fact have been entered as “1” (“inappropriate vocalization”) or “2” (“refusal to cooperate”). This is indicative of the type of teacher error just discussed above. Although probably less likely than student record-keeping errors, given the level of instruction and extensive support provided to participating staff members, mistakes such as these may have impeded on the outcomes of the study to some extent.

In contrast to the Class 6 teacher, the Class 3 teacher indicated that she did not recall having had any need to use the “4” designation at all, as all time-outs fit within the three specified categories¹. Asked whether the dependent measures would have captured behavioural changes, had they occurred, the Class 3 teacher commented on the fact that various extraneous (unrelated outside) factors may also have accounted for behavioural improvements or deteriorations, as reflected in changes on the rating or time-out measures. As such, trends on these measures,

¹ There were in fact a small number of Category 4 time-outs in Class 3, however, according to the teacher’s records.

in either direction, could not necessarily be attributed to students' use, or lack of use, of the carrel. Again helping to explain the discrepancy between measures, it would also follow logically that what the end results on the daily rating and time-out measures revealed as being, in fact, a notable absence of behavioural change of any type among the group of participants as a whole, need not be taken to indicate that the carrel was ineffective in helping to facilitate self-management skills and to alleviate students' feelings of frustration or anger in the classroom.

Indeed, with the potential shortcomings of quantitative behavioural measures having been recognized in designing the study, the supplementary student feedback forms, along with the teacher surveys and follow-up interviews were included expressly for the purpose of getting a descriptive and, in some senses, more reliable reading of the carrel's value for use in classes for students with EBD. Ultimately, it must be argued that if teachers and students regard an intervention as having value in bringing about emotional and behavioural improvements, and yet these improvements are not manifested in the quantitative measures employed, the conclusion should not be that the intervention was not useful, but that the dependent measures were not well-suited to capturing its utility.

The Class 2 and 4 teachers likewise felt that the outcomes on the daily rating and time-out measures were not necessarily likely to be indicative of the improvements they had observed in students' behaviours as a function of carrel usage. The teacher of Class 4 noted a degree of consistency in the ratings, whereby those students receiving higher versus lower ratings were doing so daily,

with little variation. The Class 2 teacher, while seeming to have noticed greater variability, also realized that those students who were getting higher ratings were not necessarily those who were even using the carrel. This observation turned out to be very much consistent with the results of later analyses of the data across classes, wherein no significant correlation was found between carrel use and quality of behavioural ratings, nor between carrel use and number of time-outs.

It also prompts one to speculate that perhaps another way to partly account for the lack of agreement, or disconnect, between the behavioural data and the teacher/student feedback, would be that, in at least some cases, those students having the most significant behavioural difficulties to begin with, were also those who were using the carrel more often, simply because they had greater need for it. Further, on the days they used the carrel, they may already have been assigned one or more time-outs and/or had other behavioural difficulties which earned them a lower daily rating, thereby accounting for the fact that their carrel use might not have impacted upon the behavioural measures for the day as a whole. It could very well be the case here, however, that the carrel use prevented a problematic situation from persisting or worsening. The teacher comments, wherein they consistently noted how students returned to their desks with a calmer demeanour after visiting the carrel, would seem to suggest that this conjecture is an extremely valid one.

Asked how the behavioural dependent measures might be revised so as to better capture the improvement teachers had noted and attributed to the carrel through observation, the Class 4 teacher suggested that the teachers might have

been asked to assign students two behavioural ratings per day (one based on the child's overall behaviour for the morning, and one for the afternoon). Thus, if only half of a student's day had been especially problematic behaviourally, it need not have sullied the teacher's assessment of their performance for the day as a whole. Taking into account both morning and afternoon ratings from throughout the study would therefore have provided a more representative portrait of students' behaviour and could perhaps have conveyed some of the favourable progress that teachers and students had identified, in their feedback, as being due to carrel use.

This seems a very good suggestion, and one worth pursuing if future studies of this type are undertaken. That being said, the researcher was cautious to keep demands upon teachers' time to the minimum possible, and additional record-keeping could have turned out to be a factor which deterred their participation in the study. However, it is highly probable, in light of the various teachers' comments about the proximity of students' behavioural improvements in relation to their visits to the carrel, that a more immediate measure of behaviour of some type would have captured growth that was not apparent on the global daily behavioural ratings. Matters of logistics and teacher enthusiasm would likely dictate whether this could take the form of ratings being assigned at shorter intervals over the course of the school day, as per the suggestion from the Class 4 teacher, or, perhaps preferably, of a more immediate qualitative measure such as the maintenance of anecdotal records documenting students' behaviour before and after carrel use, for ease of direct comparison.

It should be reiterated here, as the reader will recall from the results chapter as well, that, in the interests of determining with absolute certainty whether any significant trends with respect to changes in behaviour (in either direction) could be uncovered from the existing quantitative dependent measures, a very extensive series of tests was conducted for both time-outs and behavioural ratings. The fact that multiple analyses were carried out, examining the data in each case for the group as a whole, for carrel users only, by class, and by class with carrel users only, in each instance both with and without outliers, and then, further, in relation to the specific extent of carrel use and student attitudes toward the intervention, clearly increased the chances that any significant results that had been found would, in actuality, be spurious.

At the same time, given that no such significant findings were forthcoming from either the behaviour rating or time-out data, the multitude of tests that were run (which could be justified regardless of outcome, given the exploratory nature of the research), simply served to solidify the conclusion that there really was nothing noteworthy in the existing data. As detailed in the preceding chapter, scattered positive and negative findings did emerge within certain classes on particular measures, but the lack of any overarching trends across classes, and the fact that so many tests had to be run to uncover any findings at all, renders these highly suspect. Although there is the possibility that some of the aforementioned behavioural changes could have occurred as a function of using the carrel, or of simply having the carrel in place within the classroom, in light of the limited evidence following from the behavioural quantitative measures employed, it is

simply not possible to make any claims of this nature, even on a class-by-class basis. As indicated, this must not be taken to imply that behavioural improvement did not occur subsequent to carrel use (as teachers and students alike clearly stated, on the feedback measures, that it did). Rather, it suggests an inadequate fit between the types of short-term, student-specific changes that presented themselves in the classroom according to the participating teachers and students, and the more global, quantitative dependent measures being utilized as an index of behavioural growth and deterioration.

Appropriateness of the Specific Techniques at the Calm Carrel

With respect to the specific strategies in place for students at the calm carrel (soothing music, progressive muscle relaxation exercises, and visualization narratives), all participating teachers felt that these were very appropriate, and well-suited to inclusion at the carrel as tools to help the children relax. There may have been some variation across classes, however, in terms of the extent to which the different types of techniques were used. For instance, whereas the Class 1 teacher indicated having seen students carrying out relaxation exercises while at the carrel, as per the instructions on the CDs, the Class 6 teacher noted that the students did not use the “physical strategies” (referring to the progressive muscle exercises), and the Class 3 and 5 teachers felt that their students likely primarily listened to just the music tracks on the CDs. The students’ own record-keeping duotangs, to the extent that these can be considered an accurate representation of their actual listening habits, do confirm that music appears to have been the preference, as reflected solely by the number of tracks sampled. However, as

indicated in the previous chapter, both the visualization narratives and relaxation exercises emerged as having a very slightly higher rating than the music tracks, on the student feedback forms. It is thus quite possible that the teachers underestimated students' use of the non-music tracks.

From the teachers' comments, it appears that those students who made use of the carrel were generally very receptive to the strategies available to them there. Comments from some children regarding the exclusion of certain styles of music (e.g. rap and rock) were noted by the teachers, and apparent from the student feedback forms as well. The teachers seemed cognizant, however, of the fact that opening up the music selections to the recommendations of students could prove quite problematic for an intervention of this type.

For those students who utilized the carrel on multiple occasions, it is probable that they found particular tracks on previous visits that they considered worthy of repeated listens. The Class 4 teacher spoke of one child, for instance, who, "pretty much every time he used (the carrel)...he's like, 'Yeah, whenever I listen to that one song, I just feel better, I feel...it relaxes me.'" Indeed, when asked, on the student feedback form, what they liked best about the carrel (via a short answer question to supplement the likert-style rating items), several students did make reference to particular music tracks (e.g. "the music (10) Rum Tom (sic: Um Tom)", "numder (sic: number) 17", "I like Spirit the best"). Most others spoke more generally of "the relaxing music", "the relaxation exercises", or "the visiuالاتion (sic: visualization) stories". Interestingly, in contrast to the likert-scale rating results, the aforementioned short-answer question would seem to

indicate that the children's strongest preference was for music (referred to in 19 of the 36 responses). The visualization narratives appear to have been cited six times, and the relaxation exercises in three instances (although the students' phrasing at times obscured which of these latter two they were referring to).

The discrepancy between the responses to this question and the previously cited ratings (on which music received a slightly lower total mean score than the other two strategies) could perhaps be attributed to student error or carelessness in completion of the survey. The mean ratings are so close to one another (at 3.84, 3.86, and 3.93) that the less frequent mentions of relaxation strategies and visualization narratives on the short-answer question need not imply at all that students disliked these techniques, but perhaps simply that the music (having comprised the majority of the tracks on the CDs and, according to the teachers, likely the majority of the students' actual listening time), was foremost in their minds when reflecting upon the carrel (in addition to it being the shortest word to write).

In any case, it is clear that the children were, by and large, pleased with the variety of strategies available to them at the carrel, and generally very complimentary of the selections included on the CD (e.g. "it had some really nice relaxing songs on it, it had all of my favorite songs"), as well as the the opportunity for a relaxing respite that these afforded them (e.g. "it play (sic: plays) and you think and you feel like your (sic: you're) in the place"). Students' apparent recognition of the tremendous calming potential inherent in the timely use of music, relaxation exercises, and visualization narratives, consistent, as

discussed previously, with research in the field highlighting the value of these types of techniques (e.g. Hallam & Price, 1998; Henderson & Kelbey, 1992; Lohaus & Klein-Hebling, 2000; Lopata, 2003), is as positive a sign as any that the calm carrel was not only a helpful intervention, but an educational one as well.

From among the participating teachers, only the Class 5 teacher had suggestions for ways in which the actual strategies in place at the carrel might be supplemented. Specifically, he mentioned the idea of incorporating additional multisensory types of techniques to complement the musical selections and audio-based exercises on the CDs. The possibility of including a relaxing visual stimulus (“like they have with that channel on TV with the fireplace”) or borrowing ideas from the calming practices of other cultures, such as the use of a miniature rake and sand garden, were suggested as potential options. Along these lines of building in greater focus on appealing to different sensory modalities, the teacher also mentioned that he was planning to employ a rocking chair for purposes of helping to calm a child with fetal alcohol syndrome, who is soothed by the rocking motion.

Although the ideas raised by the Class 5 teacher were interesting ones and may be quite feasible to implement within some classrooms, from the perspective of an educator such as the Class 1 teacher, who felt the lure of the calm carrel to be too great already, incorporating additional features may be regarded as more of a distraction than as a means of facilitating students’ self-soothing efforts. It should also be noted that, in the interests of ensuring the calm carrel’s suitability as an intervention students can utilize in the inclusive class setting as easily as in

the segregated EBD environment, the minimal complexity of the set-up, administration, and monitoring required, should be viewed as a considerable advantage of the strategy, as it was applied in the present study. That being said, the flexibility of the calm carrel is such that it would lend itself well to any embellishment that individual teachers might wish to add to the basic framework of the strategy.

When the students themselves were asked, on the feedback form, how the carrel might be improved, 18 of the 34 respondents, had no suggestions. Of those who did offer comments, a certain number were in favour of simply extending what was already in place in various ways (e.g. “give more time to listen to the music”, “longer time and more CDs”, “it could have more relaxation songs on it”, “more exersizes (sic: exercises)”). Others, as alluded to previously, recommended altering the style of music included (e.g. “you could have rap music”, “it could be better by adding Christmas carols”), including requests for specific bands (e.g. “different music, like 3 doors down (*a rock band*)”), and songs (e.g. “Whiskey In a Jar”). A few others offered very valid logistical considerations (“it could have been better if it had a comfortable chair”, “more of a colorful place”). As flattering as some children’s comments were (e.g. “I (sic: It) would never be better than it is now. It is fine the way it is. I do not want it different. I like just the way it is.”), the forthrightness of others’ ensured that these latter remarks would not go to the researcher’s head (e.g. “make it not sound so boring and put Halo (*science fiction videogame*) music on it and I will listen to it”).

Ultimately, consistent with comments from the teachers themselves, it does appear that the students were, on the whole, very pleased with the intervention. Although their thoughts about the inclusion of other genres of music may not have proved practical, the notion of making the carrel structurally more appealing, is a very good one, and also consistent with comments made by the Class 5 teacher. Budget-permitting, and if teachers were willing, the use of more comfortable, padded chairs and the incorporation of more visually pleasing elements into the carrel itself, would have been ideal, and might well have encouraged more frequent visits by the students. Such improvements could certainly be considered by researchers or practitioners who may look at implementing an approach of this type in the future.

Apart from the overarching, audio-based strategies included at the calm carrel, some additional comment is warranted here, on the utility of the problem-solving form, which had been provided as an optional tool for students visiting the carrel. The teachers had varying opinions on the value of this. The Class 1 teacher felt that it was not worthwhile, and that, if completed, it would only have served to give students a reason to delay returning to their desks after using the carrel (though the teachers had been informed at the outset that if students elected to complete these forms, they should be done within the course of their 5-minute carrel session). The teachers of Classes 2 and 4 felt that the form could prove useful for some students in allowing them to reflect upon their behaviour, but that leaving it as an option had been a good plan. The Class 2 teacher pointed out that some children could more easily calm down without being required to verbalize

their thoughts, in the process. Similarly, the Class 3 and 6 teachers felt that requiring students to complete a written task like the problem-solving form could have served as a deterrent to their use of the carrel, in that the writing may either frustrate them or prompt the need for teacher assistance (for those with written language difficulties). Both teachers indicated that, in their continued use of the calm carrel following the conclusion of the study itself, they would no longer utilize the problem-solving forms. The Class 5 teacher, on the other hand, felt that the forms had been worth including at the carrel, and that they provided the students with a good opportunity to articulate the problem-solving process.

Appendix Q contains a table and summary of students' responses on the problem-solving form. From this, it is apparent that the number of forms completed varied quite considerably across classes, and that, while some students filled out forms during multiple visits, 14 of the 33 carrel users never completed one at all. The fact that some students clearly found the problem-solving forms to be of sufficient value to work through them on more than one occasion, would seem to confirm the appropriateness of having provided them with this option. At the same time, the fact that close to half of the students elected not to fill out the forms while at the carrel, validates the decision of not having required the children to complete these as a condition of their use of the intervention.

One of the two questions on the problem-solving form had asked students to specify what they planned to do, upon returning to their desk, in order to address what had been bothering them before (i.e. what had prompted their visit to the carrel). The fact that, in answering this question, students selected item c ("I

will remember how relaxed I felt at the calm carrel”) on more occasions (19) than any other option, is yet further indication of the children’s positive regard for the intervention. It also suggests that the effects of the calm carrel might well have extended beyond the immediate period of use. If students were indeed cognizant of a distinct sensation of calmness brought about by use of the carrel, and were starting to develop the ability to call up similar feelings at will when experiencing frustration at later points, this certainly speaks well to the potential for transference of the guided self-soothing skills facilitated by the carrel-based strategies.

The other question on the problem-solving form asked students why they had chosen to take a session at the carrel on the occasion in question. The option “I was mad” was selected more often (28 times) than “I was having trouble with my work” (chosen 16 times), “I was unhappy” (selected 8 times), or “for another reason” (chosen 14 times, a number of which, as articulated by the students, appeared to be akin to feeling mad). This would seem to suggest that anger-based feelings of frustration were, by a fair margin, the most common reason for carrel visits, at least among those children who elected to complete a problem-solving form while there. This is not at all surprising, given the population in question, and, indeed, it further validates the appropriateness of the relaxation-focused techniques incorporated on the CDs (which, ultimately, are no doubt better suited, on the whole, to easing anger, than to alleviating sadness or addressing inability to focus on, or understand, one’s work). Further, insofar as aggressive emotions and behaviours are surely more likely to complicate, if not completely eradicate,

students' chances of seeing successful inclusion within regular class contexts, an intervention targeted specifically towards helping children with EBD to defuse anger-based emotions quietly and calmly without ever leaving the classroom, is most certainly a tool worth having. The students' completed problem-solving forms provide yet one more indication that the calm carrel was being used for its intended purpose.

It is also worth noting here, in a related capacity, students' responses to the "My Behaviour" survey question inquiring as to the form their behaviour takes when they are upset or angry at school. The predominantly aggressive nature of the children's own characterizations of their behaviour, in answering this question, likewise confirms the appropriateness of the calm carrel's strategies having been targeted expressly towards easing feelings of anger (e.g. "I spaz attack. I get mad, hurt people and I scream", "I through (sic: throw) things and I feel like I won't (sic: want) to punch someone", "like killing someone", "I blow up", "I throw a huge temper tamtrume (sic: tantrum). I bang on walls and doors. I cry for almost ten minutes. My body loses control.", "I freack (sic: freak) out at people and I yell and I try to punch and I kicc (sic: kick) and then I get restrand (sic: restrained) and I make outhar (sic: other) peopple (sic: people) unsafe." In light of such responses, it is not surprising that the majority of the students visiting, or at least completing problem-solving forms at, the carrel, were employing the intervention primarily due to feeling angry.

Completion of the problem-solving form could, as indicated previously, be deemed a form of self-evaluation. Although the response rate was not

tremendously high, the fact that nearly 60% of carrel users did complete one or more forms over the course of the study, suggests that, even in the absence of any type of tangible reinforcement or feedback, having a means by which students could be guided through the process of briefly reflecting on their own behaviour in a written form (to supplement the chiefly audio-based approaches on the CD), proved of value to some children. It is, however, worth reiterating the comments from teachers, referring to the fact that some students would most certainly have been dissuaded from using the carrel if additional written work (however minor) had been required of them there. As the Class 6 teacher said, with respect to his plans for further use of the carrel once the study had ended, “They’ll do anything to get away from writing. So I wouldn’t have any sort of, ‘write out what you’re feeling now’, after.” It was of utmost importance that the carrel be viewed by students as a non-punitive technique, and keeping the problem-solving form optional helped to allow for this, while still providing a more cerebral self-management strategy for those who would use it.

One advantage of the problem-solving form was thought to be that it could potentially help to bridge the gap between students’ time at the carrel, and what would then occur once they returned to their desks. By reflecting upon what had brought them to the carrel, as well as what they intended to do after leaving it (in order to deal with what had been bothering them), students who completed the problem-solving form were not only experiencing the calming benefit of the carrel’s audio-based strategies, but were also returning to their desks armed with a plan of action, thus potentially extending the positive impact of their time at the

carrel. Presumably, those students who chose to complete multiple forms during their carrel visits, enjoyed the feelings of empowerment that resulted. It may well be the case that incorporating some variety of problem-solving exercise in such a way that all students visiting the carrel necessarily experience it at each use, and yet do not come to view it as “work”, could serve to facilitate greater, and longer-term behavioural gains subsequent to each carrel visit. Perhaps giving students the option of engaging in the problem-solving process orally, by means of a brief, reinforcing meeting with the teacher at the end of their carrel session, would be a way of building this into the intervention. Although certainly more demanding upon the teacher’s time and attention, such a “debriefing” could prove to be extremely valuable, while also building in a greater degree of accountability for carrel use.

In summary, the different strategies in place at the carrel were well-received by students and teachers alike. It appears that the blend of audio-based relaxation techniques met the needs and interests of most of the children, and were largely successful in bringing about feelings of calmness and in alleviating frustration immediately following use of the intervention. The optional problem-solving form was completed by a number of the participating students, but was met with mixed opinion on the part of teachers. Incorporation of a non-aversive problem-solving strategy could be a worthwhile alteration to the intervention, for future studies.

Procedures Governing Student Use of the Calm Carrel

With the exception of the Class 1 teacher (who, as mentioned, to some extent misunderstood the parameters dictating usage of the carrel, as will be more fully apparent to the reader from reviewing the corresponding follow-up interview and the completed feedback survey), the participating teachers indicated satisfaction with the rules governing their students' use of the intervention, and their comments were suggestive of the fact that they were not planning to revise these markedly during their continued use of the carrel, subsequent to the conclusion of the study itself. It appeared, as such, that the conditions in place were effective in giving children the freedom to exercise sufficient control over their own visits to the carrel, so as to feel some degree of ownership over the process and thus build confidence in their capacity to self-manage their behaviour, while still ensuring appropriate use of the strategy and allowing teachers to maintain the level of authority necessary to enforce this, and to prevent the carrel from interfering with instruction or other classroom procedures.

In particular, the established rule permitting each child to visit the carrel a maximum of three times daily, for a 5-minute period on each occasion, was seen as reasonable (and helpful) by the participating teachers. It had been deemed necessary, in developing the study, to have a standard guideline of this type in place, with an aim to preventing the need for back-and-forth "haggling" between students and teachers, and also for purposes of ensuring that no single student would ever be missing a significant amount of instructional time on any given day.

In light of the often very considerable time students in BLA-type classes end up spending in time-out rooms (e.g. Costenbader & Reading-Brown, 1995), it is all the more impressive that a technique requiring no more than 15 minutes a day (an upper limit which very few students ever reached) could appeal to both students and teachers as a self-management strategy, while appearing to effect at least localized behavioural improvement during a comparatively short period of implementation.

Given the concerns expressed by the Class 1 teacher, it does appear probable that children would have intentionally manipulated the process in an attempt to waste excessive class-time or to escape from unpleasant tasks, had such a stipulation regarding length and frequency of usage not been firmly established at the outset. Interestingly, during the follow-up interview, the Class 6 teacher indicated a definite willingness to depart from the specified maximum, had a particular student who used and benefited from the carrel wished to use it more extensively (“I would trade that fifteen minutes in a heartbeat for his calm behaviour. So, I would never, you know, hesitate to say, ‘Go ahead, use it three, even four, times’, if he can calm down like that.”)

The Class 3 teacher commented specifically on the value of the 5-minute timer, as wired through the earphones, for purposes of indicating when a child’s allotted time at the carrel had elapsed. Referring, in particular to the student with Fragile X syndrome mentioned earlier, the teacher stated:

If the timer goes off then it’s okay for her to stop and move on, whereas otherwise transitions are difficult. So...it was good, it’s like, that buzzer

goes off and (*Student 3-7*) is in a good mood, so then she can go back to work.

Although, in this case, the degree to which the timer itself aided in facilitating smooth transitions, was somewhat unintended, it seems clear that it more than achieved its basic purpose of cueing students to return to their desks in such a way as to not disrupt the rest of the class, at the end of their carrel visit.

Both the timer and CD player were simple for the students to operate (an important consideration), and no problems with equipment were noted. The precaution of having bolted the CD player shut and securely affixed it to the carrel, and having preset the timer to five minutes and, likewise, attached it to the carrel to prevent accidental or intentional tampering, was most certainly one worth taking.

Apart from the rules regarding the actual extent of use, it had been thought best to keep the parameters for carrel usage as simple as possible, pertaining primarily to basic instructions for operation of the timer and CD player (so as to slow battery drain and to ready the carrel for its next visitor). The stipulations governing student-recordkeeping were, of course, necessary in order to get a reading (albeit one subject to error) of the number of visits students paid to the carrel, and, secondarily, what they chose to listen to while there. Originally, it had been anticipated that the student-maintained track-listing documentation might have allowed the researcher insight into the particular songs, stories, and exercises that appealed to the children the most. However, the variable quality of these records, and the fact that there was no way of determining, from a track that

a child had circled in their records, whether he or she had listened to it for the majority of their five minutes, or had simply sampled it, in passing, for 10 or 15 seconds, rendered this an impossibility. Although some form of student recordkeeping would be advisable for teachers or researchers implementing a calm carrel-like approach in future, the more straightforward and student-friendly these records can be kept, the more liable they are to serve their purpose of giving the children a means of monitoring their use of the intervention, without detracting from its appeal by requiring more work of students.

Ultimately, it seems that the established set-up, with respect to rules and procedures for student use of the carrel, was seen as appropriate by the participating teachers, and was generally well-adhered to (with the possible exception of Class 1) by the children themselves. As alluded to earlier, the nature of the intervention is such that either its strategies, or the parameters governing its use, could be easily adapted to suit the needs of a particular teacher or class of students.

Nature of the Contribution of the Present Study to the Existing Literature

As discussed in detail in the second chapter of the thesis, conditions are ripe, at present, for the exploration of more student-centered behavioural management techniques, for use by children with EBD. Growing awareness of the potential drawbacks of teacher-directed strategies such as the token economy and the use of isolation time-outs, has paved the way for increased focus on self-management based approaches which more clearly help to prepare students for inclusion within regular classroom settings.

Taking into account the nonetheless still fairly heavy reliance on teacher-based management techniques in segregated EBD settings, the calm carrel was intended to serve as an easily implementable, package technique which teachers could use to introduce students to the power of relaxation strategies as a means of fostering self-soothing when encountering feelings of frustration, anxiety, or anger. The existing literature has highlighted the potential value of various types of self-management techniques (including self-monitoring, self-evaluation/self-reinforcement, and self-instruction) for purposes of improving behaviour. In recent years, it has also increasingly highlighted the positive influence that relaxation strategies (including the use of music, visualization, and progressive muscle relaxation exercises) can have in alleviating negative and counterproductive emotions, thought processes, and behaviours, both in and out of the school setting.

A natural extension of the successful studies within these areas, is to combine the two, by examining the value of relaxation-based self-management strategies. As a package intervention including, in at least some respect, all components of the self-management and relaxation techniques just mentioned above, the calm carrel thus fills a unique niche, as a tool specifically designed for use by children with EBD. Given that self-management approaches should, by their very nature, entail the exercising of some degree of autonomy on the part of the students using them, the calm carrel not only allowed children to determine when they wanted to employ it, but also provided a “menu” of different music, progressive muscle exercise, and visualization narrative selections, and

encouraged students to self-select those which were most helpful and calming to them, personally. The structured examination of such an approach is what most distinguishes the present study.

The specificity of its expressed intent also sets it apart from other behavioural interventions in the literature. It is not merely intended to function as a means of helping students develop self-control in the moment, but also has the broader aim as serving as a technique that, when employed within the self-contained EBD setting, can aid in preparing students (in ways that, as discussed previously, teacher-directed approaches can rarely hope to do), for reintegration into an inclusive setting. The fact that it is set-up so as to be easily put into place within either environment, makes it ideally suited as a strategy that could be incorporated as part of a transition plan to facilitate students' smooth transfer between the two contexts. Both in practice, and within the literature, there is a notable lack of attention devoted to strategies that can fulfill such a purpose, for students with EBD specifically.

Owing to the considerable uniqueness of the calm carrel intervention in relation to the existing literature, the research was very much exploratory in nature. Although statistically, the results are not suggestive of positive outcomes on those measures which were most intended to serve as indices of behavioural change (daily behavioural ratings and time-outs), extensive feedback secured from both teachers and students was highly indicative of the potential value of the strategy as a means of effecting immediate short-term improvements in children's

behavioural and emotional states. The strategy, as discussed further below, must, therefore, be regarded as warranting further consideration in future studies.

Limitations of the Present Study/Recommendations for Further Research

While a number of limitations have been alluded to throughout the thesis, some overarching qualifying factors will be noted at this juncture, with an aim to ensuring appropriate caution in interpreting the findings reported herein, as well as informing the general approach undertaken by those who may be conducting future studies in the area. Although the quantitative findings did not reveal the presence of any significant degree of behavioural change, this should not, as mentioned previously, be taken to mean that none was present. Conversely, despite the fact that feedback garnered from participating students and teachers was strongly suggestive of the value of using the calm carrel intervention as a self-management strategy for students with EBD, this should not be seen as implying that comparable positive receptions would necessarily be forthcoming, were the technique implemented in other classrooms. A brief consideration of the chief limitations of the study will endeavour to clarify why.

Prime among the reasons for exercising caution in drawing conclusions on the basis of the current research, is the limited size of the sample and the limited span of time over which the study was conducted. Regardless of the dependent measures used, in order to determine with any real degree of certainty, whether the calm carrel is well-suited to general use with the EBD population as an anger control/stress-management tool, there is a need for further research with a larger number of classes, over a longer time period.

That being said, this may not be easily achieved, given the comparatively small number of self-contained EBD classes within any given city or school district, the taxing nature of the work involved in teaching students with severe emotional and behavioural problems (thus potentially affecting teachers' willingness to take part in research), and the decreased likelihood of securing parental permission for this population of children to participate in a study. In particular, it was the researcher's experience that teachers of these classes were somewhat reluctant to want to take on what was perceived as the additional work of participating in a study, even when the research was minimally demanding on their time, and the likely benefits quite considerable.

Attempting to secure larger numbers of teachers who are willing to commit to such a project over a longer period than the 40 school days (plus preparation and follow-up meetings) that comprised the present research, is unlikely to be an easy task. Nevertheless, it would lend greater credence to the existing findings while simultaneously improving the likelihood of more clearly determining the actual extent of behavioural change, and, if possible, would therefore be advisable. The smaller the number of participants and the shorter the duration of the study, the greater the likelihood that temporal, student-, teacher-, or school-based factors unrelated to the intervention itself will impact upon behavioural outcomes and "muddy" the results. There is no question that this occurred to some degree in the study at hand, as per the preceding discussion.

As indicated previously, a substantial limitation of the present research was the apparent inadequacy of the chief quantitative dependent behavioural

measures (time-outs and daily ratings), in capturing the positive impacts of the carrel that were noted by teachers and students alike. Although there is perhaps some advantage to knowing that the carrel did not result in global behavioural improvements of the sort that could be gauged by the extent of time-out assignments and the quality of summative daily behavioural ratings, this finding also introduces a degree of confusion into the equation, as it conflicts with the fact that the vast majority of those participating in the study saw value in the intervention as a tool of behaviour change and emotional self-management.

What researchers conducting future studies in the area might wish to do, then, is to try to resolve this discrepancy by incorporating dependent measures of a more localized (in regards to their proximity to calm carrel usage) and student-specific variety. The aim in doing so would be to attempt to pinpoint the exact nature of student behavioural improvement (which the present study does suggest occurred), such that the value of the calm carrel could be more fully realized (through the development of greater awareness of the kind of outcomes it is best-suited to facilitating). As indicated previously, it appears likely that a more qualitative, anecdotal style of documentation would serve to better capture the full impact of the intervention. Budget-permitting, and pending ethics approval, this might ideally take the form of the researcher conducting extensive classroom observations, inclusive of students' carrel usage, in order to tease out what would appear to be class-specific factors, from outcomes across classes which are more clearly due to students' employment of the carrel. Although the usual drawbacks

of observational research would apply, a richer account of the carrel's impacts could result.

Implications for Practice

As is hopefully evident from the thesis as a whole, the calm carrel intervention offers teachers of classes for students with EBD an alternative, student-centered approach to behavioural management, to augment the more directive, teacher-mediated techniques common in such contexts. Although the study's results are not indicative of overarching trends in time-out reduction or global (day-long) behavioural improvement as a consequence of use of the carrel in the short-term, the positive feedback received from the participating teachers and children regarding the appeal of the technique, the effectiveness of its constituent relaxation strategies in eliciting a sense of calm among agitated students, and the ease with which it fit into their respective classrooms as another, less restrictive management option, provides ample reason for educators in the field to consider its potential merits within their classes. As a newly researched package technique, and one clearly building upon findings highlighting not only the value inherent in fostering the self-management skills of students with EBD, but also the benefits of using music, progressive muscle, and visualization-based relaxation strategies as a means of aiding self-soothing efforts and reducing anxiety and frustration in the classroom context, the calm carrel has much to endear it to teachers seeking a new approach to help their students.

It has the benefit of being easy to implement and keep tabs on (in the words of the Class 3 teacher, "once you have it up and running it really just

monitors itself’), while also providing a basic structure or framework that can be easily augmented to incorporate other techniques that teachers may want to try. At the conclusion of the present study, for instance, the Class 5 teacher indicated that, although he would be continuing to use the carrel, he planned to supplement it with strategies which would appeal to students’ need for multisensory stimulation. The Class 1 teacher, on the other hand, planned to make changes so as to integrate it more fully into her existing system of disciplinary consequences, while the other teachers intended to continue using it essentially as they had been. The Class 3 and 6 teachers speculated about the possibility of making the intervention portable, by placing the CD player, timer, and headphones in a basket, such that students could even utilize it, when needed, outside the immediate classroom setting (such as in the gymnasium). The flexible nature of the intervention is such that it can easily be embellished, or simplified, to suit the specific needs of a given class of students, as the teachers conveyed in their comments.

Further, though, the technique, as conceptualized in the present study, would also be well-suited to implementation for use by students with behavioural difficulties within inclusive class environments. When queried on this point, all participating teachers readily agreed that the calm carrel would be the type of intervention that could work extremely well in these settings. This, of course, has important implications, as having it available to students during the process of reintegration could serve to ease the often challenging transition from the special class setting, to the inclusive one. As previously stated, this is all the more

essential, given the fact that so many schools lack plans to help students with EBD, in particular, to successfully handle this period of transition (Grosenick, George, George, & Lewis, as cited in Landrum & Tankersley, 1999). The intervention was expressly designed so as to be feasibly utilized within any classroom setting, in recognition of the fact that, to students' detriment, too few of the approaches common to the self-contained program are capable of being easily adopted by regular class teachers.

Concluding Thoughts

The present study has tested and, in many respects, confirmed the potential value of a technique which could do much to help alleviate the stress- and anger-based classroom behaviour problems of students with EBD. As a wholly student-directed intervention, the calm carrel provides children with a toolkit of strategies which, it is hoped, they could learn to increasingly apply not only at the carrel, but away from it as well. Although measurable improvement was not borne out by data obtained from the quantitative behavioural dependent measures, it may well be the case that the positive outcomes observed by teachers and students during the 20-day experimental phase of the current study, would later have manifested themselves in more prominent ways behaviourally. As it was, in spite of the limitations of a relatively small sample size and a short span of time in which to conduct the research within the classrooms, ultimately the calm carrel technique can be rightly regarded as having proved of benefit to the staff and students taking part in this study, and as most definitely meriting future consideration.

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APPENDIX A1

TEACHER INFORMATION LETTER AND CONSENT FORM

April, 2006

Dear Teacher,

I am a graduate student at the University of Alberta currently completing my Ph.D. degree in the area of Special Education. I write to request your participation in a study I am undertaking next year which will form the basis for my doctoral dissertation. My research will involve the implementation of a student-centered self-management strategy (termed the 'calm carrel') in a number of classrooms for children with emotional and behavioural disorders (EBD) within the Edmonton Public School District. The study is intended to enable me to draw some preliminary conclusions regarding the utility of a class-wide self-management intervention such as this for use with elementary students with EBD. The only criteria for participation in this study are that: a) your classroom management practices currently include the use of teacher-imposed time-outs in a time-out room, and b) you are not already employing a structured approach to student self-management similar to the one which is under study in this research.

The strategy in question consists of a carrel, equipped with a number of calming strategies, which will be placed at the back or side of the classroom, and which will serve as an area where students who are feeling frustrated, upset, or off-task during class time, can take a brief self-imposed, and thus voluntary, time-away from the class. It is intended to function as a preventative measure, the logic being that if students are able to foresee difficulties and take responsibility for their own behaviour, they may be able to regain control over their emotions and thus avoid having behaviours escalate to the point where they are then assigned a time-out or other punitive consequence by the teacher. With the calm carrel program, each student would be permitted to spend a maximum of three, five-minute sessions at the carrel daily. While at the calm carrel, students will be able to make use of a compact disc player (affixed to the carrel itself) to choose from a wide variety of relaxing instrumental music selections, narrative visualization passages, and simple relaxation or deep breathing exercises, on a pre-prepared CD. Students will also have the option of practicing relaxation exercises which will be posted (with illustrations) on the inside of the carrel; employing a basic problem-solving strategy (completing a simple form indicating why they chose to take a session at the calm carrel and what they will do upon returning to their desk to handle what had been bothering them); simply putting their head down and resting; or some combination of these activities, until such point as a 5-minute timer indicates (by means of beeping emitted through the headphones at the carrel, so as not to disrupt the other students) that it is time for them to return to the group. A key component of the calm carrel intervention is its non-punitive nature. Students who choose to make use of the program will not be required to

make up for time missed while taking a session at the carrel, nor will they lose points or tokens as a result of their time away from class work.

In order to provide me with an idea of the students' behaviour, both before and during the period when the calm carrel intervention is in use, participating teachers will be asked to maintain simple behavioural rating scale records for each of the students in their classroom for the duration of the study. To this end, I have designed a basic 7-point rating scale which teachers will use to assign each student with a simple daily rating out of 7, to denote the general quality of his or her behaviour in class during that particular day. I would be glad to provide interested teachers with further information on this rating scale beforehand, including a list of the descriptors attached to each of the numeric ratings. The use of this rating scale should require no more than 5-10 seconds of your time per student at the end of each school day (the ratings will not be shared with the students, and can therefore be completed within the span of about one minute's time, after students have left for the day). Participating teachers will also be asked to maintain very simple daily records documenting the number of time-outs assigned to each individual child and indicating (through the use of a basic, readymade checklist) the precipitating factor in each time-out assignment. Maintaining these records will take about one second per time-out assignment. I will provide record-keeping charts (in paper format or on computer disk, as per individual teachers' preferences), and will collect the records.

The study will be divided into a baseline phase and an experimental phase. The baseline phase will last 20 school days, running from Monday, September 25th, 2006 until the last full week of October, 2006. During this period, I will simply ask that teachers maintain the daily rating scale and time-out records for all students in their classes. Near the conclusion of the baseline phase of the study, I will arrange a time to meet with each teacher and teacher aide in order to provide them with an information package detailing a 45-60 minute training session they will be delivering to their students for purposes of familiarizing them with the calm carrel intervention and the various strategies associated with its use. The training session will be largely scripted (as a means of ensuring consistency across classes) and hence will require no additional time investment on the part of teachers, aside from that necessary to meet with me to discuss the training and that necessary to actually deliver the brief lesson to students. In addition to training in the use of the carrel itself, teachers will instruct their students in the use of a simple calming technique (for example, a 'count down from ten' or deep breathing exercise) that can be used for purposes of self-soothing when students are away from the calm carrel. As part of the training session, students will complete a short pre-intervention survey regarding their perceptions of the manner in which they currently handle frustration and anger within the class context.

After the training session has taken place, students will complete a short written quiz to assess their understanding of what is entailed by the calm carrel

intervention. They will then have the opportunity to make use of the calm carrel intervention, in the manner described above, during the experimental phase of the study, again lasting for 20 school days, and running from late October through to late November (concluding by or before Thursday, November 30th). During this latter phase of the study, I'll ask that teachers continue to complete the daily behavioural rating scale and time-out records for each of their students. There will also be a simple record-keeping process in place whereby individual students will indicate their use of the carrel each time they opt to take a session there during the course of the school day. This will take the form of a chart (located either at the teacher's desk or at the carrel itself) on which students will place a personalized (colour-coded) sticker each time they use the carrel. Students will also be expected to indicate (on a simple chart) which type of technique (relaxation exercises, visualization narratives, or music) they employed upon taking a session at the calm carrel. At the conclusion of the study, I will request that follow-up surveys be completed by students, teachers, and aides, such that I can get a better idea as to the utility of the calm carrel intervention from the perspectives of all those involved in the study. Students will also complete a post-intervention survey, regarding their perceptions of the manner in which they handle frustration and anger within the class context, subsequent to their use of the calm carrel for the 20-day period. In order to secure further insight into the utility of the intervention, I will also conduct in-person, audio-taped interviews with each of the teachers.

There are several likely benefits to be derived from your participation in this research project. Chiefly, it is hoped that students will learn to assume greater responsibility for their own behaviour, thus taking some of the onus for disciplinary action off of yourself and your teacher's aide. This also places students in a better position for eventual inclusion within a regular classroom setting. Further, it is also probable that, owing to the emphasis on emotional self-management inherent in the calm carrel intervention, students will develop an increased awareness of their own behavioural triggers, and will thus be better able to apply relaxation and self-control strategies which may in turn extend to contexts outside the immediate classroom environment. As a token of my appreciation for your participation in the study, and to provide you with the opportunity to continue making use of the calm carrel intervention, should you wish to do so, in future years, I will allow participating teachers to keep all of the calm carrel materials, including the compact disc player, headphones, CDs, posters, and digital timer, at the conclusion of the study.

During the entirety of the study you are encouraged to continue to use your usual classroom disciplinary procedures, being neither more lenient nor more stringent while the calm carrel system is in place. The calm carrel is merely intended to serve as a supplement to your current approach to behavioural management. The intervention is designed so as to be completely non-intrusive, and any visits I make to the classroom will take place at noon or after the school day has ended, so as to avoid disrupting the students.

This research study has been designed with complete adherence to the University of Alberta Standards for the Protection of Human Research Participants. As such, the anonymity of all collected data (namely teachers' behavioural rating and time-out records, students' calm carrel usage charts, students' pre- and post-intervention and post-training surveys, and teachers' and students' follow-up opinion survey results) will be assured by the fact that I will, immediately upon receipt of any of the aforementioned records, black out students' names and replace these with numeric designations for use in all further analysis. All raw data (already rendered anonymous) will be kept secure for a period of five years following the study itself, before being destroyed by the researcher. A copy of the study's results will gladly be made available to all interested teachers.

An integral part of the University of Alberta Standards is the attainment of free and informed consent on the part of research participants. In this letter I have attempted to provide you with all information that might conceivably influence your decision to take part in the study. If any clarifications are needed please feel free to contact me at your convenience.

In agreeing to participate in this research project, it is important you understand that you have the right to withdraw from the study at any juncture without prejudice or penalty. Should you choose to opt out of the study, you may request that any data collected from your class be removed from the database and excluded from the study. It is also important to note that the participation of individual students in your class will be dependent upon additional approval from their parents. The rights extended to you here also apply to the students and their parents, and this will be communicated to them directly by means of parental consent letters. Throughout the study and in the subsequent reporting of the data in the thesis publication, the identity of yourself, your students, and your school will be kept strictly confidential. In this letter I have informed you of several benefits I believe might accrue from your participation in the project. I do not foresee any drawbacks whatsoever, aside from the need for a small time commitment on your part, following from your consenting to take part in this project. The anonymous data collected from this study is intended for inclusion in my doctoral thesis. In the event that elements of that thesis are published or presented in additional venues, please be assured again that all data will continue to be handled in compliance with the aforementioned University of Alberta Standards under all circumstances.

Throughout the course of the study, should you have any questions or concerns, you may contact me by phone at 718-3406 (message box) or 459-5483 (residence). I can also be reached by e-mail at kcameron@ualberta.ca. My doctoral supervisor at the University of Alberta is Dr. Jack Goldberg. He may be contacted at his office at 492-3740, or by e-mail at jack.goldberg@ualberta.ca. The Associate Chair of the Department of Educational Psychology is Dr. Robin Overall. She may be contacted at her office at 492-1163, or by e-mail at robin.everall@ualberta.ca. The plan for this study has been reviewed for its

adherence to ethical guidelines and approved by the Faculties of Education, Extension, and Augustana Research Ethics Board (EEA REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EEA REB at (780) 492-3751.

I very much appreciate your considering the merits of participating in my research and hope I'll have the opportunity to work with you during my study.

Please take the time to fill out the following consent slip and fax it to me at 459-6286. Thank you.

I, _____, have read the information letter regarding the calm carrel study to be conducted by Kent Cameron and:

___ I offer my free and informed consent for myself and my students to participate in the study from late September to late November, 2006

___ I do not wish to participate in the study

Signature _____ Date _____

APPENDIX A2

PARENT INFORMATION LETTER AND CONSENT FORM

September, 2006

Dear Parent or Guardian,

My name is Kent Cameron and I am in Special Education at the University of Alberta. I am writing to ask if your child can be in a study I am doing for my doctorate. I have made a program called the “calm carrel” for use with students. With this program, if a child feels upset in class, he or she can take a five minute session at a carrel in the classroom. There the child can choose to listen on a CD to relaxing music, narratives, or relaxation exercises; practice relaxation and problem-solving strategies; or rest quietly before returning to his or her desk. The children will use a record-keeping form to keep track of their use of the carrel. Each child is allowed up to three sessions at the calm carrel per day. The program gives students a chance to take greater responsibility for their behaviour in order to help them enjoy a successful school experience. Use of the calm carrel is voluntary. Students are not required to make up for the time they spend at the carrel, and they will not lose any points or tokens as a result of using the carrel.

Your child’s teacher will help me with my research from late September to late November of 2006. During this time, your child’s teacher will keep very basic behaviour records for those students in the class who have received parental permission, and will provide this information to me in a completely confidential manner. Your child’s name will *never* appear in any of my records and there will be no way that your child can ever be identified from the data I keep. After keeping basic records for the first month of my research, your child’s teacher will teach the students about using the calm carrel in late October. After this lesson, students will be able to use the calm carrel strategy until late November. The students will complete several simple surveys, which will be made anonymous before I read them, to help me find out what they think of the calm carrel and how it is helping them in class.

If you allow your child to take part in this research, you have the right to withdraw him or her from the study at any point without penalty. If you withdraw your child, you may request that information collected about him or her not be used in the study. Throughout the study and within my thesis, the identity of your child and his or her school will be kept completely confidential. All data collected about your child will be made anonymous by removing his or her name and other identifying information. The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education, Extension, and Augustana Research Ethics Board (EEA REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EEA REB at (780) 492-3751. If you have any

questions about the study, please contact me at 718-3406 (message box), or by e-mail at kcameron@ualberta.ca. My supervisor at the U. of A. is Dr. Jack Goldberg. He may be contacted at 492-3740. Thank you very much for considering my research. Please take the time to complete the following form and return it to your child's classroom teacher.

Yours Sincerely,

Kent Cameron

I, _____, have read the information letter regarding the calm carrel study to be conducted by Kent Cameron and:

_____offer my free and informed consent for my child,
_____, to participate in the study from late September to late
November, 2006

_____do not wish for my child, _____, to participate in the
study

Signature _____ Date _____

APPENDIX B

NOTES FROM INITIAL TEACHER MEETINGS (June, 2006)

Class 1 Teacher

1. The teacher estimates that there will probably be 9 students in her class next year (although this could change in the fall).
2. She said that she does not make a great deal of use of the time-out room as a classroom management technique.
3. She will not be using a structured approach to self-management or relaxation similar to the calm carrel during the fall of the coming year.
4. The teacher does have two standard-sized carrels in her classroom (one at the back and one near the front). However, she currently uses these carrels as part of a discipline procedure, whereby students who are off-track in class work at those carrels. She said that it may still work for me to use one of these for the calm carrel itself, but she was not sure about this (she said it depends very much on whether the new students she gets in the fall need one or both of those carrels to work at). She said she can let me know early in the fall whether I can use one of those carrels for purposes of the calm carrel intervention.

Class 2 and 4 Teachers

1. There is likely to be 10 students in each class next year. (An estimated total of 20.)
2. Both teachers do use the time-out room as a classroom management technique. Although the frequency of use varies, each teacher had already assigned one time-out on the day of our meeting (this was at 12:45pm, on a Friday).
3. Both teachers address anger management strategies with their classes early on in the school year, but they will not be implementing any type of structured self-management or relaxation program similar to the calm carrel intervention.
4. There is a standard-sized carrel in each teacher's classroom which can be used for purposes of setting up the calm carrel.

Class 3 Teacher¹

1. The teacher estimated there will likely be 8-10 students enrolled in her class in the fall.

¹ The teacher I met with in June (whose comments are summarized here) ended up taking a different teaching position in September, prior to the start of the study later that month. The incoming teacher was, nevertheless, interested in the calm carrel project, so this class of students did end up participating, as planned.

2. The teacher said that she does not use the time-out room very frequently as a behaviour management strategy. She also indicated that the students sometimes time themselves out.
3. She will not be using any type of structured approach to self-management or relaxation (other than the calm carrel) during the fall. She indicated definite interest in wanting to continue to use the calm carrel after the conclusion of the study (i.e. December onwards), “for continuity”.
4. There is a good, standard-sized carrel in the classroom already, which the teacher said will work fine for use as the calm carrel. It is situated at a suitable, quiet location at the back/side of the class.
5. I also spoke with the teacher aide in the classroom and went through the study information in detail with her as well.

Class 5 Teacher and Class 7 Teacher¹

1. The teachers estimated that there will be 7 students in each of their classes during the coming year. They will have one aide “floating” between the two classes (part-time in each). This sounds like a new arrangement. (The Class 5 teacher indicated he is hoping to get a student teacher to help out.)
2. Both teachers indicated that their use of the time-out room as a behaviour management technique varies depending upon the need. The Class 7 teacher, however, indicated that she uses her time-out room very frequently (usually). It sounded like the Class 5 teacher does not assign time-outs quite as often. He indicated something to the effect that he deals with difficulties as they arise and talks things out with the students. While the Class 7 teacher uses the time-out room as a behaviour management technique quite often, she also uses it for other reasons (e.g. for students to catch up on homework in a quiet place). She asked if these types of uses of the time-out room would need to be recorded on the data sheets for the study, and I said that they did not. *Note: I will reiterate this in the fall for all participating teachers: Only make note of time-outs when these are assigned as a punitive consequence as a result of misbehaviour of some type.*
3. The Class 7 teacher sometimes plays relaxing music in the background in her classroom, but (aside from this) does not plan to use any structured approach to self-management/relaxation while the calm carrel is in place. The Class 5 teacher does not use relaxation techniques of any type in his classroom.
4. There are two spare carrels in the school. These two carrels should work fine for purposes of setting up the calm carrel for each class. The Class 5 teacher’s room is fairly small, so he indicated that he would like to have the carrel placed just outside of his classroom door (still within his view

¹ There was a change to teaching assignments in September, and the Class 7 teacher referred to here did not end up participating in the study. Information regarding the initial meeting with her is included here, however, since she had signed on as a participant at the time these discussions took place.

though) (this should work fine). The Class 7 teacher has space within her classroom for the carrel. The Class 5 teacher does use a few carrels in his class already (as a place for students to work), but not in a way which would overlap or interfere with what is to be done in the calm carrel research.

Class 6 Teacher

1. The Class 6 teacher estimated there will be 9 students in his class next year (as it stands right now, although this could go up or down).
2. He uses the time-out room fairly frequently as a classroom management technique.
3. He will not be using a structured approach to self-management or relaxation (other than the calm carrel) during the period when the study is to be conducted. In the past, he did try something slightly similar to what is under study here, by allowing students to take a break from their in-class work if they presented him with a token. He found that some students were taking advantage of it (e.g. students who did not like certain classes were regularly presenting him with tokens, predictably, during each math class or each physical education class, in order to take time-out of these classes). He raised this as a possible concern with respect to the calm carrel (he is wanting to ensure that his students will not take advantage of the privilege of being able to excuse themselves from class). I reiterated that there will be limits in place such that students may take a maximum of 3, five-minute sessions at the carrel each day. I also mentioned that if, for any reason, he felt that a particular student was abusing the privilege of being able to take sessions at the calm carrel, or was predictably taking sessions everyday during a certain class (e.g. math or physical education), he could feel free to impose additional limits, as necessary, for the student(s) in question. (For example, if a student was fooling around at the carrel, or going to the carrel at an inappropriate time, he could tell the student that he/she could not use the carrel at that time.)
NOTE: I will reiterate this with all teachers in the fall, and will also indicate that teachers are NOT to withdraw the privilege of carrel use entirely for any given student, barring extremely inappropriate use of the carrel (e.g. destroying the equipment at the carrel). In other words, if a student is using the carrel inappropriately on a particular occasion or attempting to go to the carrel at an inappropriate time, the teacher can tell the student in question that he or she cannot use the carrel at that point. However, the teacher should NOT withdraw carrel use entirely, except in a particularly extreme case.
4. This teacher already has a standard-sized (3-walled) carrel in his classroom which can be used for purposes of setting up the calm carrel. He did mention being interested in ensuring that he'll be able to see what is going on at the carrel at all times. I indicated that we can definitely

ensure the carrel is placed in a location that is best suited to his being able to keep an eye on students when they are using the intervention.

Class 8 Teacher¹

1. The Class 8 teacher indicated that there should be exactly 10 students enrolled in her classroom next year.
2. She does not have plans to use any kind of structured self-management or relaxation program during the fall (aside from the calm carrel intervention). She indicated something to the effect that she does not have any particular system in place in her class and that she and the students just deal with issues as they arise (i.e. in a way that suits the particular incident).
3. The teacher indicated that she will check with the school custodian as to whether there is a carrel that could be used for purposes of setting up the calm carrel. A number of old desks and carrels were thrown out recently as they were not being used, but she said there may still be one around.
4. Note: She said that she leaves school at 2:11pm every day ('to keep my sanity'), but will make an exception for my in-person meetings, in order to meet after school in those cases.

Class 9 Teacher²

1. The teacher estimated that there may be 10 students in his class next year (this is his 'quota'). (He has 10 currently, and this is what is anticipated for next year as well.) All students will be in Grades 4-6.
2. His use of the time-out room as a classroom management technique varies considerably, he said.
3. The teacher does not plan to use any type of structured approach to self-management or relaxation while the study is on. He indicated he's planning to make some changes to improve the program during the summer.
4. He indicated that there is very likely a carrel somewhere in the school that can be used for purposes of setting up the calm carrel intervention.

¹ The Class 8 teacher e-mailed me in late August to indicate that she would be unable to participate in the study, due in part to staffing changes which would require her to be out of the room more often, and in part to the fact that she had "many kids with issues that are more than behaviour and using the carrel will not be conducive at all for them". However, the summary of the discussion with her which took place in June is included here as she had signed on as a participant at that time.

² By the third week of September, only 2 parents in this teacher's class had agreed to allow their children to participate in the study. The Class 9 teacher indicated it was unlikely any further consent forms would be returned. It was therefore decided that running the study in this class would not be appropriate under the circumstances. The summary of the discussion with the Class 9 teacher from the previous June has been included here, as he was a participant at that time.

APPENDIX C

BASIC TIMELINE FOR RESEARCH STUDY
(provided to teachers during preliminary meeting)

June—Initial visit to each school to meet with teachers and to provide teachers with parental information/consent letters

Early September—Teachers will send parental information/consent letters home for parent signatures (as soon as possible after school begins);

-Teachers are to please e-mail me (Kent) when all consent forms have been returned;

-Teachers are also asked to please e-mail me with a list of the first names of all students participating in the study, so that study materials can be prepared

Mid September—I will collect completed parental consent forms and provide all teachers with record-keeping forms (with students' names filled in) to be used during the baseline phase of the study. I will also provide a set of instructions to guide teachers in the record-keeping procedure.

Starting Monday, Sept. 25th—Teachers will keep daily time-out and rating scale records for each participating student for *20 full school days* (Note: If the school has a PD day or if the class has a field trip or a special event day out of the classroom, these days will not be counted towards the total 20-day baseline phase. It is important that baseline data be kept for a full 20 days of in-class instruction, so additional days may need to be added at the end of the 4-week period to make up for missed days due to field trips, etc.)

Near the conclusion of the 20-day baseline phase—I will visit each class for an *after-school* meeting with each teacher and aide to provide all materials and instructions for the use of the calm carrel intervention (this meeting will probably take 30-45 minutes). I will also provide each teacher with details on an instructional session they will deliver to their class before students begin to make use of the calm carrel itself.

After having collected 20 days' worth of data during the baseline phase—*Each teacher will deliver a single 45-60 minute training session to his/her students*, in order to familiarize the class with the calm carrel intervention and the rules for its use (this training session will be largely scripted and teachers will be provided with all necessary information when I meet with them near the end of the baseline phase).

As part of the training session—Each student will complete a short 'pre-intervention' self-management survey (teachers will distribute and collect this) discussing how they deal with frustration/anger/stress at this point.

Immediately following the training—Each student will complete a short ‘quiz’ designed to assess their understanding of the calm carrel intervention and the rules for its use (teachers will distribute and collect this).

The day after teachers deliver the training session to their students—The experimental phase of the study begins, as students are now able to make use of the calm carrel intervention (within the established parameters) for a period of 20 school days. During this period, teachers will continue to maintain the same daily time-out and rating scale records that were kept during the baseline phase of the study.

After 20 full days of calm carrel use (and record-keeping) has elapsed (including any ‘make-up’ days added to compensate for days or half-days missed due to field trips, P.D. days, etc.)

-Students will complete a ‘post-intervention’ self-management survey, addressing how they feel about the way they deal with frustration/anger/stress at this point (distributed and collected by teachers).

-Students will complete a questionnaire/opinion survey, providing their feedback on the value of the calm carrel intervention specifically (distributed and collected by teachers).

-Teachers will complete a questionnaire/opinion survey, providing their perspective on the calm carrel intervention, and will e-mail their completed survey to me.

-I will arrange to meet with each teacher and aide after school hours (for about 30 minutes) to debrief and to conduct a short, tape-recorded interview to follow-up on the teachers’ views about the calm carrel intervention. (This meeting will take place at teachers’ convenience within a week or two of the conclusion of the 20-day experimental phase of the study).

APPENDIX D1
 SAMPLE OF TEACHER RECORD-KEEPING CHART¹
Teacher Record-Keeping Chart (Baseline Phase—Days 1 to 5)

Student	Date:									
	Day 1 Rating /7	Day 1 Time- Outs	Day 2 Rating /7	Day 2 Time- Outs	Day 3 Rating /7	Day 3 Time- Outs	Day 4 Rating /7	Day 4 Time- Outs	Day 5 Rating /7	Day 5 Time- Outs
1										
2										
3										
4										
5										
6										
7										
8										

Time-Out Coding Key: For the Time-Out columns, please enter a:

1—for *each* time-out assigned to the student in question due to an ***inappropriate vocalization*** (e.g. calling names, swearing, interrupting, speaking rudely)

2—for *each* time-out assigned to the student in question due to a ***refusal to cooperate*** (e.g. not following instructions, refusing to complete assigned work or to participate appropriately)

3—for *each* time-out assigned to the student in question due to an instance of ***physical violence*** (e.g. throwing objects, damaging property, or assaulting/attempting to assault others)

4—for *each* time-out assigned to the student in question for ***another reason***, not addressed by this categorization scheme

¹ A record-keeping chart of this type was provided to teachers for each school week throughout the baseline phase and the experimental phase of the study.

APPENDIX D2

DESCRIPTORS FOR THE DAILY BEHAVIOURAL RATING SCALE

*Please assign each student a global behavioural rating out of 7 at the end of each school day, using the scale below. Please note the designations '0' and 'A' for special circumstances.

7- *An excellent day for this student.* The student had no behavioural difficulties, demonstrated a very positive attitude, and put a very good effort into his/her work.

6- *A very good day for this student.* The student had no notable behavioural difficulties at all, but may have been off-task/unfocused on occasion. He/she generally had a very good attitude. No time-outs were assigned.

5- *A good day for this student.* The student had very few behavioural difficulties (for which a time-out may or may not have been assigned), had a generally positive attitude, and put effort into his/her work most of the time.

4- *A fairly good day for this student.* The student had several small behavioural difficulties during the course of the day (for which a time-out may or may not have been assigned), AND/OR there were several times during the day when the student displayed a negative attitude or did not put adequate effort into his/her work.

3- *A below average day for this student.* The student had either: a) a number of small behavioural difficulties throughout the day, or b) a time-out assignment for a significant misbehaviour or series of smaller misbehaviours, AND/OR there were a number of times during the day when the student displayed a negative attitude or did not put adequate effort into his/her work.

2- *A generally unsatisfactory day for this student.* The student had two or more time-out assignments for significant misbehaviours, AND/OR his/her attitude was largely unsatisfactory, and he/she did not put sufficient effort into class work for large periods of the day.

1- *A poor day for this student.* The student received an in-school suspension (or a time-out or series of time-outs lasting for half the day, or longer) as a result of significant misbehaviour.

0- *The student received an out-of-school suspension today as a result of significant misbehaviour.*

A- *The student was absent from school today due either to a continuing out-of-school suspension (assigned on an earlier day), or for some other reason.*

APPENDIX D3

INSTRUCTIONS FOR THE TEACHER RECORD-KEEPING CHART

1. At the start of each school day, please mark in the date in the row marked “Date” on the corresponding record-keeping chart. Please note that only operational school days (on which students are present, *in class*) are to be recorded. It is important that there are exactly 20 school days for which baseline phase behavioural data are recorded and 20 school days for which experimental phase behavioural data are recorded. (For example, if Sept. 25th is Day 1 of the baseline phase and there is a PD day or a field trip on Sept. 26th, you would not record any behavioural data for Sept. 26th, and would instead list Sept. 27th as Day 2 of the baseline phase.)
2. Anytime that a student is assigned a time-out due to misbehaviour of any type, please use the Time-Out Coding Key (located at the bottom of each record-keeping chart), to make note of the time-out’s precipitating factor in the “Time-Outs” column for the particular student on the day in question. Please enter a separate number for *each* time-out that is assigned to a given student.

*Please note- -only record time-outs that are in some way related to the student’s *behaviour*. If you are having the student work in the time-out room simply as a quiet place to work, or because they forgot to do their homework (*outside* of school), please do not record this as a time-out for purposes of this study.

3. At the *end* of *each* school day, please take a few moments to assign each student in the class a global behavioural rating out of 7, using the “Descriptors for the Daily Behavioural Rating Scale” as a guide.

The following is an example of how to complete the chart, for two hypothetical students:

	Date: Sept. 25		Date: Sept. 26		Date: Sept. 27		Date: Sept. 28		Date: Sept. 29	
Student	Day 1 Rating /7	Day 1 Time- Outs	Day 2 Rating /7	Day 2 Time- Outs	Day 3 Rating /7	Day 3 Time- Outs	Day 4 Rating /7	Day 4 Time- Outs	Day 5 Rating /7	Day 5 Time- Outs
1 Lucy	6		4	2, 2	5	1	A		3	1, 2, 2
2 Dave	3	4, 1	2	1, 3, 1, 4	5		4	4, 4	5	2

APPENDIX E

LESSON: INTRODUCTION TO THE CALM CARREL STRATEGY

1. *Provide a brief overview of the lesson*, indicating to the students that you are going to talk about something (a strategy/technique) they can use to calm themselves down if they feel frustrated, upset, or angry in class.
2. *Discuss the concept of STRESS:*

-Explain that when we are upset or angry, certain things happen to our bodies:

--For example, our heartbeat may speed up, we may start to breathe faster or get a headache or feel like some of our muscles are getting tighter. These are *signals* that we are getting stressed out or upset. Everyone has different ‘signals’ of stress.

(Have the students think for a moment about what their particular signals of stress might be. Provide them with an opportunity to share, if they wish.)

-Explain that when our bodies send us these ‘stress signals’, it is up to us to do something positive to calm ourselves down, so that we don’t become too stressed out or upset and do something we might regret.

-Indicate that while we can’t *avoid* everything that might upset us or cause us stress, WE are *in control* of how we REACT to stressful situations.

-Provide an *analogy to weather*: When a storm is coming, we see signs/signals before it arrives (dark clouds, wind, cooler temperatures). Although we can’t actually *get rid* of the storm, there are several different things we can choose to do so that the storm does not bother us (for example, we can put on a raincoat or use an umbrella if we need to be outside, or we can stay inside). It is the same way with things that bother us in everyday life. While we can’t always necessarily get rid of what is actually causing the stress, we *can* change the way we *react* to what is causing the stress, so that it does not bother us or make us upset.

3. *Relate the concept of stress to students’ own experiences:*

Ask the students to “think of something that has made you upset or frustrated in class before.”

(Allow a few moments for students to think, and provide prompts as necessary.)

Ask the students “If something (or someone) upsets you or makes you angry in the classroom, what are some of the things that you usually do?”

(Give students a few moments to think about this and prompt, as necessary.)

You may choose to ask students to share (very briefly), if they wish to do so, and if you think illustrations would be helpful.

Ask the students for some examples of things that definitely would *not* be good ways of handling frustration or anger in the classroom.

(Allow a few moments for student input, providing examples as necessary [such as “pouting”, “yelling”, “fooling around”, “talking back”, “bothering someone else”].)

4. *Introduce the calm carrel strategy:*

-Explain that one positive thing that can sometimes help us if we are feeling frustrated or upset is to take a short break from what we are doing, to calm ourselves down.

-Indicate that the new strategy that you are going to talk about today is something that the students can use (starting on the *next* full school day in class) to help them stay calm in class.

-Tell the students that the strategy is called the “calm carrel”, and explain that it is a carrel at the back/side of the class that they can go to if they are frustrated, angry, having trouble concentrating, or just need a short break in class.

-Explain that the carrel has a CD player with earphones, and on the CD there are a number of relaxing songs they can listen to, some relaxation exercises for them to try, and some short ‘visualizations’ (which are like stories).

-Emphasize the fact that the students themselves can choose when they want to go to the calm carrel, because *they* are the ones who know best when it could be helpful for them. Indicate that sometimes you may *remind* them about the option of going to the calm carrel, but that it is always their choice if they want to go there or not.

-Explain that the only times when students cannot use the calm carrel are: if someone else is already there using it (or on their way to use it), if they are using it inappropriately (i.e. misbehaving while they are there), or if they are using it or asking to use it at an inappropriate time (for example, when the class is lining up to go somewhere, or when the students are in another part of the school).

-Indicate that each child can use the carrel up to 3 times in a given day and that they can stay at the carrel for 5 *minutes* each time they go there.

5. *Provide a rationale for the use of the calm carrel:*

-Discuss why the relaxing techniques at the carrel (music, relaxation exercises, and visualization stories) would be a good way for students to calm themselves down when they are feeling angry or stressed out:

-Remind the students that when we are upset or angry, our bodies feel differently than they usually do (the stress signals discussed previously) and that as long as our bodies continue to feel that way, it is hard for us to stop being upset or angry.

--Explain that if we can do something to relax our bodies, this will also help our minds to feel a lot calmer, and that it is impossible to be angry and upset in our minds when our bodies are completely relaxed.

6. *Discuss the types of relaxing techniques that are available to students at the calm carrel:*

a) *Music*

-Tell the students that calm instrumental music often helps people to relax, and this is why it is included on the CD at the calm carrel.

b) *Relaxation Exercises*

-Explain that relaxation exercises (tape-recorded instructions to help the body relax) can also be a useful way to calm down when feeling upset...

-Indicate that the relaxation exercises included on the CD at the calm carrel give a series of instructions to help the students *tighten* and *relax* different muscles in their bodies...Discuss the fact that by *tightening* and *relaxing* our muscles we can learn to feel the difference between how our body feels when we are upset or frustrated and how our body feels when we are calm and relaxed. By knowing what this difference feels like, we can relax our bodies much more easily.

Take the students through a brief tense-and-release exercise to illustrate this point:

--Ask the students to make both of their hands into tight fists. (Please demonstrate yourself, throughout this exercise.) Instruct them to hold these fists for about 10 seconds, as tightly as they possibly can. Then have the students relax their hands completely, letting their hands go limp and loose at their sides. After a few seconds, draw their attention to the difference between the feelings of real tension and complete relaxation, and reiterate that tightening our muscles and then relaxing them, helps us to feel more relaxed.

c) Visualization Stories

-Explain that sometimes it can help us to calm down if we imagine a relaxing scene or situation, picturing it in our minds. By thinking about what it would be like to be in that calm situation, we are able to feel as if we are really there.

-Indicate that, for example, they may picture taking a relaxing walk on a warm summer day, or travelling to a favourite place.

-Tell them that there are some stories on the CD which will help them to imagine these types of relaxing situations.

7. Deep Breathing as an additional strategy:

-Tell the students that if someone else is using the carrel when they want to go there, another strategy that they can try right from their desks is that of *deep breathing*.

-Explain that when we are frustrated, angry, or upset one of the most common body signals of stress is that our breathing speeds up and we breathe from the *wrong place* in our bodies. By slowing down our breathing and breathing from the right part of our bodies we can often calm ourselves down and feel much better very quickly. When you breathe deeply, it is best to breathe *in through your nose and out through your mouth*.

-Ask the students to take a few moments to concentrate on their breathing. Ask them to put one hand on the area of their stomach near the belly button and their other hand higher up, on their chest area (*demonstrate this as well*). Tell them that when they are breathing deeply, the hand near the belly button should be rising up and down more than the other hand. Also mention that 'shallow breathing' is the opposite of deep breathing and when they are breathing shallowly, the hand that is on the chest will be rising up and down about as much as the hand near the belly button.

-Provide the students with a minute to determine whether they are doing deep breathing or shallow breathing, and to try to work on breathing deeply (in through the nose and out through the mouth, while placing one hand on the stomach area to ensure that it is rising and falling as they breathe in and out).

-Tell the students that they can practice deep breathing at any time, when they are feeling upset or frustrated, whether or not they are at the calm carrel. Also remind them that deep breathing does not need to only apply to the school/classroom setting either.

8. *Discuss the procedure for using the calm carrel:*

-Tell the students that before they go to the calm carrel, they are to always pick up their 'calm carrel duotang' (located in the storage rack).

(Show the students where the coloured calm carrel duotangs will be stored, with their names on them.)

-Tell the students that inside their duotang, they will find a number of record sheets, to keep track of their use of the carrel.

(Put a sheet on the overhead to show the students what the record sheets look like and point to it when describing how to fill it out...or, if there is no overhead available, please pass out the students' duotangs so they can look at the form as you describe the procedure.)

-Indicate that each time they go to the carrel, the students are to take a sticker with the date on it (which will be placed at the carrel each day), and place it in their chart (in the 'Date' column).

-There will be a 'menu' of songs, relaxation exercises, and visualization stories that they can choose from on the CDs, posted at the carrel itself.

-Then, after listening to a track on the CD, they are to circle the number of that track on their chart, to show what they listened to (if they listen to more than one track during their five minutes at the carrel, they are to circle the numbers of all of the tracks that they listen to...they can do this *as* they listen, or after they listen to each track) (you can explain that this is important, so that you know which tracks are being listened to most to help the students relax). *(Please demonstrate how students are to complete the form, using the transparency copy, on the overhead.)*

-Tell the students that once they get to the calm carrel and put the sticker with the date on their chart (*they only need to do this the first time they go to the carrel each day*), they are to *always* put on the earphones and start the 5-minute countdown timer (by pressing the button one time if the timer shows 05:00) *as soon as they sit down* (even if they are not going to listen to anything on the CD player). (Also mention that sometimes the 'Start' button may need to be reset to 05:00 (if the student before did not do it), by pressing it once or twice, before pressing it again to start.)

-Tell the students that when the 5-minute countdown timer sounds, they are to press the button on the timer *two* times, and press the 'stop' button on the CD player once; they are then to return their duotang to the storage rack and quietly go back to their desk.

-Explain to the students that one *optional* strategy that they may find helpful during their 5 minutes at the calm carrel is to complete a 'Problem-Solving Form' (show them that there will be a number of these inside each duotang (along with

the record-keeping forms). (While the record-keeping form *needs* to be filled out each time they go to the carrel, the problem-solving form is optional.)

-Please briefly read over the problem-solving form aloud with the students (an overhead will be provided and there are also copies in the students' duotangs), so that they are aware of what it involves (including putting a date sticker on each form they use. Emphasize that although they do *not* need to fill out this form, it may be helpful to them as they think through why they went to the carrel and what they need to do when they return to their desk.

-Please go over the Rules for using the Calm Carrel (also to be included, in a simplified form, on a poster at the carrel itself) with the students:

1. Each student can go to the calm carrel up to *three* times in a single day.
2. Before you go to the calm carrel, *always* pick up your calm carrel duotang from the storage rack.
3. When you go to the calm carrel, *always* put on the earphones and start the 5-minute countdown timer *as soon as you sit down* (even if you're not listening to anything on the CD player).
4. Also when you get to the calm carrel, open your calm carrel duotang and put a sticker with today's date in the chart, to show what day it is.
5. After you listen to a track on the CD, circle the number for that track on your chart, across from where it says whether this is the 1st, 2nd, or 3rd time you used the carrel this day.
6. When the 5-minute countdown timer beeps, press the stop button on the timer *two* times and press the stop button on the CD player *once*.
7. Return your calm carrel duotang to the storage rack and quietly go back to your seat.

-As soon as the above lesson is completed, please distribute and administer the short 'Post-Training Calm Carrel Quiz' to the students (please read each of the questions aloud (explaining as needed), and allow sufficient time for the students to complete their answers). Please collect the completed quizzes and store them in the envelope marked 'Post-Training Calm Carrel Quiz'. You do not need to mark the quizzes.

-As soon as you have finished administering and collecting the 'Post-Training Calm Carrel Quiz', please distribute and administer the short 'My Behaviour' quiz (there are three short answer questions and two multiple choice questions). Again, please read each of the questions aloud (explaining as needed), and allow sufficient time for the students to complete their answers. Please collect the completed quizzes and store them in the envelope marked 'My Behaviour Pre-Intervention Quiz'. You do not need to mark the quizzes.

*Since the students will not actually be using the calm carrel until the next full school day in class, I'd ask that you please briefly review the procedure with them (i.e. the 7 steps discussed just above) once more then, so that the process is fresh in their minds. Thank you.

APPENDIX F1

BLANK POST-TRAINING CALM CARREL SESSION QUIZ

Name: _____ Date: _____

1. Imagine that it is Thursday, November 3rd and you are filling out your record-keeping sheet in the calm carrel duotang. Pretend that you have used the calm carrel three times that day. The first time, you listened to tracks 3, 5, and 7 on the CD. The second time, you listened to only track 15 on the CD. The third time, you listened to tracks 2, 7, and 17 on the CD. Please show how you would complete the record-keeping sheet for these three times that you used the carrel.

Please put a date sticker below		<u>Instructions:</u> Please circle the numbers of <i>all</i> of the tracks that you listened to at the calm carrel each time. If you did not listen to anything this time, please circle the word "Nothing" instead.
	1st Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	2nd Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	3rd Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing

2. How many times can you use the calm carrel each day?
- a) 4
b) 3
c) 5
d) as many as I want
3. Please put the steps for using the calm carrel in order by putting a number in front of each one (1 for the first step, 2 for the 2nd, etc.):
- ____ Circle the numbers of any CD tracks that I listened to at the carrel.
- ____ Pick up my calm carrel duotang, and walk over to the carrel.
- ____ Take my calm carrel duotang back.
- ____ Take off the headphones when the timer rings.
- ____ Put a sticker with today's date in my duotang, and put on the headphones and start the timer.

4. Please fill in the blank in the following sentence (with one or more words):

I can use the calm carrel when I am feeling_____

_____.

5. If I want to go to the calm carrel but another student is there, one other thing that my teacher told me I can do to help me relax is:

_____.

6. Which one of the following steps is *optional*? (Please circle the letter for that step.)

- a) putting a sticker with the date in my calm carrel duotang and circling the numbers of any tracks I listen to
- b) turning on the timer each time before I start to use the calm carrel
- c) filling out a problem solving form in the duotang each time I use the calm carrel
- d) putting on the headphones each time I use the calm carrel

APPENDIX F2

BLANK PRE-INTERVENTION AND POST-INTERVENTION 'MY
BEHAVIOUR' SURVEY

Name: _____

Date: _____

My Behaviour

1. What types of things make you feel upset or angry at school? (Please give a few examples)

2. Please describe what your behaviour is like when you feel upset or angry at school.

3. What do you do to help yourself feel better when you are upset or angry at school?

4. How happy are you with the way you handle frustration/anger at school?
(Please circle ONE choice)

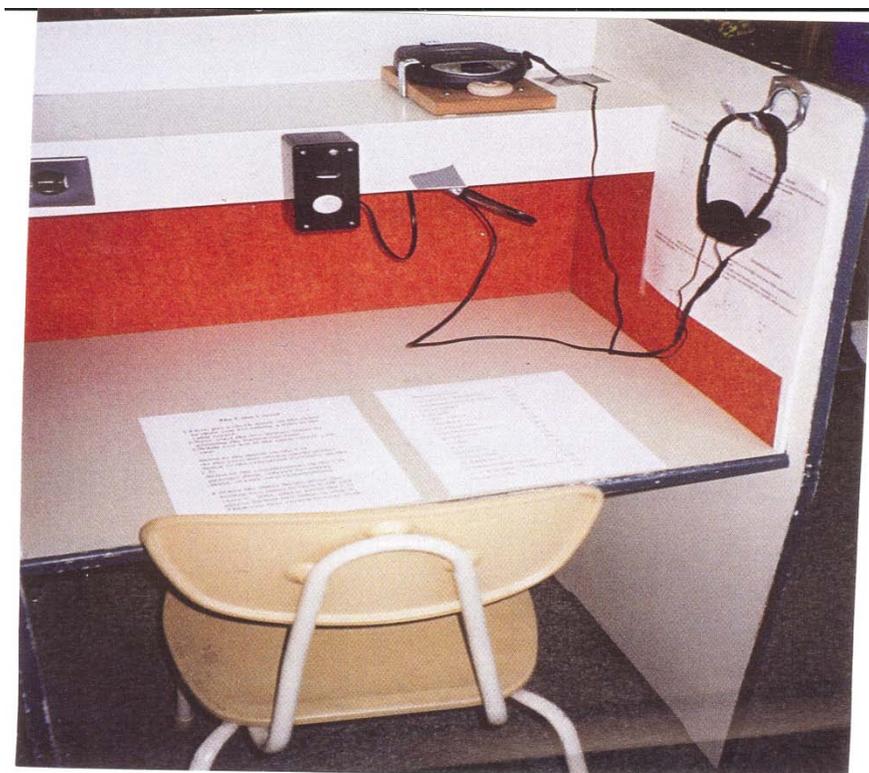
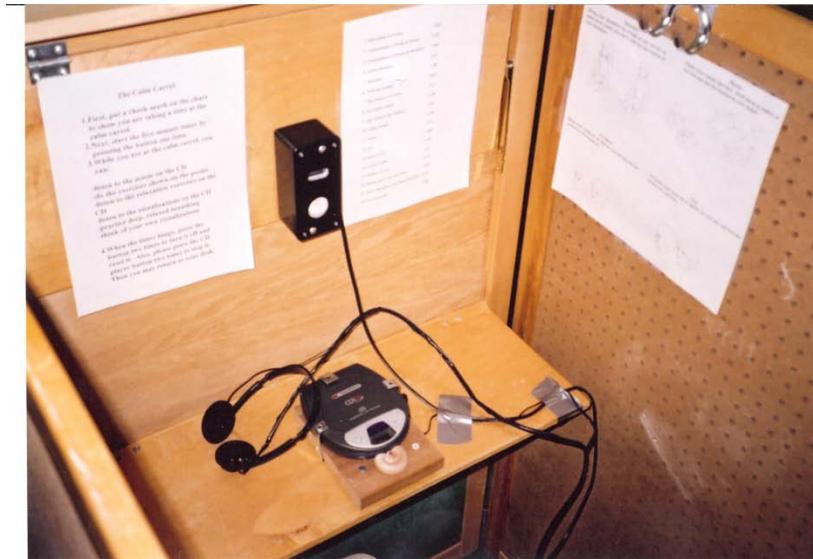
- a) *Very happy.* I do a really good job of keeping myself calm and not losing my temper or getting too stressed out.
- b) *Fairly happy.* Most of the time I do a good job of staying calm and I don't lose my temper or get too stressed out very often.
- c) *Not too happy.* It is hard for me to stay calm when I get frustrated or angry. I lose my temper and/or get stressed out too often.
- d) *Not happy at all.* I have a lot of difficulty staying calm when I get frustrated or angry. I lose my temper quickly and get stressed out very often.

5. How happy do you think your teacher is with your *overall* behaviour at school?
(Please circle ONE choice)

- a) *Very happy.* I think that my teacher feels that I am very well-behaved at school almost all of the time.
- b) *Fairly happy.* I think that my teacher feels that I am quite well-behaved at school, most of the time, but that I have some difficulty once in a while.
- c) *Not too happy.* I think that my teacher feels that I am not usually well-behaved at school, and that I need to make quite a bit of improvement.
- d) *Not happy at all.* I think that my teacher is unhappy with the way I behave at school most of the time, and thinks that I need to make a lot of improvement.

APPENDIX G1

PHOTOS OF THE CALM CARREL



APPENDIX G2

CALM CARREL CD TRACK LISTINGS
(as posted at the carrel)Calm Carrel CD #1 Listening Menu

1. “Kalena Kai” (**MUSIC**) (4:12)
2. “Tea House Moon” (**MUSIC**) (2:38)
3. “Solace” (**MUSIC**) (3:41)
4. “Lastly Tender” (**MUSIC**) (2:37)
5. “Joy” (**MUSIC**) (3:05)
6. “**VISUALIZATION** STORY: Relaxing Place” (5:01)
7. “Coyita” (**MUSIC**) (3:19)
8. “**RELAXATION EXERCISES**” (5:00)
9. “Spirit of E9” (**MUSIC**) (4:59)
10. “If You Believe” (**MUSIC**) (2:55)
11. “**VISUALIZATION** STORY: A Walk in the Forest” (5:00)
12. “Virtue” (**MUSIC**) (4:03)
13. “Grandpa’s Lullaby” (**MUSIC**) (2:42)
14. “Wind in the Willows” (**MUSIC**) (3:07)
15. “Mariachi” (**MUSIC**) (1:48)
16. “**VISUALIZATION** STORY: A Walk on the Beach” (4:55)
17. “With an Orchid” (**MUSIC**) (5:03)
18. “**RELAXATION EXERCISES: Hands and Arms**” (5:00)

Calm Carrel CD #2 Listening Menu

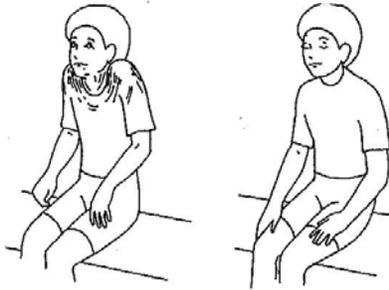
1. “To B or Not to B” (**MUSIC**) (3:27)
2. “After Hours” (**MUSIC**) (3:32)
3. “Spirit” (**MUSIC**) (4:59)
4. “Ginger Lei” (**MUSIC**) (4:36)
5. “The Memory of Trees” (**MUSIC**) (4:11)
6. “**VISUALIZATION STORY: Flying with an Eagle**” (5:01)
7. “Flat Pick #8” (**MUSIC**) (2:51)
8. “**RELAXATION EXERCISES**” (5:02)
9. “Sandman” (**MUSIC**) (2:49)
10. “Um Tom” (**MUSIC**) (2:24)
11. “**VISUALIZATION STORY: Boat Ride**” (5:00)
12. “Ookpik Waltz” (**MUSIC**) (4:43)
13. “Signe” (**MUSIC**) (2:06)
14. “**RELAXATION EXERCISES: Neck, Shoulders, Back**” (2:55)
15. “Spinning Wheel” (**MUSIC**) (3:21)
16. “**VISUALIZATION STORY: In the Woods**” (4:54)
17. “Rolling Waves” (**MUSIC**) (with wave sounds) (6:25)
18. “**RELAXATION EXERCISES: Face**” (3:58)

APPENDIX G3

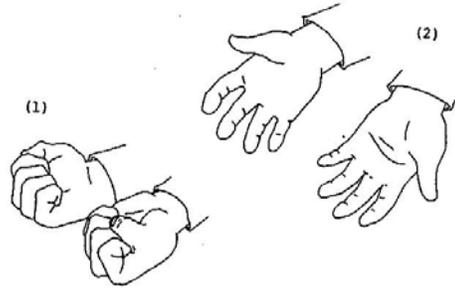
ILLUSTRATIONS POSTED AT THE CALM CARREL

Shoulders

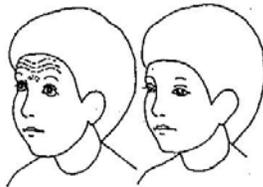
-Bring your shoulders up as high as you can (try to make them touch your ears), and feel the tension in your shoulders.

**Hands**

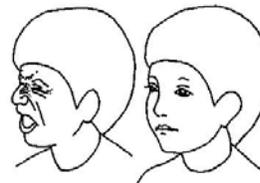
-Make your hands into fists. Hold them as tightly as you can and feel the tension in your hands.

**Forehead**

-Raise your eyebrows as high as you can and feel the tension in your forehead.

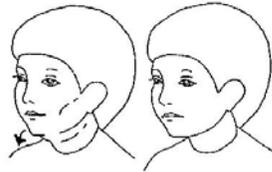
**Nose**

-Scrunch your nose up as tightly as you can and feel the tension in your face.

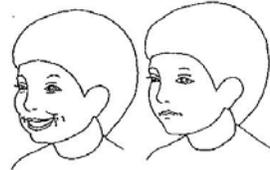


Neck

-Bring your chin down to your chest and feel the tension in your neck muscles.

**Mouth**

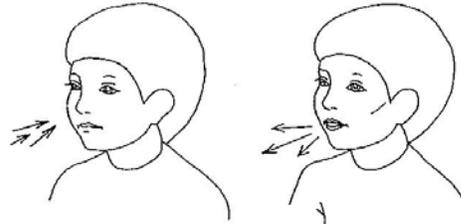
-Bite your teeth together as tightly as you can and feel the tension in your jaw muscles.

**Back Muscles**

-Bring your elbows back as far as you can and feel the tension in your back.

**Breathing Reminder**

1. Breathe in through your nose while counting to 6 slowly.
2. Hold your breath while counting to 4.
3. Breathe out through your mouth while counting to 6 slowly.



APPENDIX G4

INSTRUCTIONS POSTED AT THE CALM CARREL FOR STUDENTS

The Calm Carrel

- 1. Pick up your duotang from the storage rack.**
- 2. Start the five-minute timer by pressing the button *one* time.**
- 3. Put on the headphones (even if you are not listening to the CD).**
- 4. Put a sticker with today's date in your duotang.**
- 5. Choose something that you would like to listen to on the CD. You can look at the sheet called "*Listening Menu*", to choose a track number that sounds good.**
- 6. After you have listened to a track or part of a track, circle the track number that you listened to, on your chart.**
- 7. If you like, you may want to fill out a problem-solving form in your duotang.**
- 8. When the timer beeps, press the button on the timer *two* times and the stop button on the CD player *once*, and return your duotang.**

APPENDIX G5

DETAILED TRACK LISTING OF SONGS INCLUDED ON CALM CARREL
CDs**Disc 1**

1. Keola Beamer, “Kalena Kai” (from *Wooden Boat*, 1994)
2. Enya, “Tea House Moon” (from *The Memory of Trees*, 1995)
3. Marvin Hamlisch, “Solace” (from *Original Motion Picture Soundtrack: “The Sting” Featuring the Music of Scott Joplin*, 1974)
4. Harry Manx with Kevin Breit, “Lastly Tender” (from *Jubilee*, 2003)
5. George Winston, “Joy” (from *December*, 1982)
6. Visualization Story: “Relaxing Place”
7. Gustavo Santaolalla, “Coyita” (from *Ronroco*, 1998)
8. Relaxation Exercises
9. Willie Nelson, “Spirit of E9” (from *Spirit*, 1996)
10. Jim Brickman, “If You Believe” (from *If You Believe*, 1999)
11. Visualization Story: “A Walk in the Forest”
12. Jesse Cook, “Virtue” (from *Free Fall*, 2000)
13. Pat Kirtley, “Grandpa’s Lullaby” (from *Guitar Fingerstyle*, 1996)
14. Phil Coulter, “The Wind in the Willows” (from *Classic Tranquility*, 1983)
15. Willie Nelson, “Mariachi” (from *Spirit*, 1996)
16. Visualization Story: “A Walk on the Beach”
17. Yanni, “With an Orchid” (from *If I Could Tell You*, 2000)
18. Relaxation Exercises: Hands and Arms

Disc 2

1. Muriel Anderson, “To B or Not To B” (from *Arioso from Paris*, 1991)
2. Seth Farber, “After Hours” (from *Late One Night*, 1995)
3. Uman, “Spirit” (from *Conversations with God*, 1997)
4. Bob Brozman and Ledward Kaapana, “Lei `Awapuhi (Yellow Ginger Lei)” (from *Kika Kila Meets Ki Ho`Alu*, 1997)
5. Enya, “The Memory of Trees” (from *The Memory of Trees*, 1995)
6. Visualization Story: Flying with an Eagle
7. Larry Sparks, “Danny Boy” (from *Blue Mountain Memories*, 1996)
8. Relaxation Exercises
9. George Winston, “Sandman” (from *All the Seasons of George Winston: Piano Solos*, 1998)
10. Caetano Veloso, “Um Tom” (from *Livro*, 1999)
11. Visualization Story: “Boat Ride”
12. Altan, “Ookpik Waltz” (from *Another Sky*, 2000)
13. Eric Clapton, “Signe” (from *Unplugged*, 1992)
14. Relaxation Exercises: “Neck, Shoulders, Back”
15. Phil Coulter, “Spinning Wheel” (from *Classic Tranquility*, 1983)
16. Visualization Story: “In The Woods”
17. Michael Maxwell and Dan Gibson, “Rolling Waves” (from *Solitudes: Soothing Massage*, 2002)
18. Relaxation Exercises: Face

APPENDIX G6

TRANSCRIPTS OF RELAXATION EXERCISES AND VISUALIZATION
NARRATIVES¹**From Calm Carrel CD #1****1. Track 6: Visualization Story: “Relaxing Place”**

Let yourself feel as comfortable as possible. Keep your feet flat on the floor and your hands resting comfortably. Now, gently close your eyes and let yourself settle into a position that is comfortable. Let your body become more and more quiet and relaxed. Try to stay as still as you possibly can. Try not to move at all. Let your breathing be calm and even. Breathe slowly in through your nose, hold it, and breathe out through your mouth. Let yourself feel more and more comfortably relaxed. Now, ask yourself, ‘What place is most relaxing to me at the moment?’ Try to picture this place. Imagine it in your mind. You might want to picture a quiet beach, a grassy field, a cool mountaintop, or a peaceful pond. Imagine whatever place is most relaxing to you. Quietly think about this place. Let it become as real as possible. How does it look? Can you see the sky? Can you feel the wind against your skin? Can you smell the gentle, cool air? Can you feel the warm sunlight, or perhaps the cool night air? Use all of your senses. What do you see? What do you hear? What is touching your skin? Can you taste or feel anything? Relax and enjoy your scene...It is now time to return to your desk. You are feeling much calmer and more relaxed after your imaginary scene.

¹ The relaxation exercise and visualization narrative transcripts appearing in this appendix are based upon a combination of ideas and scripts drawn from Carter and Cheesman (1988), Cautela and Groden (1978), Hiebert (1993), Humphrey (1988), Jackson and Owens (1999), Loosmore (1994), Lusk (1992), Madders (1987), Neidhardt, Conry, and Weinstein (1982), Payne (2000), and Walker (2001).

2. Track 8: Relaxation Exercises

Close your eyes and begin to feel as relaxed as possible. Take in a deep breath and bring your shoulders up towards your ears. Hold them there, feeling the tension in your shoulder muscles. Hold it, and relax, letting your shoulders drop back down. Now take another deep breath, in through your nose, hold it, and then breathe out through your mouth. Now, bring your chin down towards your chest. Hold your chin on your chest, and feel the tension in your neck and chin muscles. Hold it, and relax, bringing your chin back up, and feeling the difference between the tension and the relaxation. Now, hold both of your arms out in front of you. Make both hands into fists, while holding your arms straight out in front of you. Hold your hands in fist positions, feeling the tension in your hand and finger muscles. Hold it, and now relax. Open your hands and feel the relaxation in these muscles. Now, keeping both of your heels flat on the floor, point your toes as high as you can towards the ceiling. Keep your heels on the floor, and point your toes up towards the ceiling. Hold it, feeling the tension in your feet muscles. And now relax, bringing your toes back to the ground, feeling the difference between the tension and the relaxation. Now, shut your eyes as tightly as you can. Hold them shut and feel the tension in your eye and forehead muscles. Hold it, and now relax, letting your eyes open, and feeling the difference between the tension and the relaxation. Now, bite your teeth together as tightly as you can. Hold them together tightly, feeling the tension in your jaw and cheek muscles. Hold it, and relax, letting your jaws come apart, and feeling the difference between the

tension and the relaxation in your jaw muscles. Take another deep breath, slowly in through your nose, hold it, and then slowly breathe out through your mouth.

You are now ready to return to your desk, feeling calm and relaxed.

3. Track 11: Visualization Story: “A Walk in the Forest”

Imagine you are walking through a forest. Notice the path you are walking on. Feel what it is like. Hear the sounds as you take each step, one by one. Notice the sun, shining down on you. Feel how warm it is. As you walk, you see a small creek or a river on one side. Walk towards it. Hear the sounds the water makes. See the water as you walk towards it. Standing beside the creek, you take off your shoes and step into the water. Feel how cool it is on your feet. Sink your feet and toes into the sand at the bottom of the creek. Look at the water. See the sparkles and the reflections. Watch the water as it passes by. Looking up, you see the trees and the leaves blowing in the breeze. Pick out one tree and look at it. Notice its size. See its branches and leaves. Look up above it to the sky, a beautiful blue colour, with few clouds. Enjoy the sun shining down. Now, step out of the creek. Put your shoes back on and walk back down the path through the forest. You notice a bend in the pathway up ahead. You see the path is beginning to climb. As you continue to climb up the path, you feel yourself slowing down. As you slow down, you feel yourself relaxing even more. As you go deeper and deeper along the pathway, slowly climbing through the forest, you are slowing down and becoming more and more relaxed. You feel calm. It is such a warm, relaxing day, and you have been enjoying your walk through the

forest. Soon it will be time to return to your desk, but you are feeling much calmer and more relaxed after your imaginary walk.

4. Track 16: Visualization Story: “A Walk on the Beach”

Make yourself as comfortable as possible. Close your eyes if you like. Imagine you are walking along a beach. It is a bright summer day, late in the afternoon. The sun is shining warmly. The sky is clear, without a cloud in sight. The sand under your feet feels warm in the sunlight. The sounds of the waves beating against the shore echo in the air. You feel the warm, light breeze brush against your face as you walk. Far away, you can hear the cries of seagulls. You watch them glide through the sky. As you walk further along the shore, you decide to rest. You sit down in a pile of pure, white sand, and gaze out at the sea, watching the waves rolling into shore. Each wave breaks against the coast, rises up on the beach, and slowly goes back out to sea. With each motion of the wave, as it glides in and as it glides out, you find yourself feeling more and more relaxed, more and more calm. The waves are gliding in. The waves are gliding out. You feel more and more calm. Continue to watch the waves glide in and out. Now, as you stare off into the distance, you see that the sun is beginning to sink into the horizon. The sun is sinking down, and you feel more and more relaxed as you see it going down, down, down. The sky is turning brilliant colours of red, orange, yellow, green, blue, and purple. As the sun sets, sinking down into the horizon, you feel very relaxed and calm. You watch the sun as it sinks down, down, down. The beating of the waves, the smell and taste of the sea, the cries of the gulls, the warmth of the sun, leaves you feeling very soothed, very calm and relaxed. In a

few moments it will be time to return to your desk. You are feeling completely refreshed and totally relaxed.

5. Track 18: Relaxation Exercises: “Hands and Arms”

For the first hand exercise, hold your right arm straight out in front of you and make a tight fist. Hold it tighter and tighter. One, two, three, four, five. And relax. Drop your hand to your lap. This time, hold your left arm out in front of you and make a tight fist. Hold it. One, two, three, four, five. And relax. Let your arm and hand relax completely, resting on your lap. Now, hold your right arm out in front of you. Bend your right hand at the wrist, and point your fingers up to the ceiling. Hold it. One, two, three, four, five. And relax, letting your hand relax completely. Now, hold your left arm out in front of you. Bend your left hand at the wrist, and point your fingers up towards the ceiling. Hold the tension in your left hand. One, two, three, four, five. And relax, letting the muscles in your hand and arm go completely limp. Feel the difference between the tension and the relaxation. Now, bring your left hand up towards your left shoulder. Make a fist. Hold it with your fist at your left shoulder. One, two, three, four, five. And relax. Let your hand return to your lap, and your arm relax completely. Next, bring your right hand up towards your right shoulder and make a fist. Hold it. One, two, three, four, five. And relax, letting your right hand return to your lap, and your arm muscles relax completely. You are now ready to return to your desk.

From Calm Carrel CD #2

1. Track 6: Visualization Story: “Flying with an Eagle”

Imagine you are walking through a forest. You see a tall oak tree. Perched on one of the branches is a large bird. It is a bald eagle. She sees you and flies down. She lands on a branch beside you. She asks you if you'd like to go for a ride on her back. She tells you to close your eyes and count to three. One, two, three. You open your eyes and notice that you have shrunk smaller and smaller, and you are now the size of a baby eagle. The mother eagle tells you to climb onto her back. You do, and then she slowly flies into the air. Soon, you are soaring above the trees as she gracefully flies through the sky above the forest. As you are flying, look down and see the meadow with the little wildflowers. See the rowboat at the shore of the lake. Slowly and smoothly, the mother eagle carries you higher and higher into the sky. You feel the wind on your skin. It's wonderful to be flying in the air, free as the eagle, looking down. You can even see where you live down below. You keep on flying in great big circles, this way and that way, back and forth. You can see the tiny cars and tiny people far below as you get higher and higher in the air on the eagle's back. The eagle soars, and then gently glides without moving her wings. She lets the wind carry both of you for a moment. It feels very relaxing to be gliding on the wind. Finally, the eagle begins to go down, back towards the forest. The tops of the trees get closer and closer. She finds her tree, and slowly comes to land on the branch closest to the nest. She asks you to carefully climb off her back and onto the branch. Then she asks you to close your eyes and count backwards from three to one. Three, two,

one. You are now your normal size again, feeling calm, relaxed, and ready to go back to work.

2. Track 8: Relaxation Exercises

Make yourself as comfortable as possible. I'd like you to make your right hand into a fist. Hold it, and relax, letting your hand go loose and limp. Now, make your left hand into a fist. Hold it, feeling the tension, and relax, letting your hand go loose and limp. Now, try to bring your shoulders all the way up to your ears. Hold it, feeling the tension in your shoulders and at the bottom of your neck. Now relax, letting your shoulders drop down, and go loose and limp. Now, try to bring your eyebrows as high as you can on your forehead. Raise your eyebrows to the top of your head, and hold it, feeling the tension. Now relax, letting your eyebrows drop down. Now, close your eyes as tightly as you can. Hold it, feeling the tension in your eye muscles. And relax, letting your eyes open, and feel relaxed. Now, bring your chin down to your chest. Hold it, feeling the tension in your neck muscles. And relax, bringing your neck back to a straight position. Feel the difference between the tension and relaxation in your neck muscles. Now, bite your teeth together as tightly as you can. Hold it, feeling the tension in your jaw muscles. And relax, bringing your teeth apart. Feel the difference between the tension and the relaxation. Now, keeping your heels on the ground, point your toes up towards your face. Hold it, feeling the tension in your feet muscles. And relax, letting your feet come back to the ground, and your toes feel loose and limp. Now it is time to return to your desk. You are feeling calmer and more relaxed in your body's muscles. You're ready to continue with your work.

3. Track 11: Visualization Story: “Boat Ride”

Make yourself as comfortable as possible. Take deep breaths, in slowly through your nose, hold it, and then breathe out slowly through your mouth. Feel yourself sinking deeper and deeper into the chair. You're starting to feel very comfortable and relaxed. Imagine you're going to take a ride in a boat on the ocean. As you walk towards your boat, the sun feels very warm as it shines brightly in the sky. The sand feels warm and soft under your toes. As you get closer to the water, you can smell the fresh, salty sea air. You can hear the waves of the ocean as they hit the beach. The water is closer now, and the sand begins to get a little cooler. The sun is shining on you and you feel good. You wait for a few moments, to feel the sun and the sand under your feet. You are now at the edge of the water, and you get into your boat. Your boat feels very comfortable and safe. The air is warm and the water is cool. You are slowly floating away from the shore on your boat, and you are feeling very relaxed. There are seagulls in the sky, and you watch them fly by over you. The water is warm now, and you feel it with your hands and legs. As the waves pass under you, the boat moves slowly up and slowly back down. You move with the boat, up and down, up and down, very slowly. You feel as if you are being rocked to sleep, as the water pushes you up and down, up and down. You're feeling very relaxed and comfortable. Now the waves are pulling you back into the beach. For a few more seconds you can ride on your boat without having to touch the sand. Feel the warm sun. Now the boat touches the sand, and you get out and move around again. You feel calm and

relaxed after your boat ride, and you are now ready to return to your desk feeling calm and relaxed.

4. Track 14: Relaxation Exercises: “Neck, Shoulders, Back”

For your neck, bring your chin down towards your chest. Hold your chin against your chest and feel the tension in your neck. One, two, three, four, five. Bring your chin back up, so that your neck is straight. Feel the difference between the tension and the relaxation in your neck muscles. For your shoulders, bring your shoulders as high as you can towards your ears. Hold your shoulders up near your ears. One, two, three, four, five. And relax, bringing your shoulders back down. Notice how they feel loose and limp, and how the tension has left them. For your back, bring your elbows as far as you can back towards the chair. Hold your elbows back. Feel the tension in your back muscles as you hold your elbows. One, two, three, four, five. And relax, bringing your elbows forward, and feeling the tension leave your back muscles. Feel the relaxation in your back.

5. Track 16: Visualization Story: “In the Woods”

Try to make yourself as comfortable as possible. Imagine that you are in a beautiful forest. It is a warm, autumn day. The sun shines down on a gurgling stream that runs along the edge of the forest. You walk into the forest, over the crackling red and golden leaves and broken twigs. Pine cones are scattered across the ground. A squirrel runs up a tree. You watch the speed with which it moves, swiftly up and through the branches, until you can't see it anymore. It's very peaceful here in the forest. You see many flowers and soft green moss on the edge of the path. As you walk deeper into the forest, you feel more and more

relaxed; more and more calm. You watch a leaf falling from a tree, as it dances and twirls in the air, before fluttering slowly down to rest with the others. You pause for awhile, and rest against an old oak tree. You can feel the rough bark of the tree against your fingertips, and can smell the ground and soft leaves scattered around it. Even as you're resting here against the rough bark of the tree, you feel a deep sense of relaxation in this calm forest. Feeling more and more relaxed as you lean against the tree, you take deep breaths, in slowly through your nose, holding it, and then breathing out through your mouth. After resting against the tree, you continue with your walk. You hear birds chirping in the trees. You're feeling calmer and calmer, more and more relaxed, as you come to the other end of the forest. Now, you'll be ready to return to your desk, feeling calm and relaxed after your forest walk.

6. Track 18: Relaxation Exercises: "Face"

For your jaw, bite your teeth together tightly, and hold, feeling the tension in your jaw muscles. One, two, three, four, five. And relax, bringing your jaws apart, and feeling the tension leave your jaw muscles. For your eyes, raise your eyebrows as high as you can on your forehead. Hold, and feel the tension in your forehead. One, two, three, four, five. And relax, bringing your eyebrows back down, and feeling the tension leave. Now, close your eyes shut, as tightly as you can. Hold them shut and feel the tension. One, two, three, four, five. Open your eyes and feel all the tension leave. Feel the difference between the tension and the relaxation. Press your lips together as tightly as you can. Hold your lips in a tight position. Feel the tension in your mouth. One, two, three, four, five. And relax,

bringing your lips apart, and feeling the tension leave. Press your tongue against the roof of your mouth. Feel the tension in your tongue as you hold the tip of it against the roof of your mouth. Hold for one, two, three, four, five. Let your tongue fall back to its usual position and feel the tension leave. Notice the difference between the relaxation and the feelings of tension.

APPENDIX H1

SAMPLE OF STUDENT RECORD-KEEPING CHART¹

Please put a date sticker below		<u>Instructions:</u> Please circle the numbers of <i>all</i> of the tracks that you listened to at the calm carrel each time. If you did not listen to anything this time, please circle the word "Nothing" instead.
	1st Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	2nd Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	3rd Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	1st Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	2nd Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	3rd Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing

¹ Each student duotang contained enough forms for 20 days' worth of entries.

APPENDIX H2

BLANK PROBLEM-SOLVING FORM

This was my (1st) (2nd) (3rd) time at the calm carrel today (PLEASE CIRCLE ONE).

1. Why did you go to the calm carrel this time?

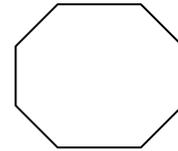
___a) I was mad.

___b) I was unhappy.

___c) I was having trouble with my work.

___d) For another reason:

Date:



2. What will you do when you go back to your desk to handle what was bothering you?

___a) I will *ask the teacher for help* with my work or my problem.

___b) I will *try not to think about what was bothering me* before.

___c) I will *remember how relaxed I felt* at the calm carrel.

___d) I will *practice deep breathing*.

___e) Something else:

APPENDIX I1

BLANK STUDENT CALM CARREL FEEDBACK SURVEY FORM

First Name _____

Please use the following rating scale to answer Questions 1 and 2:

*****=very good ****=good ***=average **=fair *=bad

1. Please circle the number of stars to show if you thought the calm carrel was a good idea for your classroom:



2. Please circle the number of stars to show how much you liked:

a) The music at the calm carrel:



b) The relaxation exercises:



c) The visualization stories:



3. Was the calm carrel helpful for you when you felt unhappy or angry in class?

4. How did the calm carrel help you?

5. What was the thing you liked best about the calm carrel?

6. Do you have any suggestions for how the calm carrel could have been better?

APPENDIX I2

BLANK TEACHER CALM CARREL FEEDBACK SURVEY FORM

1. Overall, the calm carrel was a useful option to have available for students in my class.

Strongly Disagree Disagree Neutral Agree Strongly Agree

2. The calm carrel fit in well with my existing approach to classroom management.

Strongly Disagree Disagree Neutral Agree Strongly Agree

3. Students used the calm carrel appropriately.

Strongly Disagree Disagree Neutral Agree Strongly Agree

4. I would consider implementing a similar self-management intervention with my students in future years.

Strongly Disagree Disagree Neutral Agree Strongly Agree

5. Your comments on each of the following areas would be appreciated:

- a) The parameters set out for student use of the calm carrel:

- b) The materials and strategies provided for student use at the calm carrel:

c) The appropriateness of the calm carrel as a tool for general classroom management with this population of students:

d) The specific utility of the calm carrel intervention in fostering student self-management skills:

6. Any further comments you may have regarding the calm carrel intervention would also be appreciated. Thank you again for your input.

APPENDIX J

SAMPLE QUESTIONS PREPARED IN ADVANCE OF FOLLOW-UP
TEACHER INTERVIEWS

Re. Use of Calm Carrel:

1. Do you feel that some students used the carrel to a greater extent initially due to the novelty effect of having this new strategy available to them?
2. a) Over the course of the experimental phase, did you notice certain students using the carrel more than other students? Why do you think this might have been the case? (For example, were the students who used the carrel more often ones who you feel are generally more aware of their own behaviours?)

b) Did the level of carrel use by certain students surprise you at all? (i.e. did particular students use the carrel a lot more or a lot less than you would have expected?) Why do you think this might have been the case?
3. Did students typically go to the carrel on their own initiative or did you often provide prompts or reminders? (IF you provided reminders, would you say that there was less need for this as the study progressed?)
4. Do you feel that students ever went (or tried to go) to the carrel as a way to avoid work in the class, as opposed to because they were feeling frustrated, upset, or angry?
5. Did students ever use the carrel or attempt to use the carrel inappropriately once they were there? (If yes, could you please provide examples of this?)
6. Would you say that the rule that was in place allowing the students to use the carrel for 5 minutes at a time, for a maximum of 3 times over the course of the day, was appropriate? If not, in what way would you change this?
7. Is there anything about the design of the carrel intervention or the procedures for its use that you think could be changed *to encourage greater use* by students?

Re. Behavioural improvements resulting from carrel use:

8. a) Could you discuss the extent to which you noticed any specific behavioural improvements among students in the class which you would attribute to their use of the calm carrel? (These could be improvements

that were specific to an individual student or students, or more general improvements in attitude, behaviour, or effort, within the class as a whole.)

b) Did you notice any particular behavioural improvements occurring immediately after students' use of the carrel?

IF behavioural improvement *was* noted in response to question 8, then ask #9:

9. To what extent do you think that the dependent measures used in the study (the daily behavioural rating scale and the time-out records) likely captured this behavioural improvement? (If they did not capture it very well, what types of measures do you think might have more accurately shown the improvement(s) that you noted?)
10. Overall, how many students in the class do you think benefited, behaviourally or academically, from having the carrel in place?
11. Would you say that students who used the carrel may have become more aware of their own behaviours over the course of the study? How do you know?

Re. Continued use of the carrel:

12. You indicated that you will plan to continue to use the carrel in your class now that the study has ended. In doing so, will you be planning to make any changes to the procedures for carrel use or the strategies available to the students for use at the carrel?

Possible probing question: Could you explain why you would make these changes?

13. a) Would you see the calm carrel, as established for this study, as being a strategy that could be worthwhile implementing in most BLA classes? (i.e. Would the amount of teacher time and effort required to maintain the intervention be seen by most teachers as worthwhile in light of the potential benefits to students?)
 - b) Is there anything that might need to be changed to make the intervention more appealing to teachers for use in BLA classrooms?
14. a) Would you see the calm carrel intervention as being one that could be put into place (and would be worthwhile putting into place) in a regular (inclusive) class of, for example, 25 students, where some students may have behavioural difficulties?

- b) Is there anything that could be changed to make it more appropriate for use within a larger class setting like this?

Re. Problem-Solving form:

15. Do you think that the problem-solving form (wherein students identified why they had chosen to go to the calm carrel and what they thought they would do to handle what had been bothering them when they returned to their desks) was of value in helping the students to become more aware of their behaviour? Why or why not?

Re. Music/Visualizations/Relaxation Exercises:

16. Do you feel that the combination of audio materials (music, visualization narratives, and relaxation exercises) were all worthwhile and useful to include at the carrel? In addition to these, and the relaxation posters and deep breathing strategy, are there any other techniques that you think would have been worthwhile to include at the carrel itself?

Re. Feedback from Students:

17. Did students in the class say anything to you during the course of the study that would give additional insight into what they thought of the carrel or the various relaxation strategies that were available there?

General Conclusion Question:

18. Do you have any other suggestions as to how the calm carrel could be improved, or any other elements of the carrel that you thought were particularly beneficial, that haven't been touched on in our discussion today?

APPENDIX K

SUMMARY OF DATA COLLECTED, BY CLASS

Table K1

Class 1 Summary of Data Collected

Student	Days of data collected (baseline)	Days of data collected (experimental)	Carrel uses (#)	Post- training quiz completed	Pre- intervention behaviour survey completed	Post- intervention behaviour survey completed	Feedback form ratings all or partly Completed
1-1	17	18	1	Yes	Yes	Yes	Yes
1-2	15	17	3	Yes	Yes	Yes	Yes
1-3	18	20	0	Yes	Yes	Yes	Yes
1-4	20	20	1	Yes	Yes	Yes	Yes
1-5	20	18	1	Yes	Yes	Yes	Yes
Overall	90	93	6	5/5	5/5	5/5	5/5

Table K2

Class 2 Summary of Data Collected

Student	Days of data collected (baseline)	Days of data collected (experimental)	Carrel uses (#)	Post-training quiz completed	Pre-intervention behaviour survey completed	Post-intervention behaviour survey completed	Feedback form ratings all or partly Completed
2-1	20	18	2	Yes	Yes	Yes	Yes
2-2	20	19	0	Yes	Yes	Yes	No ¹
2-3	18	16	2	Yes	Yes	Yes	Yes
2-4	18	11	7	Yes	Yes	No	No
2-5	20	18	0	Yes	Yes	Yes	Yes
2-6	20	18	4	Yes	Yes	Yes	Yes
2-7	20	20	1	Yes	Yes	Yes	Yes
2-8	19	15	4	Yes	Yes	Yes	Yes
2-9	20	19	18	Yes	Yes	Yes	Yes
2-10 ²	17	2	1	Yes	Yes	No	No
Overall	192	156	39 ³	10/10	10/10	8/10	7/10

¹ Student 2-2 did provide comments, but did not complete the ratings section of the feedback form.

² Student 2-10 moved from the school shortly after the experimental phase of the study began, and hence was not included in the data analysis.

³ A student who arrived part way through the experimental phase of the study, and for whom parental permission could not be secured for inclusion in the research, used the carrel 7 times during the study (this has not been included in the total listed here).

Table K3

Class 3 Summary of Data Collected

Student	Days of data collected (baseline)	Days of data collected (experimental)	Carrel uses (#)	Post-training quiz completed	Pre-intervention behaviour survey completed	Post-intervention behaviour survey completed	Feedback form ratings all or partly Completed
3-1	20	24	0	Yes	No	Yes	Yes
3-2	20	22	4	Yes	No	Yes	Yes
3-3 ¹	18	2	0	No	No	No	No
3-4	20	15	1	No	No	No	No
3-5	13	20	0 ²	Yes	No	No	Yes
3-6	9	9	1	No	No	No	No
3-7	20	21	1 ³	Yes	No	Yes	Yes
3-8	16	24	2	Yes	No	Yes	Yes
3-9	20	24	0	Yes	No	Yes	No
Overall	156	161	9 ⁴	6/9	0/9 ⁵	5/9	5/9

¹ Student 3-3 moved from the school shortly after the experimental phase of the study began, and hence was not included in the data analysis.

² Student 3-5's responses on the feedback form suggest that he did in fact use the carrel, although his usage chart does not indicate this.

³ Comments made by the teacher in the follow-up interview suggest that Student 3-7 likely used the carrel considerably more than this (but did not make note of it in her usage chart).

⁴ A student who arrived part way through the experimental phase, and for whom parental permission could not be secured for inclusion in the research, used the carrel a number of times during the study, according to the teacher (this student's use has not been included in the total listed here).

⁵ Although reminders were provided, the teacher forgot to administer the pre-intervention behaviour survey.

Table K4

Class 4 Summary of Data Collected

Student	Days of data collected (baseline)	Days of data collected (experimental)	Carrel uses (#)	Post-training quiz completed	Pre-intervention behaviour survey completed	Post-intervention behaviour survey completed	Feedback form ratings all or partly Completed
4-1	18	19	5	Yes	No ¹	Yes	Yes
4-2	11	14	1	Yes	Yes	Yes	Yes
4-3	19	16	1	Yes	Yes	Yes	Yes
4-4	12	8	0	Yes	Yes	No	No
4-5	20	18	3	Yes	Yes	Yes	Yes
4-6	19	18	5	Yes	Yes	Yes	Yes
4-7	20	19	11	Yes	Yes	Yes	Yes
4-8	15	10	6	Yes	Yes	Yes	Yes
Overall	134	122	32	8/8	7/8	7/8	7/8

¹ Student 4-1 completed the written questions on the pre-intervention survey, but did not complete the rating questions (#4 and #5).

Table K5

Class 5 Summary of Data Collected

Student	Days of data collected (baseline)	Days of data collected (experimental)	Carrel uses (#)	Post-training quiz completed	Pre-intervention behaviour survey completed	Post-intervention behaviour survey completed	Feedback form ratings all or partly Completed
5-1	19	7	0 ¹	Yes	No	Yes	Yes
5-2	14	14	4	Yes	Yes	Yes	Yes
5-3	20	20	7	No	Yes	No	Yes
5-4	20	18	0	Yes	Yes	Yes	Yes
5-5	20	20	5	Yes	Yes	Yes	Yes
5-6	20	17	5	Yes	No	Yes	Yes
5-7	20	20	1 ²	Yes	Yes	Yes	Yes
5-8 ³	17	5	0 ⁴	No	Yes	No	Yes
5-9	20	20	3	Yes	Yes	Yes	Yes
Overall	170	141	25	7/9	7/9	7/9	9/9

¹ Student 5-1's responses on the feedback form suggest that he did in fact use the carrel, although his usage chart does not indicate this.

² Comments made by the teacher in the follow-up interview suggest that Student 5-7 likely used the carrel more than this (but did not make note of it in her usage chart).

³ Student 5-8's attendance during the experimental phase of the study was sufficiently poor (present fewer than 7 days) that he was not included in the data analysis.

⁴ Student 5-8's responses on the feedback form suggest that he did in fact use the carrel, although his usage chart does not indicate this.

Table K6

Class 6 Summary of Data Collected

Student	Days of data collected (baseline)	Days of data collected (experimental)	Carrel uses (#)	Post-training quiz completed	Pre-intervention behaviour survey completed	Post-intervention behaviour survey completed	Feedback form ratings all or partly completed
6-1 ¹	4	7	2	No	No	No	No
6-2	17	23	2	Yes	No	Yes	Yes
6-3	17	23	2	Yes	No	Yes	Yes
6-4 ²	18	2	0	No	No	No	No
6-5	16	23	0	Yes	No	Yes	Yes
6-6	18	24	1	Yes	No	No ³	Yes
6-7	18	23	1	Yes	No	Yes	Yes
6-8	18	23	0 ⁴	Yes	No	Yes	Yes
6-9	17	22	0	Yes	No	Yes	No
6-10	18	24	0	No	No	No	No
Overall	161	194	8 ⁵	7/10	0/10 ¹	6/10	6/10

¹ Student 6-1's attendance during the baseline phase of the study was sufficiently poor (present fewer than 7 days) that he was not included in the data analysis.

² Student 6-4 moved from the school shortly after the experimental phase of the study began, and hence was not included in the data analysis.

³ Student 6-6 completed the written questions, but not the rating questions, on the post-intervention survey.

⁴ Student 6-8's responses on the feedback form suggest that he did in fact use the carrel, although his usage chart does not indicate this.

⁵ A student who arrived part way through the experimental phase, and for whom parental permission could not be secured for inclusion in the research, used the carrel a number of times during the study, according to the teacher (this student's use has not been included in the total listed here).

APPENDIX L

POST-TRAINING CALM CARREL SESSION QUIZ RESULTS

1. Imagine that it is Thursday, November 3rd and you are filling out your record-keeping sheet in the calm carrel duotang. Pretend that you have used the calm carrel three times that day. The first time, you listened to tracks 3, 5, and 7 on the CD. The second time, you listened to only track 15 on the CD. The third time, you listened to tracks 2, 7, and 17 on the CD. Please show how you would complete the record-keeping sheet for these three times that you used the carrel.

Please put a date sticker below		<u>Instructions:</u> Please circle the numbers of <i>all</i> of the tracks that you listened to at the calm carrel each time. If you did not listen to anything this time, please circle the word "Nothing" instead.
	1 st Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	2 nd Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing
	3 rd Time	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 Nothing

Class 1

→All 5 students in Class 1 responded correctly to Question 1.

Class 2

→Students 2-1 to 2-10 (all students in the class) completed this question. Only Student 2-9 answered incorrectly.

Class 3

Student 3-1: (Incorrect)

Student 3-2: Correct

Student 3-5: Correct

Student 3-7: (Incorrect)

Student 3-8: Correct

Student 3-9: Correct

¹ Although reminders were provided, the teacher forgot to administer the pre-intervention behaviour survey.

Class 4

Student 4-1: (Incorrect)
Student 4-2: (Incorrect)
Student 4-3: Correct
Student 4-4: Correct
Student 4-5: Correct
Student 4-6: (Incorrect)
Student 4-7: Correct
Student 4-8: (Incorrect)

Class 5

→All 7 students in Class 5 who completed the quiz responded correctly to Question 1.

Class 6

Student 6-2: Correct
Student 6-3: Correct
Student 6-5: Correct
Student 6-6: (Incorrect)
Student 6-7: Correct
Student 6-8: Correct
Student 6-9: (Incorrect)

2. How many times can you use the calm carrel each day?

- a) 4
- b) 3
- c) 5
- d) as many as I want

Class 1

→All 5 students in Class 1 responded correctly to Question 2.

Class 2

→All 10 students in Class 2 responded correctly to Question 2.

Class 3

→All 6 students in Class 3 who completed the quiz responded correctly to Question 2.

Class 4

→All 8 students in Class 4 responded correctly to Question 2.

Class 5

→All 7 students in Class 5 who completed the quiz responded correctly to Question 2.

Class 6

Student 6-2: b) (Correct)

Student 6-3: b)

Student 6-5: d) (Incorrect)

Student 6-6: b)

Student 6-7: b)

Student 6-8: b)

Student 6-9: d) (Incorrect)

3. Please put the steps for using the calm carrel in order by putting a number in front of each one (1 for the first step, 2 for the 2nd, etc.):

____ Circle the numbers of any CD tracks that I listened to at the carrel.

____ Pick up my calm carrel duotang, and walk over to the carrel.

____ Take my calm carrel duotang back.

____ Take off the headphones when the timer rings.

____ Put a sticker with today's date in my duotang, and put on the headphones and start the timer.

Class 1

Student 1-1: 4, 1, 5, 3, 2 (Correct)

Student 1-2: 3, 1, 5, 4, 2 (Also correct)

Student 1-3: 4, 1, 5, 3, 2

Student 1-4: 3, 1, 5, 4, 2

Student 1-5: 3, 1, 5, 4, 2

→All 5 students in Class 1 responded correctly to Question 3.

Class 2

Student 2-1: 3, 1, 5, 4, 2 (Correct)
Student 2-2: 4, 1, 5, 3, 2 (Also correct)
Student 2-3: 3, 1, 5, 4, 2
Student 2-4: 4, 1, 5, 3, 2
Student 2-5: 5, 2, 3, 4, 1 (Incorrect)
Student 2-6: 4, 1, 5, 2, 3 (Incorrect)
Student 2-7: 3, 1, 5, 4, 2
Student 2-8: 3, 1, 5, 4, 2
Student 2-9: 2, 3, 5, 1, 4 (Incorrect)
Student 2-10: 3, 1, 5, 4, 2

Class 3

Student 3-1: 4, 1, 5, 3, 2 (Correct)
Student 3-2: 3, 1, 5, 4, 2 (Also correct)
Student 3-5: 4, 1, 5, 3, 2
Student 3-7: 2, 1, 5, 3, 4 (Incorrect)
Student 3-8: 3, 1, 2, 4, 2 (Incorrect)
Student 3-9: 3, 1, 5, 4, 2

Class 4

Student 4-1: 4, 1, 5, 3, 2 (Correct)
Student 4-2: 3, 1, 5, 4, 2 (Also correct)
Student 4-3: 3, 1, 5, 4, 2
Student 4-4: 3, 1, 5, 4, 2
Student 4-5: 3, 1, 5, 4, 2
Student 4-6: 3, 1, 5, 4, 2
Student 4-7: 3, 1, 5, 4, 2
Student 4-8: 1, 5, 3, 2, 4 (Incorrect)

Class 5

Student 5-1: 2, 1, 5, 4, 3 (Incorrect)
Student 5-2: 2, 1, 5, 3, 4 (Incorrect)
Student 5-4: 3, 1, 5, 4, 2 (Correct)
Student 5-5: 3, 1, 5, 4, 2
Student 5-6: 3, 1, 5, 4, 2
Student 5-7: 2, 1, 5, 3, 4 (Incorrect)
Student 5-9: 3, 1, 5, 4, 2

Class 6

- Student 6-2:** 4, 1, 5, 3, 2 (Correct)
Student 6-3: 3, 1, 5, 4, 2 (Also correct)
Student 6-5: 4, 1, 5, 3, 2
Student 6-6: 3, 1, 5, 4, 2
Student 6-7: 5, 1, 4, 3, 2 (Incorrect)
Student 6-8: 3, 1, 5, 4, 2
Student 6-9: 2, 1, 4, 3, 5 (Incorrect)

4. Please fill in the blank in the following sentence (with one or more words):

I can use the calm carrel when I am feeling _____
 _____.

Class 1

- Student 1-1:** angry, and sad.
Student 1-2: angry, frstrated (sic: frustrated)
Student 1-3: angry
Student 1-4: steressed (sic: stressed) out, can't think, depressed
Student 1-5: angry and feel like i'm (sic: I'm) going to hit something

Class 2

- Student 2-1:** mad
Student 2-2: mad (*Scribed*)
Student 2-3: mad
Student 2-4: angry, upset, frustrated or unhappy
Student 2-5: mad, unhappy
Student 2-6: mad, unhappy, and silly
Student 2-7: sad or mad
Student 2-8: mad, unhappy, sad, glomy (sic: gloomy)
Student 2-9: mad
Student 2-10: mad or sad or stressed

Class 3

- Student 3-1:** froturated (sic: frustrated)
Student 3-2: mad, sad
Student 3-5: angry
Student 3-7: mad
Student 3-8: upset
Student 3-9: mad, sad, tence (sic: tense)

Class 4**Student 4-1:** mad**Student 4-2:** agrey (sic: angry)**Student 4-3:** frustreated (sic: frustrated), out of controle (sic: control)**Student 4-4:** mad, angry, sad, not on tack (sic: task)**Student 4-5:** mad**Student 4-6:** angry**Student 4-7:** angry**Student 4-8:** mad**Class 5****Student 5-1:** sad, angry, mad, fresterated (sic: frustrated), colm (sic: calm)
(*Incorrect*)**Student 5-2:** sustuat (sic: frustrated?)**Student 5-4:** angry, fustrated (sic: frustrated), upset**Student 5-5:** frustrated, or anger**Student 5-6:** upset, anger, or strest (sic: stressed)**Student 5-7:** mad, unhappy, having trubble (sic: trouble) with work**Student 5-9:** sad, mad**Class 6****Student 6-2:** frustrated**Student 6-3:** stuck in my work**Student 6-5:** angry or dipressed (sic: depressed)**Student 6-6:** better (*Incorrect*)**Student 6-7:** mad or fustrated (sic: frustrated)**Student 6-8:** angry, depressed or mad**Student 6-9:** sad, angry or depressed (sic: depressed)

5. If I want to go to the calm carrel but another student is there, one other thing that my teacher told me I can do to help me relax is:
-

Class 1**Student 1-1:** take deep breaths**Student 1-2:** come (sic: calm) down**Student 1-3:** deep berfes (sic: breaths)**Student 1-4:** don't get mad and put your head down on your desk**Student 1-5:** I think that you said take deep breaths and count to ten

Class 2

- Student 2-1:** go to the timeout room
Student 2-2: breathe deeply (*Scribed*)
Student 2-3: go to the timeout room
Student 2-4: take deep breaths in the timeout room
Student 2-5: go to the timeout or take deep breaths (*Partly scribed*)
Student 2-6: take deep breaths
Student 2-7: do the exercises (*Partly scribed*)
Student 2-8: deep breath
Student 2-9: go to timeout
Student 2-10: go to the timeout room

Class 3

- Student 3-1:** go to the other table
Student 3-2: go set (sic: sit) in the carrel
Student 3-5: breath (sic: breathe)
Student 3-7: breth (sic: breathe) in and out then go when person is finished if still mad
Student 3-8: I will lighesnt (*indecipherable word*) (*Incorrect*)
Student 3-9: time out room

Class 4

- Student 4-1:** go to the timeout room
Student 4-2: beep (sic: deep) breathing
Student 4-3: deep breathing
Student 4-4: take 3 breaths or put our head down
Student 4-5: deep breathing
Student 4-6: deep breathing
Student 4-7: take a deep braeth (sic: breath)
Student 4-8: timeout

Class 5

- Student 5-1:** close your eye (sic: eyes) count to ten, put your head (sic: head down), do jumping jacks
Student 5-2: pot uoy had don (sic: put your head down)
Student 5-4: take a minute outside the class
Student 5-5: to read a book or use deep breating (sic: breathing)
Student 5-6: put your had (sic: head) don (sic: down)
Student 5-7: sit on the bencey (sic: bouncy) bag thing, put head down
Student 5-9: the hallway

Class 6**Student 6-2:** take deep breaths**Student 6-3:** go sit in a carol (sic: carrel)**Student 6-5:** breath (sic: breathe) deep and count to ten**Student 6-6:** exercises**Student 6-7:** just sit in the quiet room**Student 6-8:** rub my ears**Student 6-9:** go in the timeout room

6. Which one of the following steps is *optional*? (Please circle the letter for that step.)

- a) putting a sticker with the date in my calm carrel duotang and circling the numbers of any tracks I listen to
- b) turning on the timer each time before I start to use the calm carrel
- c) filling out a problem solving form in the duotang each time I use the calm carrel
- d) putting on the headphones each time I use the calm carrel

Class 1**Student 1-1:** c) (Correct)**Student 1-2:** d) (Incorrect)**Student 1-3:** c)**Student 1-4:** c)**Student 1-5:** c)**Class 2****Student 2-1:** d) (Incorrect)**Student 2-2:** c) (Correct)**Student 2-3:** c)**Student 2-4:** c)**Student 2-5:** c)**Student 2-6:** c)**Student 2-7:** c)**Student 2-8:** c)**Student 2-9:** a) (Incorrect)**Student 2-10:** c)

Class 3

Student 3-1: c) (Correct)
Student 3-2: c)
Student 3-5: c)
Student 3-7: c)
Student 3-8: b), c) (Incorrect)
Student 3-9: c)

Class 4

Student 4-1: a) (Incorrect)
Student 4-2: c) (Correct)
Student 4-3: c)
Student 4-4: c)
Student 4-5: c)
Student 4-6: c)
Student 4-7: c)
Student 4-8: c)

Class 5

Student 5-1: d) (Incorrect)
Student 5-2: d) (Incorrect)
Student 5-4: a) (Incorrect)
Student 5-5: d) (Incorrect)
Student 5-6: b) (Incorrect)
Student 5-7: d) (Incorrect)
Student 5-9: c) (Correct)

Class 6

Student 6-2: c) (Correct)
Student 6-3: c)
Student 6-5: a) (Incorrect)
Student 6-6: d) (Incorrect)
Student 6-7: c)
Student 6-8: a) (Incorrect)
Student 6-9: c), d) (Incorrect)

APPENDIX M

SUPPLEMENTARY DATA TABLES

Table M1

Behavioural Rating Totals as a Function of Problem-Solving Form Completion:

Descriptives

Group	N	M	SD	M	SD
		(Baseline)	(Baseline)	(Experimental)	(Experimental)
A ¹	19	89.32	17.71	88.40	19.85
B ²	14	94.54	25.08	96.74	17.77
C ³	27	92.73	22.45	93.68	16.03

Table M2

Behavioural Rating Totals as a Function of Problem-Solving Form Completion:

T-Test and Wilcoxon Signed-Rank Test Results

Class	T-Test			Wilcoxon Results	
	df	t	p	z	p
A	18	.28	.780	-.32	.748
B	13	-.52	.611	-.47	.638
C	26	-.30	.769	-.55	.581

¹ A denotes those students who completed one or more problem-solving form at some point during the course of their visits to the calm carrel.

² B denotes those students who used the carrel, but never completed a problem-solving form.

³ C denotes all students who did not complete a problem-solving form (including both carrel users and non-users).

Table M3

Time-out Totals, By Class (Outliers Removed): Descriptives

Class	N	M	SD	M	SD
		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1	3	11.14	1.50	22.55	4.29
2	5	.42	.58	2.53	2.46
3	7	7.16	5.72	4.97	4.72
5	7	28.61	15.35	13.23	6.72
6	6	1.34	.86	1.73	1.11

Table M4

Time-out Totals, By Class (Outliers Removed): T-Test and Wilcoxon Signed-Rank Test Results

Class	T-Test			Wilcoxon Results	
	df	t	p	z	p
1	2	-3.71	.066	-1.60	.109
2	4	-2.31	.082	-1.60	.109
3	6	2.40	.053	-2.03	.042
5	6	3.28	.017	-2.20	.028
6	5	-.76	.482	-.94	.345

Table M5

Time-out Totals, By Class (Carrel Users Only) (Outliers Removed): Descriptives

Class	N	M	SD	M	SD
		(Baseline)	(Baseline)	(Experimental)	(Experimental)
2	6	1.56	2.02	4.70	5.40
5	3	30.00	19.70	17.61	2.26

Table M6

Time-out Totals, By Class (Carrel Users Only) (Outliers Removed): T-Test and Wilcoxon Signed-Rank Test Results

Class	T-Test Results			Wilcoxon Results	
	df	t	p	z	P
2	5	-2.00	.101	-1.83	.068
5	2	1.23	.345	-1.07	.285

Table M7

Time-Out Totals as a Function of Problem-Solving Form Completion:

Descriptives

Group	N	M	SD	M	SD
		(Baseline)	(Baseline)	(Experimental)	(Experimental)
A ¹	19	8.99	10.59	9.17	9.98
B ²	13 ³	5.95	5.46	8.05	7.59
C ⁴	27	10.09	13.70	8.23	8.64

Table M8

Time-Out Totals as a Function of Problem-Solving Form Completion: T-Test and

Wilcoxon Signed-Rank Test Results

Class	T-Test			Wilcoxon Results	
	df	t	p	z	p
A	18	-.09	.926	-.45	.653
B	12	1.21	.248	-.73	.463
C	26	.90	.376	-.53	.597

¹ A denotes those students who completed one or more problem-solving form at some point during the course of their visits to the calm carrel.

² B denotes those students who used the carrel, but never completed a problem-solving form.

³ A single outlier was removed from this group for the tests.

⁴ C denotes all students who did not complete a problem-solving form (including both carrel users and non-users).

Table M9

Time-out Totals, By Category (Outliers Removed)¹: Descriptives

Category	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
and group		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1 (All students)	25	.39	.77	.27	.45
1 (Carrel users)	25	.60	.83	2.17	3.07
2 (All students)	19	.23	.45	.36	.62
2 (Carrel users)	25	1.33	1.71	2.44	3.26
4 (All students)	40	.35	.71	.46	.84

¹ Note that, in cases where outliers have not been removed (from Category 3 time-out data for the entire group, and from Category 3 and 4 time-out data for carrel users only), this is because all values apart from zero were, essentially 'outliers', insofar as there were so few time-outs assigned in these categories.

Table M10

Time-out Totals, By Category (Outliers Removed): T-Test and Wilcoxon Signed-Rank Test Results

Category and group	T-Test Results			Wilcoxon Results	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
1 (All students)	24	.85	.406	-1.01	.314
1 (Carrel users)	24	-2.78	.010	-2.44	.015
2 (All students)	18	-.82	.424	-.42	.674
2 (Carrel users)	24	-1.97	.061	-1.66	.098
4 (All students)	39	-.66	.515	-.79	.432

Table M11

Time-out Totals, By Category, Class 1: Descriptives

Category	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
and group		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1 (All students)	5	7.73	4.26	8.24	5.29
1 (Carrel users)	4	6.06	2.33	7.30	5.60
2 (All students)	5	1.59	1.23	7.13	1.34
2 (Carrel users)	4	1.71	1.38	6.92	1.44
3 (All students)	5	1.12	1.15	1.27	1.34
3 (Carrel users)	4	.84	1.12	.84	1.06
4 (All students)	5	.60	1.34	4.69	3.38
4 (Carrel users)	4	.75	1.50	3.36	1.87

Table M12

Time-out Totals, By Category, Class 1: T-Test and Wilcoxon Signed-Rank Test

Results

Category and group	T-Test Results			Wilcoxon Results	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
1 (All students)	4	-.22	.840	-.41	.686
1 (Carrel users)	3	-.43	.697	-.73	.465
2 (All students)	4	-9.55	.001	-2.02	.043
2 (Carrel users)	3	-8.49	.003	-1.83	.068
3 (All students)	4	-.36	.735	.00	1.00
3 (Carrel users)	3	.010	.993	-.45	.655
4 (All students)	4	-2.34	.079	-2.02	.043
4 (Carrel users)	3	-2.17	.118	-1.83	.068

Table M13

Time-out Totals, By Category, Class 2: Descriptives

Category	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
and group		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1 (All students)	9	.56	.88	1.69	2.17
1 (Carrel users)	7	.43	.79	1.85	2.39
2 (All students)	9	2.92	4.16	3.09	3.37
2 (Carrel users)	7	2.90	4.66	3.51	3.76
3 (All students)	9	.00	.00	.12	.37
3 (Carrel users) ¹	--	--	--	--	--
4 (All students)	9	.23	.45	.50	.81
4 (Carrel users)	7	.29	.50	.48	.87

¹ The carrel users in Class 2 did not have any Category 3 time-outs during the course of the study.

Table M14

Time-out Totals, By Category, Class 2: T-Test and Wilcoxon Signed-Rank Test

Results

Category and group	T-Test			Wilcoxon	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
1 (All students)	8	-1.53	.164	-1.48	.138
1 (Carrel users)	6	-1.75	.130	-1.60	.109
2 (All students)	8	-.19	.855	-.17	.866
2 (Carrel users)	6	-.58	.586	-.67	.500
3 (All students)	8	-1.00	.347	-1.00	.317
4 (All students)	8	-.76	.468	-1.22	.223
4 (Carrel users)	6	-.42	.688	-.73	.465

Table M15

Time-out Totals, By Category, Class 3: Descriptives

Category	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
and group		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1 (All students)	8	1.34	1.24	.99	1.45
1 (Carrel users)	5	1.14	1.18	1.42	1.72
2 (All students)	8	5.46	6.15	2.32	4.02
2 (Carrel users)	5	4.53	4.11	2.52	5.13
3 (All students)	8	3.70	5.70	2.91	4.36
3 (Carrel users)	5	2.73	3.31	2.48	3.63
4 (All students)	8	.38	.74	.00	.00
4 (Carrel users)	5	.20	.45	.00	.00

Table M16

Time-out Totals, By Category, Class 3: T-Test and Wilcoxon Signed-Rank Test

Results

Category and group	T-Test Results			Wilcoxon Results	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
1 (All students)	7	.61	.561	-.73	.463
1 (Carrel users)	4	-.44	.684	-.37	.715
2 (All students)	7	1.70	.133	-1.54	.123
2 (Carrel users)	4	1.23	.286	-.94	.345
3 (All students)	7	1.06	.323	-1.10	.273
3 (Carrel users)	4	.35	.744	-.54	.593
4 (All students)	7	1.43	.197	-1.34	.180
4 (Carrel users)	4	1.00	.374	-1.00	.317

Table M17

Time-out Totals, By Category, Class 4: Descriptives

Category	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
and group		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1 (All students)	8	.64	1.26	2.82	3.64
1 (Carrel users)	7	.74	1.33	3.22	3.74
2 (All students)	8	.61	1.13	1.11	1.65
2 (Carrel users)	7	.70	1.19	.91	1.67
3 (All students)	8	.31	.57	.76	1.50
3 (Carrel users)	7	.35	.61	.87	1.59
4 (All students)	8	.00	.00	.41	.57
4 (Carrel users)	7	.00	.00	.47	.59

Table M18

Time-out Totals, By Category, Class 4: T-Test and Wilcoxon Signed-Rank Test

Results

Category and group	T-Test			Wilcoxon	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
1 (All students)	7	-1.97	.090	-2.02	.043
1 (Carrel users)	6	-2.03	.089	-2.02	.043
2 (All students)	7	-.69	.513	-.37	.715
2 (Carrel users)	6	-.28	.790	.00	1.00
3 (All students)	7	-1.35	.219	-1.34	.180
3 (Carrel users)	6	-1.36	.222	-1.34	.180
4 (All students)	7	-2.05	.080	-1.63	.102
4 (Carrel users)	6	-2.12	.078	-1.63	.102

Table M19

Time-out Totals, By Category, Class 5: Descriptives

Category	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
and group		(Baseline)	(Baseline)	(Experimental)	(Experimental)
1 (All students)	8	2.52	2.71	4.03	3.67
1 (Carrel users)	6	3.03	2.94	3.48	4.17
2 (All students)	8	25.15	15.21	12.05	7.60
2 (Carrel users)	6	21.79	14.14	12.69	8.85
3 (All students)	8	.63	1.41	.38	1.06
3 (Carrel users)	6	.83	1.60	.50	1.22
4 (All students)	8	.25	.71	.00	.00
4 (Carrel users)	6	.33	.82	.00	.00

Table M20

Time-out Totals, By Category, Class 5: T-Test and Wilcoxon Signed-Rank Test

Results

Category and group	T-Test Results			Wilcoxon Results	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
1 (All students)	7	-.83	.435	-.85	.398
1 (Carrel users)	5	-.20	.851	-.14	.893
2 (All students)	7	2.79	.027	-2.24	.025
2 (Carrel users)	5	2.10	.090	-1.78	.075
3 (All students)	7	.37	.722	-.54	.593
3 (Carrel users)	5	.36	.732	-.54	.593
4 (All students)	7	1.00	.351	-1.00	.317
4 (Carrel users)	5	1.00	.363	-1.00	.317

Table M21

Time-out Totals, By Category, Class 6: Descriptives

Category and group	<i>N</i>	<i>M</i> (Baseline)	<i>SD</i> (Baseline)	<i>M</i> (Experimental)	<i>SD</i> (Experimental)
1 (All students)	8	.30	.55	.11	.31
1 (Carrel users)	4	.59	.68	.22	.44
2 (All students)	8	.29	.53	.22	.41
2 (Carrel users)	4	.58	.66	.22	.44
3 (All students) ¹	--	--	--	--	--
4 (All students)	8	2.78	3.50	2.06	1.40
4 (Carrel users)	4	3.83	5.03	2.82	1.33

¹ The students in Class 6 did not have any Category 3 time-outs during the course of the study.

Table M22

Time-out Totals, By Category, Class 6: T-Test and Wilcoxon Signed-Rank Test

Results

Category and group	T-Test Results			Wilcoxon Results	
	<i>df</i>	<i>t</i>	<i>p</i>	<i>z</i>	<i>p</i>
1 (All students)	7	1.27	.246	-1.34	.180
1 (Carrel users)	3	1.34	.274	-1.34	.180
2 (All students)	7	.33	.750	-.54	.593
2 (Carrel users)	3	1.35	.269	-1.34	.180
4 (All students)	7	.66	.528	-.28	.779
4 (Carrel users)	3	.45	.684	-.37	.715

APPENDIX N

STUDENT CALM CARREL FEEDBACK SURVEY RESULTS

Please use the following rating scale to answer Questions 1 and 2:

*****=very good ****=good ***=average **=fair *=bad

2. Please circle the number of stars to show if you thought the calm carrel was a good idea for your classroom:

Class 1



Student 1-1: **** (4)

Student 1-2: *** (3)

Student 1-3: ***** (5) (*The teacher also wrote a note to explain the fact that the student did not respond to any of the other questions on the feedback form: [Student 1-3] could not answer as he would not go to the carrell [sic: carrel].*)

Student 1-4: ***** (5)

Student 1-5: *** (3)

Class 2

Student 2-1: ***** (5)

Student 2-3: ** (2)

Student 2-5: ***** (5) (*Counted this overall rating, although, according to his usage chart, this student did not use the carrel.*)

Student 2-6: **** (4)

Student 2-7: ***** (5)

Student 2-8: ***** (5)

Student 2-9: ***** (5)

Class 3

Student 3-1: ** (2) (*Counted this overall rating, although, according to his usage chart, this student did not use the carrel.*)

Student 3-2: **** (4)

Student 3-5: ***** (5) (*Did not appear to use the carrel, according to his usage chart, but his feedback comments suggest otherwise, so all ratings have been included here.*)

Student 3-7: ***** (5)

Student 3-8: * (1)

Class 4**Student 4-1:** ***** (5)**Student 4-2:** ***** (5)**Student 4-3:** ***** (5)**Student 4-5:** ***** (5)**Student 4-6:** ***** (5)**Student 4-7:** ***** (5)**Student 4-8:** ***** (5)**Class 5****Student 5-1:** ***** (5)**Student 5-2:** ***** (5)**Student 5-3:** **** (4)**Student 5-4:** * (1) (*Counted this overall rating, although, according to his usage chart, this student did not use the carrel.*)**Student 5-5:** ***** (5)**Student 5-6:** ***** (5)**Student 5-7:** ** (2)**Student 5-8:** ***** (5) (*Did not count this overall rating in addressing Research Question #11, as the student was present fewer than 7 days during the experimental phase*)**Student 5-9:** ***** (5)**Class 6****Student 6-2:** **** (4)**Student 6-3:** **** (4)**Student 6-5:** ** (2) (*Counted this overall rating, although, according to his usage chart, this student did not use the carrel.*)**Student 6-6:** ***** (5)**Student 6-7:** ***** (5)**Student 6-8:** ***** (5)**2. Please circle the number of stars to show how much you liked:****b) The music at the calm carrel:****Class 1****Student 1-1:** ***** (5)**Student 1-2:** ** (2)**Student 1-4:** *** (3)**Student 1-5:** ***** (4)

Class 2**Student 2-1: **** (4)****Student 2-3: * (1)****Student 2-6: ** (2)****Student 2-7: *** (3)****Student 2-8: ***** (5)****Student 2-9: ***** (5)****Class 3****Student 3-2: *** (3)****Student 3-5: ***** (5)****Class 4****Student 4-1: ***** (5)****Student 4-2: *** (3)****Student 4-3: **** (4)****Student 4-5: **** (4)****Student 4-6: ***** (5)****Student 4-7: **** (4)****Student 4-8: ** (2)****Class 5****Student 5-1: ***** (5)****Student 5-2: ***** (5)****Student 5-3: ***** (5)****Student 5-5: **** (4)****Student 5-6: ***** (5)****Student 5-7: *** (3)****Student 5-8: *** (3)****Student 5-9: ***** (5)****Class 6****Student 6-2: **** (4)****Student 6-3: ** (2)****Student 6-6: ***** (5)****Student 6-7: **** (4)****Student 6-8: **** (4)**

b) The relaxation exercises:



Class 1

Student 1-1: *** (3)
Student 1-2: * (1)
Student 1-4: **** (4)
Student 1-5: ***** (5)

Class 2

Student 2-3: ** (2)
Student 2-8: ***** (5)
Student 2-9: * (1)

Class 3

Student 3-2: **** (4)
Student 3-5: ***** (5)
Student 3-7: ***** (5)

Class 4

Student 4-1: ***** (5)
Student 4-2: ***** (5)
Student 4-3: ***** (5)
Student 4-5: ***** (5)
Student 4-6: * (1)
Student 4-8: ***** (5)

Class 5

Student 5-1: ***** (5)
Student 5-2: ***** (5)
Student 5-3: *** (3)
Student 5-5: ***** (5)
Student 5-6: ***** (5)
Student 5-7: *** (3)
Student 5-8: **** (4)
Student 5-9: ***** (5)

Class 6**Student 6-2: **** (4)****Student 6-3: * (1)****Student 6-6: **** (4)****Student 6-7: **** (4)****Student 6-8: *** (3)****c) The visualization stories:****Class 1****Student 1-1: ***** (5)****Student 1-2: * (1)****Student 1-4: ***** (5)****Student 1-5: ** (2)****Class 2****Student 2-3: * (1)****Student 2-7: *** (3)****Student 2-8: ***** (5)****Student 2-9: * (1)****Class 3****Student 3-2: **** (4)****Student 3-5: ***** (5)****Class 4****Student 4-1: ***** (5)****Student 4-2: ***** (5)****Student 4-3: **** (4)****Student 4-5: ***** (5)****Student 4-6: **** (4)****Student 4-7: ***** (5)****Student 4-8: *** (3)**

Class 5**Student 5-1:** ***** (5)**Student 5-2:** ***** (5)**Student 5-3:** *** (3)**Student 5-5:** ***** (5)**Student 5-6:** ***** (5)**Student 5-7:** * (1)**Student 5-8:** *** (3)**Student 5-9:** ***** (5)**Class 6****Student 6-2:** **** (4)**Student 6-3:** **** (4)**Student 6-6:** ***** (5)**Student 6-7:** ***** (5)**Student 6-8:** ***** (5)**3. Was the calm carrel helpful for you when you felt unhappy or angry in class?****Class 1****Student 1-1:** Sometimes it helps.**Student 1-2:** Sometimes.**Student 1-4:** Yes.**Student 1-5:** Yes it does.**Class 2****Student 2-1:** Yes.**Student 2-2:** I did not use it.**Student 2-3:** No.**Student 2-5:** I did not use it.**Student 2-6:** Yes it did very well.**Student 2-7:** Not really.**Student 2-8:** Yes it was when I was angry in class.**Student 2-9:** Yes.

Class 3**Student 3-1:** I did not go on.**Student 3-2:** Yes.**Student 3-5:** Yes.**Student 3-7:** Yes it was helping me learn to be calm.**Student 3-8:** No I (sic: it) wasint (sic: wasn't).**Class 4****Student 4-1:** Yes.**Student 4-2:** Yes it was.**Student 4-3:** Yes, it relaxes your body.**Student 4-5:** Yes! It helps you forget about the bad things and it calms you down.**Student 4-6:** Yes, it helped me.**Student 4-7:** Yes, it was very relaxing.**Student 4-8:** Yes it made me feel a little bit better.**Class 5****Student 5-1:** It help me lots.**Student 5-2:** Yes it mad (sic: made) me fokis (sic: focus).**Student 5-3:** I (sic: It) did not becuse (sic: because) it's gust (sic: just) music.**Student 5-4:** It did not help me relax because I did not use it yet!**Student 5-5:** Yes very calm.**Student 5-6:** Yes, I got happy and I falt (sic: felt) good.**Student 5-7:** I did not like it.**Student 5-8:** Yes it does clam (sic: calm) us down.**Student 5-9:** Yes the calm carrel was helpful relaxed whan (sic: when) I was mad.**Class 6****Student 6-2:** Yes it was.**Student 6-3:** Yes it calmed me down.**Student 6-6:** Yes.**Student 6-7:** Yes it was very good and it helped.**Student 6-8:** It was realy (sic: really) helpful.

4. How did the calm carrel help you?

Class 1

Student 1-1: I sometimes calm down.

Student 1-2: By relaxation.

Student 1-4: Yes. (*did not understand the question apparently*)

Student 1-5: By tellying (sic: telling) me how to stay calm and not to get mad.

Class 2

Student 2-1: Good, calmed me down.

Student 2-2: I did not use it.

Student 2-3: It didn't I was still mad.

Student 2-5: I did not use it.

Student 2-6: It relaxed me.

Student 2-7: It did not help me.

Student 2-8: It helped me feel good after I used it.

Student 2-9: Becuse (sic: Because) the songs are relaxing.

Class 3

Student 3-1: I did not go on.

Student 3-2: I got relact (sic: relaxed).

Student 3-5: It help to think of something else.

Student 3-7: It calmed me down.

Class 4

Student 4-1: It helped me by its music.

Student 4-2: By listening to music.

Student 4-3: Very helpful and made me concentrate.

Student 4-5: It makes me unmad.

Student 4-6: It helped me change my words.

Student 4-7: It helped me stay relaxed.

Student 4-8: It helped me feel less angry.

Class 5

Student 5-1: Yes a lots (sic: lot).

Student 5-2: It hops (sic: helps) me fokis (sic: focus).

Student 5-3: It did not help me.

Student 5-4: It did not help me. I did not use it yet!

Student 5-5: It helped me so I didn't take my anger out on everyone.

Student 5-6: But (sic: by) calming me by relaking (sic: relaxing) me.

Student 5-7: It did not help me.

Student 5-8: Ya it (sic: it's) cool and colm (sic: calms) people to (sic: too).

Student 5-9: It help (sic: helped) me relaxed (sic: relax).

Class 6

Student 6-2: It helped keep me calm.

Student 6-3: It made me calmer.

Student 6-6: It made me feel happy.

Student 6-7: It callmed (sic: calmed) me down.

Student 6-8: It cured my angers.

5. What was the thing you liked best about the calm carrel?**Class 1**

Student 1-1: I liked the music the best.

Student 1-2: The music.

Student 1-4: The relaxation exercises.

Student 1-5: I like the most would be the relaxation stories.

Class 2

Student 2-1: The music.

Student 2-2: I did not use it.

Student 2-3: There is nothing I like best.

Student 2-5: I didn't use it.

Student 2-6: Nothing.

Student 2-7: Nothing much.

Student 2-8: The music on the calm carrel.

Student 2-9: The music.

Class 3

Student 3-2: Numder (sic: Number) 17.

Student 3-5: It was the relaxation.

Student 3-7: The exercisses (sic: exercises) where (sic: were) the best.

Class 4

Student 4-1: When the music is on.

Student 4-2: The music.

Student 4-3: The relaxing music.

Student 4-5: It had some really nice relaxing songs on it. It had all of my favorite songs.

Student 4-6: I like Spirit (*a song*) the best.

Student 4-7: Music.

Student 4-8: Relaxation music.

Class 5

Student 5-1: The music.

Student 5-2: The sters (sic: stories).

Student 5-3: The music (10) Rum Tom (*referring to a song*).

Student 5-4: I did not like cause I did not use it.

Student 5-5: The visualization stories.

Student 5-6: The music at the calm carrel.

Student 5-7: Nothing.

Student 5-8: It play (sic: plays) and you think and you feel like your (sic: you're) in the place.

Student 5-9: The music.

Class 6

Student 6-2: I liked the music.

Student 6-3: The visualation (sic: visualization) stories.

Student 6-6: The visulizazing (sic: visualization) story.

Student 6-7: The relaxation story.

Student 6-8: The music.

6. Do you have any suggestions for how the calm carrel could have been better?

Class 1

Student 1-1: No, not really.

Student 1-2: No I do not.

Student 1-4: No.

Student 1-5: No.

Class 2

Student 2-1: Halo music.

Student 2-2: Make it not sound so boring and put Halo music on it and I will listen to it.

Student 2-3: Better music to listen too (sic: to).

Student 2-5: Give more time to listen to the music.

Student 2-6: Different music. Like 3 doors down (*a band*).

Student 2-7: No.

Student 2-8: No.

Student 2-9: Longer time and more CDs.

Class 3

Student 3-5: You could have rap music.

Student 3-7: I (sic: It) would never be better than it is now. It is fine the way it is. I do not want it different. I like just the way it is.

Class 4

Student 4-1: It could have been better if it had a comfortable chair.

Student 4-2: No.

Student 4-3: It could have lots of stories.

Student 4-5: It could have more relaxation songs on it.

Student 4-6: No.

Student 4-7: More of a colorful place.

Student 4-8: Whiskey In a Jar (*a song*).

Class 5

Student 5-1: No I don't.

Student 5-2: Mor (sic: More) songs.

Student 5-3: No nothing at all.

Student 5-5: It could be better by adding Christmas carols.

Student 5-6: No suggestions from me.

Student 5-7: Nop (sic: Nope).

Student 5-8: No it sud (sic: should) stay the same.

Student 5-9: No I don't.

Class 6

Student 6-2: No I do not.

Student 6-3: Put better music in.

Student 6-6: More exersizes (sic: exercises).

Student 6-7: No I don't have none.

Student 6-8: Nope!!!

APPENDIX O1

TEACHER CALM CARREL FEEDBACK SURVEY RESULTS

- 1. Overall, the calm carrel was a useful option to have available for students in my class.**

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
--------------------------	-----------------	----------------	--------------	-----------------------

Class 1 Teacher: Strongly Agree
Class 2 Teacher: Strongly Agree
Class 3 Teacher: Agree
Class 4 Teacher 1: Agree
Class 4 Teacher 2: Agree
Class 5 Teacher: Agree
Class 6 Teacher: Agree

- 2. The calm carrel fit in well with my existing approach to classroom management.**

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
--------------------------	-----------------	----------------	--------------	-----------------------

Class 1 Teacher: Agree
Class 2 Teacher: Strongly Agree
Class 3 Teacher: Agree
Class 4 Teacher 1: Agree
Class 4 Teacher 2: Strongly Agree
Class 5 Teacher: Agree
Class 6 Teacher: Strongly Agree

- 3. Students used the calm carrel appropriately.**

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
--------------------------	-----------------	----------------	--------------	-----------------------

Class 1 Teacher: Neutral
Class 2 Teacher: Neutral (“some students used it to get out of work”)
Class 3 Teacher: Neutral
Class 4 Teacher 1: Neutral
Class 4 Teacher 2: Agree
Class 5 Teacher: Agree
Class 6 Teacher: Agree

4. I would consider implementing a similar self-management intervention with my students in future years.

Strongly Disagree Disagree Neutral Agree Strongly Agree

Class 1 Teacher: Agree
Class 2 Teacher: Strongly Agree
Class 3 Teacher: Agree
Class 4 Teacher 1: Agree
Class 4 Teacher 2: Agree
Class 5 Teacher: Agree
Class 6 Teacher: Agree

5. Your comments on each of the following areas would be appreciated:

a) The parameters set out for student use of the calm carrel:

Class 1 Teacher: The parameters are efficient...but behaviour students will manipulate the situation to avoid work or to waste time. Therefore, they will intentionally bring on a behaviour or work themselves into anxiety as an excuse to use the carrel.

Class 2 Teacher: Appropriate.

Class 3 Teacher: When they used the carrel instead of the timeout room, they came back quickly.

Class 4 Teacher 1: Excellent.

Class 4 Teacher 2: Initially students went to the calm carrel for the novelty of it. It was something new to try. As we progressed, the students used it more for what it was intended for. I thought the 5-minute time limit was just right.

Class 5 Teacher: The parameters were realistic and practical. Five minutes of listening to calming music and the post reflective sheet were time effective. They did not interfere in (sic: with) learning activities.

Class 6 Teacher: Were very clear and there was no abuse of the carrel. The students followed the parameters well.

b) The materials and strategies provided for student use at the calm carrel:

Class 1 Teacher: Excellent.

Class 2 Teacher: Appropriate.

Class 3 Teacher: Excellent! They enjoyed the music.

Class 4 Teacher 1: Excellent.

Class 4 Teacher 2: I thought the calm carrel was well organized and planned out. It provided the students with an opportunity to reflect on why they were feeling a certain emotion.

Class 5 Teacher: Again, the materials provided were effective. I don't believe the students used the deep breathing exercises provided. The deep breathing exercise might be better implemented as a classroom exercise. Printed materials (including stickers) were simple enough for students to follow, which is needed with this population.

Class 6 Teacher: Physical strategies were not utilized. However, the music was highly effective.

c) The appropriateness of the calm carrel as a tool for general classroom management with this population of students:

Class 1 Teacher: There would need to be different boundaries set. It would need to be made a part of our existing "Discipline Cycle". It would be used as another step, to be proactive. In turn, I could use the calm carrel as a strategy before, or in stopping the child from going to the time-out room.

Class 2 Teacher: Very appropriate.

Class 3 Teacher: This was good for managing low-level behaviours/mood swings. Best used by students who are more self-aware.

Class 4 Teacher 1: Appropriate.

Class 4 Teacher 2: I think it's a great tool for this group of students because they often need to just get away from the group and collect themselves. Most students who went to the carrel were more relaxed and ready to get back to the routine.

Class 5 Teacher: I believe the calm carrel was one effective tool which helped in the self- management of students. As teachers we need more strategies that students can independently implement in monitoring their feelings and behaviours. The calm carrel is a tool that students may implement on the bus, in class or even at home. Its practical utility may be applied in several areas of their life.

Class 6 Teacher: Very effective as both student and teacher agree to the carrel so no conflicts arise.

d) The specific utility of the calm carrel intervention in fostering student self-management skills:

Class 1 Teacher: It was okay, because the child chose when he felt he needed or wanted to utilize the calm carrel. The problem is students would take advantage of this, and without consequences, manipulate the situation. One student would ask: Child: “How much longer do I have to work?” Teacher: “Approximately 5 minutes.” Child; “Oh...can I go to the calm carrel?”

Class 2 Teacher: Appropriate.

Class 3 Teacher: It seemed more to reinforce the skills in those who have them already. Introduced the ideas to others.

Class 4 Teacher 1: Excellent.

Class 4 Teacher 2: It gave the students another opportunity to take control of the situation for themselves. If they were feeling frustrated or angry they new (sic: knew) that they could go to the carrel and manage their behaviour and calm down.

Class 5 Teacher: See C.

Class 6 Teacher: Sometimes however it seems to also take thier (sic: their) mind off why they went there in the first place.

6. Any further comments you may have regarding the calm carrel intervention would also be appreciated. Thank you again for your input.

Class 1 Teacher: I love the idea of the calm carrel.

Letting BD students choose when they go there does not work. They're unable to self manage the concept.

As a teacher (especially in a Behaviour classroom) it is extremely important I am routine, consistent, firm with rules, and have clear expectations. The students took advantage of the circumstances with the calm carrel by manipulating the situation. In doing so, I lose my “authority” in the classroom.

Ex: One child may choose to use the carrel 3 times during math period (15 min.). I know he is not wanting to complete the work, I know he is being defiant, I know he is fully capable of doing the work and I have the assessments to prove it. Instead, the child manipulates the teacher by asking to use the calm carrel. The child says he feels frustrated, angry & annoyed. The child knew I could not refuse him access to the carrel nor could I have him catch up on the work he missed. When I let the child go to the calm carrel...he smiled.

These children are coded oppositional defiant with conduct disorder or emerging conduct disorder. They (some) have a history (anecdotal) of manipulation. As a result, the boundaries & parameters with which the calm carrel is used would need to be modified to fit my classroom and to best fit each student based on observations, conversations and anecdotes.

Class 2 Teacher: I thought it was an excellent idea. I will continue to use it in my classroom as a tool for students to manage their stress and frustration.

Class 3 Teacher: I really like the idea. Unfortunately, the students do not really use the carrel. Perhaps location and not having it from the beginning were factors?

Class 4 Teacher 1: I will continue to use the calm carrel. My students are beginning to use it to help them calm down when they are frustrated.

Class 4 Teacher 2: I appreciated the effort and consideration you put into this project. It was a useful tool to incorporate into our classroom. We will continue to use it in our class. Thanks.

Class 5 Teacher: I would like to have had a couple of different techniques that may have been applied in the classroom. Techniques that might involve different modes of learning or specific deficits (sensory). We will be including two rocking chairs in our classroom to assist a few children who have sensory deficits.

Class 6 Teacher: Not much theraputic (sic: therapeutic) rapport being given after the carrell (sic: carrel), so for the purpose of finding out how to help the students, I have to read the log to find out.

APPENDIX O2

FOLLOW-UP TEACHER INTERVIEWS

Class 1

Kent (K): Okay, so I just have sort of a list of questions. If you have any additional things you want to add at any point or anything, you can just jump in.

Class 1 Teacher: Sure.

K: First of all, for the question on your feedback form about using the carrel appropriately...you marked that as 'neutral'...I'm wondering a couple things about that. First, sort of, how you knew that they were going to the carrel to get out of work, I'm assuming, was...

Class 1 Teacher: How did I know they were using it to get out of work?

K: Yeah, as opposed to say, being frustrated or upset. Like, were they sort of clearly going there when they were happy or, like, in a good mood, but they just didn't want to...like...

Class 1 Teacher: It was clear. Like, it was very clear. And, one of the examples that I've written in there to kind of support that statement was that the students would be working fine, they'd be on-task, there seemed to be no visible agitation, work was being completed. And then, they would look at the clock, and they would say, "How many more minutes until we have recess?" And I would say, "Five minutes". And the child would go, "Can I use the calm carrel?"

K: Okay, yeah.

Class 1 Teacher: And so, what they're doing...and I knew that they were manipulating the situation, obviously, yeah. They had no...there was no...all they wanted was to waste that five minutes, and so then they would ask to go to the calm carrel during that time to fill up the space, yeah.

K: Right, yeah. And would you say that they were...was this happening within the whole group, or were there just a couple, one or two students, who were doing it?

Class 1 Teacher: Pretty much all the students caught onto it, except for my opportunity student that didn't catch onto that. And he really did not utilize it very much at all.

K: Oh yeah.

Class 1 Teacher: Mostly because he just couldn't understand the concept of it. He's quite low and has some real developmental issues. So, he just couldn't understand the concept even when I would, you know...as it was suggested that we recommend maybe they go to the calm carrel...he still would not go, yeah.

K: Okay, yeah. And the ones who were using it inappropriately, was there...did you still notice, like, any effect when they were going...even if they were going there to avoid work, did it have any impact when they were finished their session? Like did they...even if it was just before recess, did they appear more positive or more motivated when they did go back to work later? Or when they were using it inappropriately did it not really seem to have an effect?

Class 1 Teacher: Nothing drastically that was probably observable. But, you know, if I could say that it increased in their behaviour...they came back, you know, excited or hyper, you know...I never noticed that. There was always a smooth transition from that to whatever they were moving onto next.

K: Okay, well that's good.

Class 1 Teacher: Hmm hmmm.

K: And aside from going there for the wrong reasons sometimes, were there any cases where they were using it inappropriately once they were there? Like...

Class 1 Teacher: Inappropriately once they were there?

K: Yeah, like did they ever use...

Class 1 Teacher: No.

K: No, okay, well that's good.

Class 1 Teacher: No, they never ever abused the carrel in any way, or the privilege to be there.

K: Oh, that's good to know. That's really good, yeah. And do you think the extent to which they went there for the wrong reasons, like to get out of work, decreased as the study went on, or did it...?

Class 1 Teacher: They stopped using it.

K: Oh, they stopped using it? Overall, just...?

Class 1 Teacher: Yup, overall they stopped using it. They didn't...

K: Oh. That's interesting.

Class 1 Teacher: Yeah. You'll notice that at the beginning they were using it quite a bit, and I wasn't saying anything. I wasn't intervening in that, even though I knew that they were manipulating the situation. I backed away from consequencing that, at that point, or even addressing it. And so they were using it, and then it got to the point where I had to intervene, because it was being manipulated and at that point I was starting to lose my, kind of, control or presence in the classroom.

K: Oh, okay.

Class 1 Teacher: Because it was taking away from my authority. And so, when they knew that I couldn't say no to them asking to use it, there would be a grin or a snide remark because I would have to let them go. So then at that point I had to intervene and say that I can say if I find that you're manipulating the situation, I'm going to have to intervene and say "No".

K: Hmm hmmm, right.

Class 1 Teacher: And we do a lot of talking and a lot of debriefing about manipulation, so the kids know what that is.

K: Right.

Class 1 Teacher: Except for the one child, (*Student 1-3*). He's too low to understand that concept, but...

K: Okay, yeah.

Class 1 Teacher: But, all of them. And then you'll notice that when you go through that they've...it pretty much stopped after that.

K: Hmm hmmm. So would you think that that would suggest that they were typically using it mainly as a way to get out of work, or...?

Class 1 Teacher: Yeah, typically, yes. A majority of the students, yeah.

K: Hmm hmmm. So, there were five in total?

Class 1 Teacher: I think there's five. One, two, three, four...yup, five.

K: So, out of the five, you'd say...?

Class 1 Teacher: Four out of five.

K: Four out of five were using it...

Class 1 Teacher: Well, three out of five, for sure. One...I don't know if you can really count (*Student 1-3*) so much, because he just couldn't...he wasn't capable of using it. He's still very Division One, and this, to me, is a very Division Two kind of a concept, so...

K: Yeah, that's true.

Class 1 Teacher: He's very Division One, so he's not...he wouldn't even really apply to the study. Oh, one of them I did find, you know, found it useful.

K: Oh, that's good.

Class 1 Teacher: And, he would ask to go there when he was in a behaviour, or escalating towards a behaviour.

K: Hmm hmmm.

Class 1 Teacher: And, it seemed to definitely calm him down and relax him when he would return back to his desk.

K: Oh, that's excellent.

Class 1 Teacher: And, you know, again we never made it to the time-out room on the one particular day that he used it.

K: Oh, okay.

Class 1 Teacher: So, I think that as another intervention before time-out, I felt that it was a very useful strategy, so...

K: Hmm hmmm, good. And, he only did use it the one time then, or one day, or...?

Class 1 Teacher: Him?

K: Yeah.

Class 1 Teacher: No, he'd been using it throughout, but on this one particular day he was very aggressive and becoming violent, and very defiant and very...lots of rude...you'll see it in the charts there, talking back, arguing, defiance. Just, very severe for him. So, at that point he had asked to go to the carrel, I believe at least two or three times in that period, and if you could see...

K: And that did seem to break the cycle...

Class 1 Teacher: Yeah, it did break the cycle, yeah. I think it did help him in breaking that cycle, for sure.

K: Oh that's good. In terms of the misuse of it, do you think there's any way in which the rules could be changed...

Class 1 Teacher: Absolutely, yup.

K: And, like, how could it sort of be reframed maybe to...

Class 1 Teacher: Definitely it would become...and I had written in my review there as well, but...if you were to use the calm carrel as another step in my discipline cycle...so, instead of it being...and, you know, it could still be an option for students if they feel agitated, but again I wouldn't give them that option without me intervening and me still holding my authority within the classroom and preventing that manipulation. So, it would still be an option to do that, with my permission, basically. And then not a, "I get it no matter what", kind of a situation. And then with my permission they could go there. I would also...that's one way it would, the rules would be changed about it. The other way was that it would become a step in the discipline cycle. So, if they go to the calm carrel first, rather than going to the carrel (cause, I have a carrel already in...as part of my process)...if they went to the calm carrel first, and then if there was still agitation there after their five minutes then we would...or if they went there and started abusing it, or it was, they were too agitated...they were beyond the point of intervention at that stage...I would move them to the carrel. And then they would obviously go to the time-out. So, it could be an additional step...a very useful step, and a proactive rather than a reactive approach, for sure.

K: Right, hmm hmmm. And when you say they would have permission, would that mean then that they would have...like, you would have to invite them to use it, or would they still be able to ask?

Class 1 Teacher: They can ask, but I have the right to say no.

K: Yeah, for sure.

Class 1 Teacher: Yeah. Because, I know my students inside out and backwards. I know exactly what they're doing, 100% of the time. So, if I know that they're making a move to manipulate the situation because they don't want to do nouns and verbs, and they don't want to do the work, and they've been sitting there twiddling their thumbs and procrastinating and looking at the clock and waiting for recess to come...and then they say, "Uh, yeah, can I use the calm carrel?", "Uh, can I go to the washroom?", "Uh, can I go get a drink of water?", "Uh, okay, can I use the calm carrel again?", they're manipulating the situation.

K: Yeah, for sure.

Class 1 Teacher: And, that would allow me the power and the control to say, “Out of my classroom”, and the rules...and it would become just a part of the rules.

K: Right.

Class 1 Teacher: Yeah, and I think that it would work effectively that way.

K: Yeah, okay. And, do you think, like, the use would...like, eventually once you, sort of, intervened in terms of that, the use went down a lot...

Class 1 Teacher: Absolutely, yeah.

K: Would you say that they wouldn't probably use it as much within that more structured system, or...because they're...?

Class 1 Teacher: It would depend on the child, and it would change, I think, year-to-year, because every single child is so different.

K: Hmm hmmm, right.

Class 1 Teacher: And I would set it up right from the very beginning of the year to be, you know, a positive...obviously it was a positive thing at that time too... But, the kids are very...so structured and so routine, that I think it would almost...I think it would boil down to me...this particular group, I would have to send them. Like, “You need to go...I can see you're visibly agitated, and I can see you're escalating. So, you need to go and try the calm carrel.” And they could have the choice. They can refuse, at that point, and say, “No, I don't want to go there.” And then I could say, “Then you need to go to the carrel.” Not the calm carrel, that's the step before...“Then you need to go directly to the carrel.” And so, that's how I would utilize it. And I think that it's possible that...I think the strategies will work: that even if I send them to the calm carrel, I think they will utilize it and calm, and then can return back to their seat, rather than escalating and being bumped up that one extra thing in the discipline cycle, yeah.

K: Yeah. So building it in more to the...

Class 1 Teacher: Definitely, yeah. More in your discipline cycle. And it would involve, probably, I'm assuming, a lot more of me intervening and asking them or giving them that direct choice.

K: Yeah, that makes sense for sure. And you mentioned that they did tend to use it also more initially, like, early on. Do you think...like, part of it was to manipulate. Was part of it also maybe due to the novelty of...

Class 1 Teacher: Curiosity. Novelty, curiosity...definitely seeing if I would say no.

K: Right, okay. So, testing.

Class 1 Teacher: Yeah, it was definitely testing, yeah. I mean, these children are...of course, all my students are severe oppositional defiant with a conduct disorder in order to be in that classroom.

K: Right.

Class 1 Teacher: So, they know the ins and...not all of them, but some of them...if you were to go through their cumulative files and my anecdotal, daily, you'd see that that's a pattern in their relation...in their own way of dealing with things. So, obviously they're going to try that with that new step.

K: For sure, yeah. And you mentioned that certain students used it more than other students as well.

Class 1 Teacher: Hmm hmmm.

K: I'm wondering why you think that might have been the case. Like, the one student who you felt maybe really benefited from it...is there something about his...

Class 1 Teacher: Hmm hmmm. ADHD.

K: Oh, okay.

Class 1 Teacher: Hmm hmmm, I noticed that. Yeah, now that you point that out, actually the student that probably utilized it, and benefited from it the most was the child that had ADHD.

K: Okay, well that's interesting, yeah. And would you say that he was also maybe more, going into it, more aware of his behaviours in any way than some of the other students? Like, more aware that he would need to...or that this would be beneficial, or...? Like more self-aware, or not...?

Class 1 Teacher: No.

K: Not particularly, no?

Class 1 Teacher: No. No more self-aware than some of my other students, no.

K: Hmm hmmm, okay. Did his level of use surprise you at all...or the lack of use by other students...or anything about the use surprise you?

Class 1 Teacher: Not overly, because, I just...I know the students so well in the classroom that I knew that, for example...because a lot of the students I've been working with for two or three years, so I have that relationship with the students and they have improved so much since they came to me. So, if we'd have maybe had this in place two years ago when they first came to me, it would have been utilized a lot more. But, for example, one of the students, (*Student 1-4*)...well, he pretty much has 'seven' days every day.

K: Oh, okay.

Class 1 Teacher: So, for him, to utilize that isn't...wouldn't really fit him. He was one of the feedbacks you got, but it isn't the most probable thing for him 'cause his behaviours aren't high enough that he would utilize it that much. Mind you, he is the one child that did manipulate it when he could. So...

K: Oh, okay, yeah. So it really depends on the individual...

Class 1 Teacher: Depends on the individual child, for sure...and the day and the moment and the...

K: There's so many factors, yeah.

Class 1 Teacher: Uh-huh, so many factors.

K: That's true. And would you say that, I guess aside from the manipulating aspect, that, with that one student in particular, and others when they were using it appropriately, did they tend to go there on their own initiative, or did you find that prompting or reminding them was...

Class 1 Teacher: Most of them asked to go on their own initiative, even though...even if it was manipulating, or whichever the reason was. They mostly...I never got to the point where I would ever say, you know, "You need to go"...or, not "You need to go", but give them the option of going or prompt them to maybe head in that direction or lead them in that way.

K: Yeah, so they were pretty much...

Class 1 Teacher: They did. They asked. They just put their hands up and asked, yeah.

K: Okay, yeah. And so the one student who didn't really manipulate it...did the others... do you feel they manipulated it all the time, or occasionally...?

Class 1 Teacher: It was kind of hard...sometimes it was hard to tell, but...

K: Yeah.

Class 1 Teacher: It was pretty much from the moment that I said that I could say no, that it...

K: It just dropped.

Class 1 Teacher: It was pretty much nonexistent.

K: Right.

Class 1 Teacher: Another thing that would affect the study is the simple fact that the stakes are too high in my classroom for high behaviours. So, I have them not as often as some of the behaviour classrooms because, again, the relationship that I have with the kids...I've had them for two or three years. Or the fact that the stakes in my classroom, like the rewards and the consequences and the rules are so structured in that classroom, there isn't a lot of movement in there. So, for them, they just...that was another part of...it would be part of a routine or another...it would be a kink in their routine, it would be a kink in their structure. And when you run such a tight ship and the kids are used to that tight ship, to add that in there was like...oooh, too much, right? It was like, hmmm. "But, even though I may feel a little agitated right now, or I may feel my anxiety goes up, I know that I'm going to have...in seven minutes, I know that I'm going to earn free time if I complete this work and I do this, this, and this."

K: Right, so the expectations are so...

Class 1 Teacher: And so they would...they were able to just refocus and get...cause they know that within seven minutes, they know what's happening. They know everything.

K: Right, it's all laid out.

Class 1 Teacher: Cause it's so laid out. Really tight, yeah. And so, I found that if they...threw in the calm carrel in there, it was kind of a twist in their routine. And again, some are obsessive compulsive, so you don't put in a calm carrel when one of those kids is obsessive compulsive.

K: Their reaction...

Class 1 Teacher: That's not going to work for them. That would be too much in their day. Another twist, and they're not used to it, so...

K: Right. So, potentially having it from the start of the year would...

Class 1 Teacher: Right from the very beginning, and laid out a little differently would, I think, be much more beneficial, yeah.

K: Right. Is there anything in terms of the rules set out about the use...five minutes at a time, for a maximum of three times a day...should that be...would you see that as being changed at all?

Class 1 Teacher: No, that would stay the same. That was a good amount of time and it seemed to be great. And, no more than three times a day, I would think, would be necessary.

K: Yeah.

Class 1 Teacher: Yup, no that was laid out well.

K: Hmm hmmm. And is there anything about the design of the intervention itself or the procedures that might be changed to encourage greater use? Like, greater appropriate use. Like, an additional strategy or anything that would be worthwhile to include, or...?

Class 1 Teacher: I think that I did have some feedback from the kids that...you know, "Why is it all classical music on there?" You know, they don't like classical music. That wouldn't be their preference. They would have...

K: Rap or...(laughs).

Class 1 Teacher: Rap or, you know...that would be their preference. You know, and there is some...you know, there might be some things that could be added on there that might be more interesting for them, and draw their attention a little bit more but still be positive and calming and...I don't know where that stuff exists, but if you find it let me know. (Laughs)

K: Sure.

Class 1 Teacher: Because I could use it to play in my classroom at other times. It would be really good, yeah.

K: Yeah. So just more towards their age...

Class 1 Teacher: A little bit more towards their age group. Not all of it, cause I do believe in the effects of classical music, and I would promote that. And I do play it, and so the kids weren't really negative about it. But, at the same time, I just heard a couple comments, "Why is it all classical music on here...no other kind of music?" And I just said, "Well, because classical music is considered to be calming and relaxing, and...". You know...

K: Right, no that's true, yeah. I guess, any specific kind of behavioural improvements...like, in particular to that one student...like, specific

improvements that you would attribute to the calm carrel after he returns from there, or...?

Class 1 Teacher: Just, the ADHD. It seemed to help the ADHD a bit, you know?

K: So, more focused? More on-task?

Class 1 Teacher: Well, because he was in such high behaviours that day, there was no on-task issues (laughs)...There was just...it didn't escalate to violent outbursts, so...there was no on-task happening, at all. But, it wasn't to the point where he was hurting himself or anyone else, or of danger to himself or anyone else. So, that was good, and that was positive. And the calm carrel, maybe that was the intervention that helped to prevent that from happening. I can't be certain, but I did notice that correlation on that particular day.

K: Hmm hmmm. He has conduct disorder also?

Class 1 Teacher: Yeah, they all have to have either conduct or emerging conduct disorder in order to be in the classroom.

K: Right, okay. So that was, in his case...was really the only case that you noticed particular behavioural improvements occurring immediately after, or...

Class 1 Teacher: Yeah.

K: But you said there'd be a smooth...there was a smooth transition after...

Class 1 Teacher: Always a smooth transition.

K: So, there was never any problems getting back to...?

Class 1 Teacher: Never issues that seemed to happen. Never related with any...within a realistic time frame after using it. Definitely not.

K: Okay, so it could potentially have prevented something from...?

Class 1 Teacher: Absolutely, yeah. There's a potential there.

K: Okay, yeah. In terms of the dependent measures, the seven-point rating scale and the time-out...do you feel that those were appropriate measures that would have captured any improvement that might have occurred?

Class 1 Teacher: Yup.

K: Or would you see a different measure as being a more accurate index of change?

Class 1 Teacher: No, I think it was a really good index to use. Again, if you read it you would be wondering why this kid would get a seven on this day, and this kid would get a five. It wouldn't make any sense at all. And, if you looked at the descriptors of the numbers that were associated with the rating of a seven, you would be very...it wouldn't fit...none of it will fit. Because a 'five' day that looked...to one kid, will look very different than a 'five' day to another child, based on their disorders and their issues, so...

K: Oh yeah, absolutely.

Class 1 Teacher: So, you'd have to be...the person that was interpreting that would have to be very aware of that and...

K: For sure.

Class 1 Teacher: And appreciate each one of the students individually.

K: Hmm hmmm, definitely. So, overall, in terms of the number of students who you think benefited, in any way, from having the carrel in place, would you say it was just that one really, or would you say they all benefited in a kind of global sense, or did it...

Class 1 Teacher: So you're looking...for me to say whether or not that attributed, I'm not too sure. But, out of the three that used it the most often...what was the question then, for the three that used it most?

K: Like, how...

Class 1 Teacher: Overall.

K: Yeah, overall, how many of those students do you think benefited in some way from having it in place? Either behaviourally, academically, or in something that didn't come through in the measures, but...

Class 1 Teacher: Well, one of the students, like I said, had 'seven' days everyday. So, you know.

K: Hmm hmmm, right.

Class 1 Teacher: The other child...you know, I noticed that they would...it almost increased his behaviours, because he wanted to get out of doing work. So he knew that if he could get his behaviours to go up, then he could ask to go to the calm carrel. Like, he would manipulate it that much. So, in a way the calm carrel was kind of...had an opposite effect on that child. So, that kind of knocks him out, and it knocks the other child out. You know, like, I would say probably only one of the five, because the other two didn't use it much.

K: Hmm hmmm, right.

Class 1 Teacher: So really I only noticed it in the one out of the five children that there was an actual effect that was a significant effect, yeah.

K: Hmm hmmm. But worth continuing with it?

Class 1 Teacher: Worth continuing with it. I think that another thing is, is that the kids that I thought that should use it, didn't have permission.

K: Right, yeah.

Class 1 Teacher: So that becomes another factor.

K: Right, so they could...now that it's not for the study, they can...

Class 1 Teacher: Now that it's open for everybody to use. And, I could put it...I'm going to use it, if you're leaving it for me...I'm going to put it in as part of my discipline cycle.

K: Hmm hmmm, oh yeah. That's good, yeah.

Class 1 Teacher: And then...

K: And then there should be more use...

Class 1 Teacher: I think there will be more use, yeah.

K: Great. For that one student who did make better use of it...would you say that he became more aware of his behaviours over the course of the study, kind of... Like, in that he was asking to use it, do you think that he got sort of a better sense of when he needed to take a...to use a strategy like that, over the course of the study, with it in place, or...

Class 1 Teacher: Probably, yes. I would think so, yeah.

K: Hmm hmmm. Just like his...all the times he was asking tended to be appropriate times...

Class 1 Teacher: Yeah.

K: And they tended to be times that you would have also suggested that if he hadn't asked, kind of thing, or...

Class 1 Teacher: Yeah. I don't think that he's capable...he's not at a developmental level where he's capable of that kind of reflection.

K: Hmm hmmm, right.

Class 1 Teacher: Cause you'll...if you look at their reviews of what happened, I don't think developmentally he was capable of associating that. I am the one that would probably see that and be able to correlate it. But for him, I highly doubt it. He wouldn't have seen any correlation there...that much, anyways. On maybe that one particular day, he could have seen it. But on regular days, no. No, I don't think he would have seen it and correlated it at the end and been able to reflect on that.

K: Right. But that he was...or, he was aware enough of what was going on with his behaviour that he saw it as being necessary to go there at that point, even if he couldn't...

Class 1 Teacher: Yes, he did. Hmm hmmm.

K: Okay, that's good. That's a good sign for sure, yeah. In terms of implementing the strategy within other BLA classes, would you see this as something that would be useful, if adapted in the way you indicated in terms of building it into the discipline cycle of...

Class 1 Teacher: Yeah, as long as there's structure to the routine, and they really utilize it. You know, I think that it can be a really beneficial step, yeah.

K: And in some...I guess it would depend on the group of students...like, a particular group of students, it might not need to be built into the discipline cycle? Like it could be left as a more open option, if...

Class 1 Teacher: Absolutely, yeah. It would still be an open option, but it would...I would utilize it as a part of my discipline cycle, and a proactive step to keep them from, you know, ending up in the time-out room.

K: Hmm hmmm, right.

Class 1 Teacher: 'Cause that's the last place you want them to be, right?

K: Hmm hmmm, true.

Class 1 Teacher: You know, if you can do whatever you need to, and still keep control of the situation and have them calm down and not hurt themselves or anyone else, that's the goal, right?

K: Yeah, definitely, to be able to...

Class 1 Teacher: And learning, so...

K: Yeah, for sure. Would there be any changes you'd see making to the calm carrel in general to fit into a BLA class? Like, to make it more widely appealing to teachers, or...?

Class 1 Teacher: No, it's more work, so...you know, monitoring it, and making sure that it's used properly and that they're not destroying something inside there or wrecking it. You know, monitoring it...

K: Hmm hmmm, right.

Class 1 Teacher: It becomes more...a little bit more work for the teacher. But, again, if you have a well-structured and well-run classroom, and you've got your kids, you know, again, on the right track...it should work very effectively.

K: So the benefits could outweigh the additional monitoring...

Class 1 Teacher: Absolutely, yeah. Absolutely. But again, some teachers might go, "No way. I've got eight out of nine new kids this year. I've got...there's no possible way I could put this extra stuff in. I've already got too much stuff going on. So it really is dependent on the classroom and the teacher.

K: In terms of the possibility of using the calm carrel in, like, a regular class setting with say, like, twenty-five students, would you see that as having any potential in that sort of context, if there's some students with behaviour problems?

Class 1 Teacher: Absolutely, and students with ADHD that are in regular classrooms, I think it could be utilized definitely, with the right controls in place.

K: Right, yeah. Would you see any changes to the intervention itself that would be necessary? Or just to make sure it's...

Class 1 Teacher: Just making sure that it's not being manipulated to get out of work.

K: Right, yeah. I wanted to mention the problem-solving form, in the duotangs...the one where the kids indicated why they went there and what they thought they would do when they would go back. It was left optional, do you think it was...

Class 1 Teacher: They didn't use it.

K: Yeah?

Class 1 Teacher: It's too much work, yeah. Not any of them utilized it, I don't think.

K: Yeah.

Class 1 Teacher: And anyone that did...now that I think about it, it was because it allowed them more time to stay there and not have to go back and do work.

K: Oh, okay.

Class 1 Teacher: So it added an extra three minutes or four minutes, or whatever, that they could spend on that, rather than going back and doing the work, right?

K: Okay, yeah. So there wouldn't be any value to having that...?

Class 1 Teacher: No.

K: Yeah. And then the combination of the audio materials there...the music, visualizations, and relaxation...you mentioned the music...Do you think that the general selection was appropriate, or...?

Class 1 Teacher: Yes, I do. Yes.

K: Anything that wasn't?

Class 1 Teacher: No, I think it was all appropriate. I think it was soothing.

K: And no additional strategies that would...

Class 1 Teacher: No, the relaxation techniques were good, and the stories...and the kids walked through the stories...were good. I'd look over and I could see them doing what they were told to do on the tape and, you know... As far as I was aware, when they were there they were using it properly and they were utilizing it and seemed to enjoy it, so...

K: Excellent, that's good.

Class 1 Teacher: Yeah.

K: And did students in the class say anything to you, like during the course of the study, other than the evaluation forms, that would give additional insight into what they thought of it, or...? Like, did they make any additional comments about...other than the music?

Class 1 Teacher: No, not really. It was very much...and I didn't actually read...I don't remember the last part, or if I read their last response...I don't think I did, but...

K: But they didn't make any comments orally?

Class 1 Teacher: Nothing, no.

K: Okay, that pretty much wraps up...unless you have any other suggestions or comments or anything or...?

Class 1 Teacher: No, I don't have any. I thought that I was going to lose it today, so it's nice to know that we can still utilize it in the classroom, and now I can put it...and kind of adapt it to how I think it'll fit for my students, and then go from there.

K: Yeah, for sure.

Class 2 and Class 4

Kent (K): So maybe the best way...I've sort of drawn up questions, unless you had anything you wanted to discuss first, or...

Class 2 Teacher: No, that's fine.

K: Okay. A couple things I might just ask about your responses on the feedback forms first. For the third question, "the students used the calm carrel appropriately", (*Class 2 Teacher*) you mentioned that some students used it to get out of work. I'm wondering if you could expand on that a little bit. Like, how did you know that they were using it to get out of work as opposed to being frustrated or upset? Like, was it clear that they were going there when they really had no reason to be?

Class 2 Teacher: Yeah, when this was happening they weren't frustrated at all. They were like smiling on their faces, and it was just... Yeah, it was more like, for my students, I could really tell that certain things they didn't want to participate in, they'd be like, "Oh, can I go to the calm carrel now?"

K: Oh, okay, yeah.

Class 2 Teacher: And they weren't...like it was even before I started a social lesson or something, and...

K: Oh, okay.

Class 2 Teacher: Yeah.

K: So before a lesson you knew they wouldn't...that particular student wasn't interested in, or...

Class 2 Teacher: Yeah, yeah...they would just go to the calm carrel, yeah.

K: Okay.

Class 4 Teacher: And I had one student in particular who knows it's spelling every Monday, so every Monday without fail he'd be like, "Can I go use the calm carrel?", right as we're starting our spelling. So, I knew that he was trying to get out of doing his spelling unit by going to the calm carrel.

K: Okay, yeah. And would you say that that happened more often for just a couple particular students or did a lot of them try to...

Class 4 Teacher: For me it was probably three of my students who were trying to use it like that. The rest seemed to use it appropriately for their actual, you know, venting of their frustrations, trying to calm down and collect themselves, so...

Class 2 Teacher: Yeah, and for me I would say it was about two students that would, yeah....

K: Okay, hmm hmmm. And do you still feel it was helpful for them even when they may have been using it...like, did it have any impact on...like, did they appear to be more motivated or anything or calmer when they came back to work, or did it not really seem to have any...?

Class 4 Teacher: I had one student who, for sure, every time he went to the calm carrel, came back calmer. And, he commented, he's like, "Yeah, I just press on this one song," and he's like, "I feel much better when I'm done."

K: Oh, excellent.

Class 4 Teacher: So, I know for him, like...

Class 2 Teacher: But was that for the ones trying to get out of work?

Class 4 Teacher: No, it wasn't. It was for...

K: Oh, okay.

Class 4 Teacher: Yeah, sorry, that was for a student who was using it appropriately. I should have added that.

K: Okay. So if they weren't using it appropriately, or if they were going just to get out of work, it didn't seem to have any kind of impact on their overall attitude or behaviour or anything?

Class 2 Teacher: Hmm...well, the one I'm thinking of, no, he was still off-task if he'd come back into the group. Yeah, when he was using it inappropriately.

K: Yeah.

Class 4 Teacher: One of mine actually, he did use it appropriately and then came back calmer, but it wasn't lasting. It was like, "What can I do now to get out of doing my spelling?" So, it did have an initial impact, but it wasn't long-lasting for that particular student.

K: Yeah, okay. And, would you say that the percentage of time, though, that the students were using it appropriately was, overall, like, the majority of the time?

Even with those several students, they were still most of the time using it alright, or...?

Class 2 Teacher: Yeah, I think so.

Class 4 Teacher: Yeah.

K: Hmm hmmm. And once they were...even if they were going to it for the wrong reason, were they using it appropriately when they were there, or was anyone...?

Class 4 Teacher: Yeah.

Class 2 Teacher: Yup.

K: Okay, so they weren't fooling around at the carrel or anything?

Class 4 Teacher: No.

Class 2 Teacher: No.

K: Okay, good. Do you think the extent to which that happened, like going there just to get out of work, decreased over the period of the twenty days? Or did they still try to... Was that like just initially when they weren't...

Class 2 Teacher: No, I would say it was consistent.

Class 4 Teacher: Hmm hmmm, yeah.

K: Okay. Is there any way, also following up on that, that you think the rules might be changed (that I set out for the parameters) that could sort of account for...or, as a way to prevent that from happening?

Class 4 Teacher: Was it set out initially as...like, was there anything said about it not being an option for, like when students don't want to do their work? Maybe if that was clearer at the beginning. 'Cause I know we discussed that with our students, but maybe if they knew that it was specifically not to be used inappropriately like that...

K: Hmm hmmm.

Class 4 Teacher: 'Cause, I'm not sure 'cause I wasn't here for all the initial things. So I'm just trying to fill in the blanks.

K: Yeah. Yeah, I'd kind of left it open that if, like if you felt they were using it inappropriately, you could always say. But, maybe it could be emphasized more

with them. Do you think it would even help if, like I debated this: having them have to ask permission every time? Do you think that would help if that was a requirement, or...?

Class 4 Teacher: Well, most of mine asked anyways.

Class 2 Teacher: Yeah.

Class 4 Teacher: So, I think that that's a product of how our classrooms are set up, I think. So, if you did it in another class, it might not be...it may be good for you to outline that. But I think in ours, because of the way we have our classes set up, they needed to....well, mine just asked anyways, so...

Class 2 Teacher: Yeah, so did ours.

K: Okay, great. Do you feel that the students used the carrel to a greater extent, sort of, initially, due to the novelty effect of, like just in general, of having a new strategy in the class? Like, was there any sort of initial peak in the use just due to having something new, or...?

Class 4 Teacher: Well, all of ours tried it early on. I know they were curious.

Class 2 Teacher: See, all of ours didn't try it. So, in mine it was a little different.

Class 4 Teacher: Oh, okay. It could be kind of a maturity level of the classroom, too. 'Cause you have a lot of older, more mature students. So, that could have had an impact on it. Because all of mine, as far as I know... 'cause I think (*the other Class 4 teacher*) was here the first part of it...but, they were using it quite consistently at the beginning.

K: Hmm hmmm, okay.

Class 4 Teacher: Just to see what it was like. What songs were on there, and what...

K: Yeah, okay. But that wasn't really noted in your class?

Class 2 Teacher: Not really. I'm just thinking...the people who used it more at the beginning used it throughout, anyways.

K: Okay, yeah.

Class 2 Teacher: But I didn't have...not everyone tried it in my class.

K: Okay. Even over the course of the study, some of them didn't use it?

Class 2 Teacher: Yeah.

K: Okay, yeah. Yeah, that can happen for sure. Just that it didn't really appeal, or didn't seem to be...yeah.

Class 2 Teacher: Yeah.

K: Okay, great. Oh, on the comment form for yours, I'm not sure...I might have to check with (*the other Class 4 teacher*) just to...but to clarify, when she said that "Students are beginning to use it to help them calm down." Is this kind of suggesting that it took students a little while to start using it appropriately, or that the effect isn't really being...or hasn't really been noted 'til fairly late in the study or...is she just meaning that...

Class 4 Teacher: Well, no, I think they...I think they know it's a part of our classroom now. At the beginning it was like this new thing, and now it's become commonplace in our classroom.

K: I see.

Class 4 Teacher: So, they know that it's an option: they can time themselves out or they can go to the calm carrel. So I think maybe they've just gotten used to having it there.

K: Yeah, so just becoming more aware and...

Class 4 Teacher: So, it's become a more regular part...it's just kind of ingrained in them now. Whereas before it was like this new thing that wasn't really a part of it, but it was... if that makes sense.

K: Yup, definitely. Thanks. Over the course of the study, did you notice...well, you kind of mentioned already that you noticed certain students using it more than others...why do you think this might be the case? Like, were these students ones that you would feel would be generally just more aware of their behaviour, or more...is there anything about those particular students who used it most often that is different from students who would have used it less, in your view?

Class 2 Teacher: Hmm, well I'm just thinking. Thinking about (*Student 2-9*)...and he used it a lot, but he's not aware of his behaviour at all.

K: Hmmm, okay.

Class 2 Teacher: So...

Class 4 Teacher: Most of mine that I'm thinking about...(Student 4-6), he was one who would use...he knew when he was frustrated he'd be... He's the one that

I mentioned before that had that, you know...there was one or two songs, or speaking parts, that he really found relaxed him.

K: Okay, yeah.

Class 4 Teacher: But, as far the others, I'm not so sure...

K: So, there didn't seem to be any real difference, or any real distinction between them as students generally, or...

Class 2 Teacher: Like over the course that we had it in our classroom, you mean?

K: Yeah, like just in terms of their...what you knew about their behaviour, in general...Like, do they seem, like...so, you wouldn't say that they're more aware of their behaviour or more conscientious or more...Like, there's nothing that would distinguish the students who chose to use the carrel from students who, in general, chose not to use it as much, or...?

Class 2 Teacher: I wouldn't say, no.

K: Okay.

Class 4 Teacher: Yeah, not overly, no.

K: Hmm hmmm. Is there anyone who used it a lot that surprised you by the extent to which they used it? Or, who didn't use it, that you would have thought would have used it?

Class 4 Teacher: No, I think it was pretty consistent with who I would think would be using it, who was using it.

K: Okay.

Class 2 Teacher: I thought in my class some of the older students would have used it more: (*Student 2-5*), (*Student 2-2*), who didn't use it very often, and (*Student 2-3*).

K: Hmm hmmm, okay.

Class 2 Teacher: But they chose to stay with the methods that they've learned before. Like they used the time-out room. Like, they'll just walk to the time-out room and have a quiet time.

K: Oh, okay. So, it could be the fact that they've been here a longer period, using that.

Class 2 Teacher: Yeah, they're used to using that, yeah.

Class 4 Teacher: Like, maybe if they only had the calm carrel, it would have been more, right, but...

Class 2 Teacher: Yeah, been different.

Class 4 Teacher: But they had that strategy in place already.

K: Yeah. Did students typically go to the carrel, sort of, of their own initiative, or did you sometimes provide prompts or reminders?

Class 2 Teacher: We sometimes, yeah, reminded them.

Class 4 Teacher: I'd cue them, I'd say, "You either need to time yourself out or go use the calm carrel." So it was kind of an option for them.

K: Yeah. And would you say there was less need for reminders as the study progressed, or did they tend to be asking more often on their own, or...?

Class 2 Teacher: I'd say it didn't change, really, with my class, with reminders.

K: Okay.

Class 4 Teacher: Yeah, I kind of kept it the same too. Like I would still give the cue or the reminder, so they had the choice.

K: Okay.

Class 4 Teacher: So, yeah, it didn't really change over the course of the...

K: Okay. Would you say that the rule that was in place about the amount of use, going for five minutes at a time for up to three times a day, was appropriate, or...?

Class 2 Teacher: Oh I think so, yeah. I think that was appropriate.

Class 4 Teacher: Yeah.

K: Would you see it being reasonable to increase that, or not really?

Class 4 Teacher: If you did increase it, I wouldn't go by too much. 'Cause like in our class I think it would just become more of a...yeah, like...

Class 2 Teacher: Too much work missed, yeah.

Class 4 Teacher: Yeah, exactly. And, I found the five minutes was usually pretty helpful.

Class 2 Teacher: So did I. The five minutes was good. I wouldn't change that. And the three times throughout the day...I wouldn't change that actually, either.

K: Hmm hmmm, good, yeah. Is there anything about the design of the carrel itself or the procedures at the carrel that you think could be changed to encourage greater use by, like, the students who didn't use it as much? Like, anything about the strategies that were there, or the...?

Class 2 Teacher: I had a couple, like when we were doing the post-questionnaire, a couple of the kids were like, "Different music."

K: Oh yeah.

Class 2 Teacher: They made comments about that. And that they would have used it if this type of music was on it, or...you know, but then again...

Class 4 Teacher: But, is that going to help, right? If you have Eminem on there...(Laughs)

Class 2 Teacher: Yeah, exactly! They'd be using it more often! (Laughs)

K: Yeah. (Laughs)

Class 2 Teacher: But, yeah, for me, I thought it was well set-up and the music selection was good, yeah.

Class 4 Teacher: Yeah.

K: Okay, great. Could you discuss the extent to which you noticed any specific behavioural improvements among students in the class, either particular to an individual student, or more general improvements in attitude, behaviour, or effort that might have been...either short-term or anything that you might attribute to the calm carrel, or...

Class 4 Teacher: I had moments with a couple students where they used it appropriately and it helped their behaviours for a short period of time, like...

Class 2 Teacher: Yeah.

Class 4 Teacher: I had, like, (*Student 4-8*), when he was at school, there was one day where he used it really appropriately and was using the strategies, and...But then there were other times when he wouldn't go to use the calm carrel...so with some students it was kind of a hit-and-miss thing.

K: Hmm hmmm. So, when they were using it, it tended to have an effect though?

Class 4 Teacher: Exactly, yes.

K: Hmm hmmm. Were there any cases where students would use it and it didn't seem to have any...like they used it a fair amount, but it didn't seem to have any impact or any...?

Class 4 Teacher: No, I think if a student used it, it always had an initial impact. But, you know, a lot of our students have ADD or oppositional defiance, so behaviours would reappear, you know, sometimes fairly quickly. With those, it would lead into an actual time-out, so...But it did initially have an impact each time they went to the calm carrel, for sure.

K: Hmm hmmm, great. And the impact would be in terms of, like, it could be motivation or behaviour...on-task...like what would it usually be?

Class 4 Teacher: Yeah, more on-task. Like they'd come back and be ready to focus and...

Class 2 Teacher: Little calmer.

Class 4 Teacher: Yeah, a little calmer for sure.

K: That's great. I'm wondering about the dependent measures that I used in the study: the rating scale and the time-outs. To what extent do you think that that captured the behavioural improvement? In other words, to what extent do you think that the behavioural improvement would have come through on those measures?

Class 4 Teacher: It would vary from week to week.

Class 2 Teacher: Yeah.

K: Hmm hmmm.

Class 4 Teacher: Usually the ones that were getting the higher ratings were consistently getting the higher ratings, and the ones that, you know, were lower would make improvements at times, but then would kind of go back to their...

Class 2 Teacher: Hmm hmmm.

Class 4 Teacher: I don't know, 'cause we're doing a lot of relearning the same things over and over again...in my class anyway.

Class 2 Teacher: And for my group, I found, like on the rating scale when I was rating them, one night it was quite high, but it was from students that weren't even using the calm carrel. Do you know what I mean? Like, their behaviour is quite...we have different sets of kids, different classrooms, so...

K: Yeah.

Class 4 Teacher: Yeah, like some were good regardless of whether or not they were using the calm carrel or not.

Class 2 Teacher: Right.

K: So maybe the measures didn't capture some of the improvements you saw?

Class 2 Teacher: Right.

Class 4 Teacher D: Yeah.

K: Do you think...any suggestions as to the type of measures that might better, sort of, show...like in a future study...that might better show that behavioural improvement? Like these were fairly...well, the daily rating scale was a fairly global kind of measure and...

Class 4 Teacher: Maybe like if you split it up between A.M. and P.M., 'cause some students, by the end of the day, got...would maybe display more behaviours later on in the day.

Class 2 Teacher: Hmm hmmm.

Class 4 Teacher: So that may have...that affected...like if they were having a day where it was, you know...probably going to get a six or something on the rating scale, but, you know, they got a time-out at the end of the day, or they were misbehaving and so they ended up with a two or a three. That doesn't necessarily show how the previous part of their day was. So maybe if it was in afternoon and A.M.

K: Broken down into...

Class 4 Teacher: I mean it's more record-keeping for the record-keeper, but that might be something to look at.

K: That's a good idea, yeah, for sure. Overall, how many students in the class do you think benefited, either behaviourally or academically, from having the carrel in place? In some way, over the course of the...

Class 4 Teacher: I'd say my class it probably would...

Class 2 Teacher: I'd say over 50% of my class.

Class 4 Teacher: Yeah, it would be over 50%...

K: Hmm hmmm, great. And would you say that students...you mentioned that the students who used it didn't seem to be ones who were generally more aware of their behaviours going into it...would you say that the use of it may have increased the extent to which those students were aware of their behaviours? Like, did they, as a function of using it, did they seem to maybe be thinking a bit more about how they were behaving in the class, or...?

Class 4 Teacher: I think ours, like, thought about how they were behaving and it changed...it impacted them, like I said, initially.

Class 2 Teacher: Yeah, I don't know. All I can think about is (*Student 2-9*). I think it...I don't think he's more aware of what he does, like...

Class 4 Teacher: Yeah, like it...maybe in the moment, they're like, "Oh, I can use the calm carrel." But it wasn't, yeah, like, it wasn't a broad-based thing where that triggered them realizing that they, you know, were calling out. It was like a... 'cause a lot of our kids are so impulsive...I don't know.

Class 2 Teacher: Does that make sense?

K: Yeah, so there were behavioural improvements but they didn't seem to be generally more aware of their behaviour?

Class 2 Teacher: Right, yeah.

K: That makes sense, for sure, yeah. You mentioned in the feedback in both cases that you'll plan to continue using the carrel in your classes.

Class 2 Teacher: Hmm hmmm.

K: In doing so, would you be planning to make any changes to the procedures or the strategies available? I'm just interested in how you might, now that the study's done, how you might want to change it to make it more appropriate for your class, if there's anything you would do to...

Class 2 Teacher: I think it's very appropriate. Like, I like the time limits, and the music, and...yeah

Class 4 Teacher: Yeah, I will continue to use it the same way I think.

Class 2 Teacher: Yeah.

K: Hmm hmmm, great. Would you see the carrel, as it was set out for this study, as being a strategy that could be worthwhile implementing in most, or other, BLA classes? Like would the amount of teacher time and effort required to maintain it be seen, by most teachers, do you think, as being worthwhile in light of the potential benefits, or...?

Class 2 Teacher: Yeah, I do, yeah.

Class 4 Teacher: I'd say so, yeah.

K: Is there anything that you think would be changed, or should be changed, to make it more appealing to teachers in this class setting, or...?

Class 2 Teacher: I think it's pretty appealing. Yeah, I wouldn't...

Class 4 Teacher: It's straightforward and...

Class 2 Teacher: Yeah.

Class 4 Teacher: I actually really liked that, even, just the way you laid out by having the rating scale in the binder, or the duotang,

Class 2 Teacher: Hmm hmmm.

Class 4 Teacher: It was really easy to kind of look, "Oh yeah, you know, he had this kind of a day." You had it laid out well... "He had two time-outs, or was suspended", or whatever the parameters were. So, I actually really liked that part of it, 'cause it made it quick and easy to do.

Class 2 Teacher: Yeah.

K: Good. And, would you see the calm carrel as being a strategy that could be put into place, or would be worthwhile putting into place in, like, a regular class of, say, like 25 students, where some students might have behavioural difficulties?

Class 2 Teacher: Yeah, I would say. Yeah.

Class 4 Teacher: I think so. Any options for, you know, venting anger or frustration appropriately I think would be good.

K: And anything that should be changed, or could be changed, to make it more appropriate in that kind of a setting, in a large class setting, or...?

Class 2 Teacher: I think it would still work.

Class 4 Teacher: Yeah.

Class 2 Teacher: Yeah, definitely I wouldn't change anything, no.

K: Oh good, yeah. And the problem-solving form...the form that was in the duotangs which was an option for the students...that was the one where they could indicate why they'd chosen to go to the carrel, and what they thought they'd do when they went back to their desk...do you see that as having had value in helping students to become more aware of their behaviour, or...? It was left open as an option to them...

Class 2 Teacher: Right.

K: So, I'm not sure how many students would have completed it, or whether...But do you think it was a worthwhile thing to have available to them, or...?

Class 2 Teacher: I think it is...

Class 4 Teacher: It was worthwhile to *have* it, but...

Class 2 Teacher: Right, but I'm not sure if all students are going to reflect on it.

Class 4 Teacher: Exactly.

Class 2 Teacher: You know, if they're really thinking about that. Because sometimes when we're processing with our students, you know...some of them, it's better just to verbalize and talk with them. And sometimes it's better not to say anything. And sometimes it's better for them to write down, and reflect that way. So, I think it's different for each student.

Class 4 Teacher: Yeah.

Class 2 Teacher: And, I don't think...

Class 4 Teacher: Like, a lot of them used the strategy of the calm carrel, and, you know, spent the time, five minutes, and then that was the learning for them, you know: "I'm calm now, okay?"

K: Yeah.

Class 4 Teacher: Whereas they...I don't think a majority of them wrote anything afterwards.

K: Right, yeah. So it was good to leave it optional?

Class 2 Teacher: Yeah, yeah.

Class 4 Teacher: Yeah.

K: And, we talked a little bit about the strategies, but, do you feel that the combination of the audio materials (the music, the visualizations, and the relaxation exercises) were all worthwhile to include, or is there any that, in addition to these, should be added, or anything that wasn't really maybe necessary to have, or..?

Class 2 Teacher: From my viewpoint I liked it.

Class 4 Teacher: Yeah.

Class 2 Teacher: Yeah, 'cause we do a lot of visualization and relaxation techniques in our class as a whole, already.

K: Hmm hmmm, great.

Class 2 Teacher: So some of the students were used to it, and so I thought it was fine, yeah.

Class 4 Teacher: Yeah, I thought it was good too.

K: Hmm hmmm, that's great. I'm wondering if the students in the class said anything to you, during the course of the study, that would give additional insight into what they thought about the carrel...like, aside from their feedback forms. Like, if you heard them say anything to you or to anyone else that would, you know, sort of give an idea if they liked anything or didn't like...

Class 4 Teacher: I can think of one student, (*Student 4-6*). He would, pretty much every time he used it, say, he's like, "Yeah, whenever I listen to that one song, I just feel better, I feel...it relaxes me." So, I know for him he would say that it has helped him, so...

K: That's great. Do you know which one it was?

Class 4 Teacher: (*Student 4-6*).

K: Or no, which song?

Class 4 Teacher: Oh, which song? I think it was number six on the second CD, I think it was.

K: Okay.

Class 4 Teacher: I can double-check for you, but I think that's what it was.

K: Hmm hmmm, okay. And then, just wondering if you had any other suggestions at all in terms of how the carrel could be improved, or anything?

Class 4 Teacher: No, I don't think so. I think it was very well thought-out.

Class 2 Teacher: We were very happy with it.

Class 4 Teacher: Yeah.

Class 2 Teacher: Yeah, we were very happy. And, like we said, we're going to continue using it, so...

K: That's excellent. I think that wraps up everything I wanted to check. Thanks again.

Class 3 and Class 6

Kent (K): So, I have a number of questions, and then if you have any comments or anything that you want to add in, or anything like that, that's great too.

Class 3 Teacher: Okay.

K: So, one, I might just check first about the, in terms of their use of the carrel. So, you have as 'neutral', as not always using it appropriately. Would that be in the sense that they will go there to kind of get out of work, sort of thing, or, like, was it more that they were using it inappropriately once they would go there?

Class 3 Teacher: It was more that I had students trying to go there to escape work when they were totally calm and able to work fine, they just didn't want to.

K: Yeah, okay.

Class 3 Teacher: I just would stop them from going. And that happened, because they didn't use it often, it seemed like it happened enough that I had to mention it.

K: Yeah, and you knew that they were using it to try and avoid work because they just, like, they clearly weren't upset or angry?

Class 3 Teacher: Right, yeah. Just, usually it was at recess time when they had an essay to work on or something, and it was usually (*Student 3-2*) who would say, "Well, I think I'm going to go to the calm carrel." I would say, "No, you're going to sit down and do your work."

K: Yeah. Um, how often would you say the students used it, just, like that? Just that one student, really, or, used it inappropriately, or?

Class 3 Teacher: Yeah, yeah. But he was one of the ones who used it as well when he was upset, so.

K: Oh, okay, yeah. Do you think it was, so, he didn't actually end up going there when he was using it inappropriately? You stopped him before?

Class 3 Teacher: No, yeah.

K: That's good. And, did that decrease over the course of the period? Like, his attempts to...

Class 3 Teacher: No.

K: (Laughs)

Class 3 Teacher: (Laughs)

K: Yeah. Is there any way you think the rules could be changed to prevent that from occurring...the rules of the carrel itself?

Class 3 Teacher: I don't think so, because if they have to be self-motivated to go, there's just those kids that will always try to...it's one more way to get out of work, right?

K: Right, yeah. And did you find that in your class at all, them trying to use it to get out of work or anything?

Class 6 Teacher: I did, yeah. We can name names, right?

K: Yeah.

Class 6 Teacher: (Laughs) (*Student's name*), the boy who came after, was not on the testing, because he came in after. And he would use it, at the start, as a means of escape. But then after he started to use it, he started to ask to use it, and I really wish he could have been included in this because he was one that it actually did work for. But, the other ones, no. I didn't...in my class, no, they didn't use it for an escape or to get away. There was a couple times they asked, "Can I go and listen to some music?", and I said, "Absolutely."

K: Yeah, so they used it appropriately when they did go?

Class 6 Teacher: Yes, yeah very.

K: Okay, yeah. Do you feel, in either case, that some students used it to a greater extent at the start, just because of the novelty of it, kind of...? Just cause they were curious about it, or...?

Class 6 Teacher: In my class it wasn't even attempted in the first week, and then after a couple of reminders that there was two carrels... See, in almost doing this in reflection now...sounds bad that I'm doing it at the end, it should have been half way through...if it would have been moved to the other carrel, the success would have been probably a little higher because they would have been reminded, and remembered when they came to sit down: "Oh yeah, I can do this too." It was the fact that, just for our classroom specifically, both carrels are usually never in use...it's just the one that's at the back, and that's normally where they go. They don't go to the other one cause it's in closer proximity to the teacher's desk, and that's not where they want to be.

K: Oh, right...so they're used to going to that one.

Class 6 Teacher: So, in retrospect, I know it's not helpful right now to, you know...it should have been changed, just, but the location, they always go to the carrel directly at the back of the room. They never went to the side one. So, they'd usually forget, and then reminded, "Oh yeah, you know what, I would like to..."

K: Right, yeah. Oh no, that's good to know, cause it's a factor that, to take into account, that they might not have been...like, that that might have played a role, yeah.

Class 6 Teacher: Cause it was almost like it was hiding, but it was also in such close proximity to a teacher's desk that it's almost like, "I don't want to go there, because then I'm going to be having to do more work because..."

K: Yeah.

Class 6 Teacher: But the system itself works really well, because that's, for my classroom, they have to go to the quiet room before they go to the time-out room. That's, you know, with the whole three-letter thing, it would have fit in perfectly. They would have went back and went "Oh, CD player...", and then went, "Oh, I'm going to go grab my duotang." And it would have just, I think it would have clicked. The fact that they kept going back there, it was blank, then they, you know...

K: Yeah, it just didn't occur to them to, yeah. No, that makes sense for sure, yeah. Did you notice in your class at all, that there was a, like a, novelty effect a bit, or...?

Class 3 Teacher: No, not really, no.

K: There didn't seem to be any initial kind of peak...

Class 3 Teacher: They were curious about it when it was installed, but because we weren't finished the baseline phase yet then we just talked about it, so then I think that got the novelty out of the way.

K: Oh, okay.

Class 3 Teacher: So when it actually came into use then the ones who wanted to use it did, and it didn't...there wasn't like a line-up at the carrel or anything. And I was wondering too about proximity and about location, because, I think I put it in my notes...I wondered if I shouldn't have had it on the other side of the room, where it was closer to them. Then they would have been reminded of it more.

Class 6 Teacher: Do you want us to do any tracking for this next week? Cause I'm definitely moving that as soon I get back to the room. It might help your study...

K: Sure! Yeah.

Class 6 Teacher: Because thinking about that, I think it's going to be used a lot more. I wish I would have thought of that (laughs) two months ago, but...

Class 3 Teacher: I know.

Class 6 Teacher: I think it would be used a lot more cause that's the one they normally go to.

K: Sure, that would be really interesting...

Class 3 Teacher: I didn't know if it would affect your research or not if I moved it...I don't know, so...So, I would have it at the back rather than on the side of the room.

K: Sure. Yeah, if you want I can send you like the similar form, I can send it electronically, cause you don't have extra paper copies. Do you think that would probably...?

Class 6 Teacher: I think I have an extra paper copy. I just copied more because I made that error and counted days that we weren't here.

Class 3 Teacher: Oh, I have it on my e-mail too.

Class 6 Teacher: Yeah, I think I do too, I think. Originally, I was going to do it through the e-mail, and then I decided to go to pen and paper.

K: Cause you can do it either way, yeah. Yeah, that'd actually be really interesting to see if there was an effect, cause...

Class 6 Teacher: I think it would go up substantially if it was in the right location, cause that's the one they choose, but...we'll see what happens.

K: Yup. So should I, do you think I should leave the duotangs then too, if they're going to, cause then they would check off in there...

Class 6 Teacher: One more week can't hurt, if you want to extend it by all means, is what I think.

K: And those two students that came in late...

Class 3 Teacher: Like, we both had, like...

Class 6 Teacher: We both...but we won't get any communication from home. You won't get a signature, unfortunately, cause there's no English-speaking parents at home.

Class 3 Teacher: I could get from (*student's name*), I'm sure.

K: Oh yeah. So, you'd want to continue it too, for a week, or?

Class 3 Teacher: You bet, yeah.

K: Great.

Class 6 Teacher: I'll still take a form and try. I just, I can't get anything signed at home. But, I would still definitely try for you, cause he will use it.

K: Okay, so I'll leave the materials then.

Class 6 Teacher: Thank you.

K: Yeah, that's a good idea. Did you notice that...you did notice that certain students were using it more than other students, definitely. Why do you think that might have been the case? Like, was there anything about the students themselves...like, were they ones who would tend to be more aware of their behaviour, or...?

Class 3 Teacher: I thought they were kids that had strategies in place already, and who knew like...with that, my new girl who came in, who used it more, I think, in the last week than some of them used it ever, was because it's a strategy that she has already. She carries an MP3 player with her, and uses it to manage her mood swings. She's bipolar, and so that's why, like she recognizes it as a strategy that she had already, and so then she was really excited to have it here, and she went there quite often, so...

K: That's great.

Class 3 Teacher: Yeah.

Class 6 Teacher: I noticed a correlation between the ones diagnosed ADHD, the ones that were very hyper...they would choose to use it more. They all found it, you know, as a relaxing... But the other ones there, they needed the reminder, and then they would, but if it wasn't reminded.... If not reminded, they would go back to that same carrel (and that's why it's still bugging me in my head...that same carrel), and then just come back and join the classroom again, and forget about the other one on the side.

K: Right, yeah. Did the level of use by any particular student surprise you, like a student who used it more often, or a student who you thought might have used it who didn't use it at all? Like, were there any cases where...

Class 6 Teacher: Absolutely. For the one that unfortunately came late, that wasn't in it: My goodness what a change. Like he would...the frustration level was through the roof...he had extremely aggressive behaviour before he came into the classroom, like fighting out on the park, and so we knew that it could escalate to restraints. And, he definitely did exhibit hostility when he would go to the time-out room too, with regards, you know, slamming a pen down, or you know, slamming the door when he went in. And, after a week of, when he found out about the carrel, and he'd go back and listen to it, and he'd come back and, you know, attempt... And it was, I'd say, 90% of the time it was during math, that he would do it, because that's his frustration time. Any other time he just kind of copes in his own way, but math it just, he boils over, and he says, "Can I go listen to music?", and I say, "Absolutely."

K: Hmm hmmm, yeah, and it seems to have helped?

Class 6 Teacher: Oh yeah, then he came back, sat down, finished off a couple more questions. You know, you have the whole therapeutic rapport after: "You okay? You want to do a couple more? You sure?" And he'd be like, "Okay", and then he went on...but you can notice the difference when he had some time to himself.

K: That's good, yeah. And, you mentioned you did give a number of certain prompts or reminders to them?

Class 6 Teacher: I did. My question, when we talked to each other in that first week, it was like, you know, I was worried. I'm like, "Kent, they're not using it. Is it okay if I remind?" You said, "Yeah, absolutely." I didn't remind, or I think I did a couple times remind them on the way back to the carrel. I said, "You can also use this too." But usually it was at the start of the day: "Remember, if you're feeling frustrated in math..." (because we were doing a unit on multiplication, and we bump up very quickly to, like, hundreds times tens, and I just lose them all at that point, cause there's too many levels, too many operations for them to do, and they just get lost, get very frustrated and upset, because they know that they're going to have to do their corrections if they're wrong). So, then that's more homework for them and they just start freaking out, so...that's when it escalated, and I'd say, "Remember, in math if you're frustrated, go take some time and then come back."

K: Yeah, and yours too...did you feel like you had to remind them very much, or...

Class 3 Teacher: I felt that the ones that went there, they remembered before. And so I'd usually just say, "Did you need to take a few minutes to calm down?" I wasn't...I was sort of hesitant to prompt because I didn't want to affect anything, but, the ones who used it I would say...

K: Kind of went on their own initiative.

Class 3 Teacher: Yup.

K: That's good. Do you think that the rule in place about the maximum of three times and five minutes each was appropriate, or would you see that as being too much time away, potentially, if someone did use it that much? Like, the fifteen minutes, if they used it a maximum of three times, would that be too disruptive, or take too much time away, or...?

Class 6 Teacher: No one did, in my room, use it three times in a day.

K: Yeah, I didn't expect it would be that often.

Class 6 Teacher: If he did...the one that I mentioned earlier...if he used, I would not...I would trade that fifteen minutes in a heartbeat for his calm behaviour. So, I would never, you know, hesitate to say, "Go ahead, use it three, even four, times," if he can calm down like that. Because otherwise, the escalating, I mean, we both know when they're going to escalate, and it would have...it was guaranteed time-out and numerous points lost, essays written... It saved him a lot of frustration, and, *both* of us frustration, from using that. So, I would have traded the fifteen minutes in a heartbeat with that one.

K: I'm glad. That's good, yeah. And, in terms of specific, you mentioned for him...any other specific kinds of improvements among students in the class? Like, directly after using it, is there anything you noticed in terms of motivation or behaviour or effort they're putting in. Like, would there be anything you would attribute directly to their use of the carrel, right after they've used it, or...? For specific kids or for general...

Class 3 Teacher: I found that, with (*Student 3-7*), who can really get worked up, and she's Fragile X and she has a lot of space issues, and she's very picky about, like, space and people getting in her business. And, she can really just work herself up into a full-blown, like, temper tantrum. And, she used the carrel, a little bit more at the beginning, but she would just be...it was like, when the timer went off then she was fine, and then she wouldn't be still at that state where you could really set her off easily, so that was nice to see.

K: So it had some advantage for particular students?

Class 3 Teacher: Yeah. Yeah, and the timer was really helpful for kids like her, because, like, she always...we always have the timer for what we're doing, and she really focuses in on that and it's like if the timer goes off then it's okay for her to stop and move on, whereas otherwise transitions are difficult. So...it was good, it's like, that buzzer goes off and (*Student 3-7*) is in a good mood, so then she can go back to work, so...

K: Yeah.

Class 3 Teacher: Yeah. But I don't know if her filling out the forms and stuff how well she did, cause with that stickers and stuff, it was a little bit...so her forms might be a little weird. But, she really liked it!

K: Oh, that's good to know, yeah.

Class 3 Teacher: Yeah, it was a good strategy.

K: Good, yeah. And, I wondered about the, speaking of the dependent measures, like the seven-point rating scale and the time-out records: Do you think that that, just from your general sense, do you feel that would have captured any improvement, or do you think, like, objective measures like that aren't necessarily, don't necessarily get at the type of improvement that might be shown?

Class 6 Teacher: I think the seven-point rating scale worked effectively. It was easy for me to manage and it was easy for, you know, me to categorize: "Oh, he's definitely on a 'three' day," or "He's definitely on a 'seven' day." You can tell the difference. As far as a 'three' or 'four' day, you know, then you're just going to...sometimes arbitrary numbers are popping into your head. And you're like, "Okay, is that a four? It was definitely better than yesterday, but I don't know if it's a four or a five." But as far as the time-outs, just for my classroom, the way it works, it was a little bit confusing because a lot of the reasons there I had to put as 'four', because, I can't remember them off by heart right now, but I believe that there's, you know: inappropriate language was one, there was failure to...

K: Cooperate.

Class 6 Teacher: Like defiance. And, we don't have those problems right now in the room. Thank goodness. Though most of them are, the majority, I'd say, again 90%...I hate to throw out these statistics off the top of my head, but...90% of the times they're using the other carrel or going back is because there's been three behaviours, sometimes all correlated to the same...you know, a talk-out: "You keep talking out. I'm asking you not to talk out. You're talking out." But it might be a talk-out, and then I start the lesson and they're just sitting there doing nothing, and then it's 'not working'. And then, the third one, then that's when I

ask them to go back to do a time-out or to the other carrel, or they may ask for a time to go back. But the behaviours are sometimes not along the same...

K: Yeah, they didn't fit into the breakdown...

Class 6 Teacher: So there's a lot of fours as the reason they're going, and I just, I didn't know if that was going to be, you know, hard on you for your...

K: Oh no, no that's fine.

Class 6 Teacher: Because it's not much explanation, it's just 'other', 'other', 'other', and, you know, as someone who was doing a study I'd want to know, "Well, what are all these 'others'?", you know, "What was going on in there?"

K: Oh no, that'll make sense for sure.

Class 6 Teacher: Okay.

K: And, so it tended to be, like, just that they would be interrupting or just not...

Class 6 Teacher: Yes, but never...they're not defiant in my room.

K: Yeah.

Class 6 Teacher: Just, this year it's working out that way nicely. It's not every behaviour room that's like that. Last year we had defiant ones for sure. But, they're not defiant towards me this year, and they're not using inappropriate language. They don't scream, they don't swear by any means. So, I couldn't use the 'one', 'two', or, I can't even remember the 'three' off by heart, but it was...they weren't using those three, it was a lot of 'fours'.

Class 3 Teacher: I don't think I even had a 'four' in mine.

K: No?

Class 3 Teacher: But those were not the kids that were using the carrel, which was frustrating because kids like (*Student 3-1*) could really have benefited.

Class 6 Teacher: Yeah, absolutely.

Class 3 Teacher: But he wouldn't go near it, because that would be like him admitting that he needed to, you know, use a strategy, so... But he was the most honest on his feedback form about his behaviour, and how I perceived his behaviour, and...tough nut to crack, that one, but... So that's mostly what I had was the violence and the refusal to work, so it was pretty easy to categorize, but it,

you know...you won't see those kids in their folders having gone to the carrel, so that was sort of, I was wondering how I could break that barrier, you know?

K: Yeah.

Class 3 Teacher: I don't know.

K: And do you think that the seven-point rating scale would have captured any improvement that would be related to the carrel, or was it too global, do you think, or too...

Class 3 Teacher: I don't know, I was thinking about it, cause there's other things that happened besides, like, just the carrel being introduced. So, I don't know how that would come into factor, like kids going off their medication or moving homes or whatever. But...it seemed like the same kids were consistently the same, like up-down, up-down, the same. I don't know...

K: Yeah. Do you think there would be another, any kind of other objective measure, like any kind of measure that would capture the change more accurately, from the carrel itself? Or is it something that is more...so immediate that it would be, like it's occurring right after the carrel use, that it would be hard to really capture in a measure like that?

Class 6 Teacher: The only thing I can think of is that we just use words rather than numbers: "He had a very bad day," or "He had a good...", you know.

Class 3 Teacher: Yeah.

K: Cause they're descriptive.

Class 6 Teacher: But they're correlated to the numbers, but I mean, that's... I don't know, I can't think of one off the top of my head that you would use. The numbers are all correlated to whether they had a very good or very bad day. That's...

K: Right, yeah, no that makes sense. So, overall how many students in each class do you think benefited in some way, behaviourally, academically, or in motivation, from having the carrel in place, like, just a rough kind of...

Class 6 Teacher: Three in my room.

K: Three. And you had...

Class 6 Teacher: Three out of the nine.

K: Nine with permission, yeah. And did more than three actually use it, or did three...?

Class 6 Teacher: You give me one more week and I bet you it bumps up to six or seven. I wish I would have known about that other carrel prior to this meeting, but I, yeah, I betcha if it's in that other one, I betcha it'll bump up for sure.

K: Hmm hmmm, yeah.

Class 6 Teacher: There was only three who remembered.

K: Oh, okay, yeah.

Class 3 Teacher: I think I had three that were in the study, four that used it out of, we had nine at one point.

K: And you think that three benefited from...

Class 3 Teacher: Yeah. And that new girl who came in, I think she will benefit from it.

K: Yeah, that's good. And, would you say that students who did use it, in any way became more aware of their behaviours over the course of the study? Like, did it help them in any way to sort of get a better sense of like, I don't know, like, after their first, after using it a little bit, do you think they were more kind of thinking about this as a possible option and more aware of, you know, at what point they would need to use this, or...did that occur even for the new student or the one who didn't have permission to...?

Class 6 Teacher: For the one that didn't, yeah. He knew when he...even though you could tell that he'd ask...it was nice because I could feel that I would have to come over and say, "Excuse me," and then start, you know, consequenceing the behaviours, so it was really nice when he was asking, more often than not in the past two weeks, "Can I go and listen to music?", first, or even, "Can I go into time-out room?". But, he was starting to notice his behaviours, and that's just from him being in the room. Like, he's new to the room, and so he is starting to notice that, which is nice. But he was asking to use the carrel too, as a part of that: "I'm getting really frustrated and I don't want you in my face. I don't want to do math anymore." So, this is one of those viable options which he took.

K: Yeah. And it would tend to be at times that you would have also suggested that.

Class 6 Teacher: Yeah, oh absolutely, but I didn't want to suggest, "Maybe you should go listen to music," all the time, but...

K: Yeah, that's good. And, in yours would you say...

Class 3 Teacher: I think it reinforced those strategies in those kids that had them, and then it just gave them a more immediate option because they would be really either moved to another space to work or go into time-out, which seemed kind of extreme for them. And this at least they knew was five minutes and then they could come back and continue with work, so...

K: Yeah.

Class 6 Teacher: In thinking of this too, there was a lot of times during unstructured activities, unstructured classroom...being in the computer lab or in the gym or in the music room, where I think this would have benefited. Now, I don't know where I can go with this, because obviously you need it, you know, it needs to be situated in the room, it can't be...or maybe it *can*...

K: Yeah, it's a good...

Class 6 Teacher: Cause you bumped this into my head about this CD player, and now I'm like, "You know, if we had..."

K: Could be a portable.

Class 6 Teacher: ...A portable right there, saying "Go take five minutes in the gym cause you're about to hack someone with your stick cause you're so frustrated."

K: It's a good point.

Class 3 Teacher: Yeah.

Class 6 Teacher: Wow.

Class 3 Teacher: Why not?

Class 6 Teacher: Cause that's, for my room specifically, that's where the majority of the frustration kicks in.

K: When they're out of the class...

Class 6 Teacher: Cause the boys are very competitive. It's all, they're all nine boys, so, and they're very competitive with each other in the gym.

K: Yeah.

Class 6 Teacher: They would love to go...

Class 3 Teacher: Why couldn't you bring a bin, like just have a basket that's ready to go, and just...

Class 6 Teacher: Yeah, yeah, absolutely. It doesn't have to be that CD player mounted.

K: Yeah, right, it's a good idea.

Class 6 Teacher: I mean, you've got to think of cost, you don't want something they could throw across the gym, but...still, that would definitely be something.

K: Yeah, that's a very good suggestion for sure, yeah. So you'd plan to continue using it even after the study?

Class 6 Teacher: Yes.

Class 3 Teacher: Absolutely.

K: Yeah, would you make, would you think of making any changes to the carrel, the procedures itself, or...? Like, is there anything you would want to do differently when you're not constrained by the study? Like, add another strategy or take something out, or change any rules for its use, or...?

Class 3 Teacher: I think I would just be suggesting it more, and just move it closer to them. The proximity. And otherwise I think it would be the same. I don't think I would limit the times they could go until it seemed like... Like, I think I would just leave it that they know it's three, until we came up to that issue. Like, I agree with you. If it's going to be four times, but preventing a twenty minute screaming fit in the time-out room, by all means...fine with me!

Class 6 Teacher: Hmm hmm.

Class 3 Teacher: So, and just really getting those kids who didn't go there, to try it.

K: Yeah.

Class 6 Teacher: Some of them are lazy and they don't want to write, at all. And they'll do anything to get away from writing. So I wouldn't have any sort of, "Write out what you're feeling now", after.

K: Yeah, that's a good point. Like the problem-solving form?

Class 6 Teacher: Yeah. But I would definitely still leave the music at the back, because you can see the difference when they choose to use it.

K: So, and would you continue to include the problem-solving form then as a...?

Class 3 Teacher: No.

K: Yeah.

Class 3 Teacher: It's too much for them.

K: Yeah.

Class 3 Teacher: Well, I think just with my kids too, it changes the dynamic of what it is. Like if it's them going and taking five minutes to themselves to be able to come back to work, adding a written form in is then something that I have to do with them because a lot of them won't be able to do that on their own.

K: Right.

Class 3 Teacher: So then that's a whole bunch of more time, and then it takes the focus away from what we're working on, so...

K: Yeah, and they might be less likely to go there if they think they have to do work and...

Class 3 Teacher: Yeah.

K: Yeah, that's a good point for sure. Would you see the calm carrel itself as a strategy that could be used within, like, most BLA classes, or...? Like, would it lend itself to an average class, or...and is there anything that would need to be changed to kind of incorporate it into, or make it appealing to most BLA teachers, or...?

Class 6 Teacher: It'd be hard for me to answer for the Division One's, but, I mean you'd be closer to that...

Class 3 Teacher: Yeah.

Class 6 Teacher: Division Two, I think it's a very effective strategy.

Class 3 Teacher: Yeah.

Class 6 Teacher: You need that carrel, you need that time. What better way to block teacher's voice out, block out surrounding noises...

Class 3 Teacher: Yeah.

Class 6 Teacher: And get lost in your thoughts for a little bit, then come back. They need that a lot. Most often, I mean, as far as I can think back, we've all heard the term 'turtle': you go into that shell and just...

Class 3 Teacher: Yeah.

K: Right.

Class 6 Teacher: So, this is exactly what they're doing, only they have... I think it's a very effective strategy.

Class 3 Teacher: Yeah, I agree.

K: And, yeah, speaking of the Div. One, would you see it as being something that would be more appropriate for a Grade Four to Six, or like, them being more aware, or more likely to find it useful, or to want to use it, or...?

Class 3 Teacher: I think you just need more teaching with Div. One, and then just less of the written stuff in the carrel itself.

K: Yeah.

Class 6 Teacher: Music is so effective. I mean I have three-year old at home, and he loves to listen to music. It's very stimulating, at the same time as therapeutic, for them to listen to that if they're really high strung. Go in, put some music on in the background, what a difference. So, I would be really interested to see what...

K: Yeah. And, also, I was thinking of it as like, would it lend itself to something that could be used in a regular classroom, for kids who are being reintegrated into an inclusive class? Like, would it be something that would be feasible in a class of, say, twenty-five, to have something like this set up?

Class 6 Teacher: I think it'd almost be more effective in a classroom like that, because there's triple the noise.

K: Right, and so...

Class 3 Teacher: Well there's always some degree of behaviour issues, you know. Just cause they're not coded, they're in there, and those kids who can't handle that...the overstimulated...and too many kids, and just need that break from...we all have those kids that dive under the table or hide in the coatroom, or...

Class 6 Teacher: Oh yeah.

Class 3 Teacher: I think it'd be really good for them.

Class 6 Teacher: A place where they can go, and if it was, as soon as it's, you know, an accepted place to go, and they all understand it, I think it would lend itself really well.

Class 3 Teacher: Yeah.

K: And not too time-intensive for teachers, in terms of...?

Class 3 Teacher: Right.

K: Like it wouldn't require a lot of monitoring or anything, in terms of...

Class 3 Teacher: No, I think once you have it up and running it really just monitors itself.

Class 6 Teacher: Hmm hmmm.

K: That's good, yeah. And the combination of strategies that were there, the music, visualizations, relaxation, do you think those were all appropriate things, or is there anything else you would add in terms of strategies, or anything that you think should be available to them that wasn't there, or...?

Class 3 Teacher: They really just used the music, but I think that all the strategies are useful. I'd take more time to teach each of them, I think, rather than just saying it's available.

Class 6 Teacher: Yeah, I agree.

Class 3 Teacher: Like with the breathing exercises and stuff, we just sort of talked about them, but we didn't...I would have gone through them more with them. Maybe even played the CD for the class.

K: Yeah, that's a good point too, yeah. And the music, the selections were all classical or instrumental, new age, relaxing-type...no vocals, basically. Do you think that that's best, or would you see it as...I mean, I read a couple comment sheets from other classes, and some kids of course were suggesting, you know, rap and things like that.

Class 3 Teacher: Right. (laughs)

K: So would you see that as being...it would add to its appeal, but would it add to its effectiveness in any way to look at their...

Class 6 Teacher: Initially I want to say no, it would get them more hyper, listening to something that would pump them up, being rap or rock. But also, who knows, I mean, what's going through their mind at that time when they're

about to, you know, tantrum, or if they're about to become very aggressive. If that's calming them down, by all means. I mean, yes, that music would work for me in a heartbeat. It would put me to sleep. I'd be relaxed, but I don't know what would work for them.

K: Yeah, that's a good point. And, did students in the class say anything to you, like, during the course of the study, like after using it or on their way to use it that would give any additional insight into sort of what they thought of it, in addition to the forms they'll do, but, like did they...or did you hear, or did they say anything about what they liked or didn't like?

Class 3 Teacher: Well they never made any negative comments about it, and they always made sure if someone didn't set the timer, to set it. Like, they were respectful of it. And they said that they liked the music, so...

K: Hmm hmmm, that's good.

Class 6 Teacher: Yeah, from mine they were mostly positive remarks. There was nothing...

K: Nothing negative.

Class 6 Teacher: No, they didn't have, they never commented on the selection of music, and "Can we add this or that?", or "Can I bring in my own CD?", or... They didn't go as far as that. They just kind of took it for what it was.

K: Hmm hmmm, yeah. And they were all using it appropriately when they were there?

Class 6 Teacher: Yes.

Class 3 Teacher: Hmm hmmm.

K: That's good too. Yeah, I think that covers most of the questions, unless you had anything to add or any other questions or...

Class 6 Teacher: No. I definitely would like to take it for one more week, and...

K: Sure.

Class 6 Teacher: Change the way it is in the room, and see.

Class 3 Teacher: Yeah.

K: Yeah, that would actually be great, cause then they'll have more of a chance to...

Class 5

Kent (K): Okay, yeah, so I just have kind of a list of questions and if you have anything you want to jump in at any point with, additional comments or questions or anything, that's fine too.

Class 5 Teacher: Okay.

K: Actually, maybe I'll mention a couple of the comments from your feedback form first, and then we'll go into the more general ones. You mentioned about the deep breathing being not really used very much, you thought, but that it would be maybe better as a whole class kind of technique. Did the students mention that they didn't really use it at the carrel, or...?

Class 5 Teacher: Actually, I guess from my observations, I never saw them. I saw them listening to music, and not deep breathing.

K: Yeah. Or the relaxation exercises too, like the tense and release?

Class 5 Teacher: I never observed it. Doesn't mean they didn't use it, but I didn't actually see them practicing it.

K: Oh, yeah. But you think deep breathing might be useful still as a whole class kind of...?

Class 5 Teacher: Yeah, I think so, yeah.

K: Yeah, that's good. And you mentioned also that it might have been useful to have more strategies for different sensory modalities... You mentioned rocking chairs?

Class 5 Teacher: 'Cause we have a girl, actually, she's (*Student 5-7*). And she's brain-damaged but she's FAS. Sensory difficulties. We're going to get her...cause what she's done is she's used two rocking chairs. Rocking chairs. And that seems to calm her down, the rocking motion. So, we're going to implement, we're going to have two rocking chairs in class, I mean, for her, and for, you know, if the other kids want to use it. There's a sense of bringing her down.

K: Yeah, that could be soothing, yeah.

Class 5 Teacher: And, what else do we have? We have the ball that we're using, implementing, now, which sort of helps (*Student 5-2*) pay attention, but I think it also soothes him, no matter what he's feeling. He feels fidgety, he's ADHD, etcetera, but it really has helped him stabilize, and he *works*.

K: That's good, yeah. Yeah, I'd actually been thinking about adding additional...well, I was thinking about like a stress ball, even, as one possibility. Like kind of a squeeze ball, and a couple other things I'd been thinking about. But then I was worried about the possibility of distraction, or that kids might abuse it or go there more just to use *that*. And in fact in one class, the teacher thought that it was already too sort of stimulating, or that there was too much...like they seemed to want to go there already a lot. So, that was one reason I didn't want to add too many extra...but I could definitely see it being useful, depending on the particular kids and the extent to which they can handle that. Yeah. It's a good suggestion, for sure. Let's see, so then some more general kinds of ones. Do you think that students maybe used the carrel initially a little bit more due to, like, the novelty effect of it at all, or?

Class 5 Teacher: Actually, not with these guys. I think they used it when they had to use it. Like, whenever there was a socially stressful moment. I'd say, "Well, where'd she go?", and she'd be in there, listening to music.

K: Oh yeah, so they were actually using it appropriately.

Class 5 Teacher: When they were feeling upset, they would go back and use it, so I think it was used appropriately. It wasn't used to the degree that I'd like it to be used, the frequency, but...

K: Right, yeah. Did you notice certain students using it more than other students, or...?

Class 5 Teacher: Yeah, some students would not use it.

K: Hmm hmm. At all?

Class 5 Teacher: At all. And others would be more regular using it.

K: Hmm hmm. Do you have any idea why that might have been the case? Like, is there anything about the particular students...?

Class 5 Teacher: I think, I think it's the type of kid that you have. I think, not to, you know, use labels too often, but the conduct disorder kids who are, basically, you know, "I don't care." "Whatever you have to offer me...". And, an example, like (*Student 5-8*) hasn't been here. You know, whenever he is in class it's total refusal. You know, it's like pulling teeth to get him to do anything, so he's not going to use a carrel if you say it's a good idea. If you say, "It's a bad idea, don't use it, it's bad for you," then you might see him go back there.

K: Right.

Class 5 Teacher: But, he would not do anything. And that's severe. It doesn't matter what you have in the class. So... The more open kids: didn't have to push them, at all. Like, they would just go, you know. They like music. I think that's a big part of it. And, they like the calming, like the calming effect. You know, at home, I'm not sure what they listen to at home, but, they didn't mind it at all.

K: Yeah, and would they be kids that you would think would tend to be more sort of aware of their own behaviour as well? Like, are they kids that would usually be more, sort of, thinking more about their behaviour, or just...?

Class 5 Teacher: My kids, I don't know if they think a lot about their behaviour. They're so egocentric. And, it's just their IQ is so low, you know, that I don't know if they can process...I mean, good or bad, but in general how it affects others. Or, how it's affecting them. I don't think they can process that deeply about, you know, "I did this, and it's going to impact others and I might lose a good, positive consequence, you know, choice, for my...". They're so into their own world. You know, I had a girl yesterday chasing another kid, trying to kiss a boy outside, and she said, "Well...", it was an argument, you know, she argued with me. I said, "It's not socially appropriate here. You can't do that, right? If you get older, and you can be charged." "No you can't!" So, it's...

K: Just not thinking about...

Class 5 Teacher: Not getting it. Not getting it.

K: Yeah.

Class 5 Teacher: Grade 6. This is a Grade 6 student.

K: Right, yeah. And so, they had just enough awareness that they were, like, aware that they were upset, but... Like, enough awareness about their emotional state at the time to know they needed something to calm down, if they went there, or...? Like, that type of awareness, but not awareness of sort of...

Class 5 Teacher: Awareness that they need to get away. Like it's flight. The flight response. You know, if they're, "I'm going to go get away from you. I don't want to talk about it. I'm going to... I just need to calm down." So, they, the process of, "I can calm down", is self-defeating when they, you calm down, but you don't understand why you're calming down. Right, so discussing with them again, they would elevate. They couldn't discuss it with you calmly. They'd go back up. Although, I mean, after doing it three or four times, they'd get the picture that you need to, "Let's talk about this calmly." But they'd still be upset, although at a lower degree. They'd still not be accepting of, you know, of you as an authority figure, or what you're talking about.

K: So that's even after, that's after using the carrel, or after...?

Class 5 Teacher: Yeah. ‘Cause the carrel will, like, the carrel would calm them, but the issue would still be there. It’s still present.

K: Yeah.

Class 5 Teacher: You know, you bring it up again and it’s going to be, the arousal will just skyrocket. So calm it will, but will it maintain the calmness? No, not when, like I say, the issue could re-present itself, when you implement the situation for discussion again.

K: Right. Is there anything that could be changed about the carrel itself that could address...

Class 5 Teacher: I don’t know, I don’t think it’s the carrel you’re dealing with. I think it’s the child. You know, what kind of deficits does the child present? You can calm them but, I mean, there’s only so much you can do.

K: Yeah. That’s true. Did the use of the carrel by certain students surprise you at all? Or, the lack of use by certain students? Like, did a student who you thought might have taken advantage of it, not use it at all? Or, someone who...

Class 5 Teacher: Yeah, some kids I thought might use it, but, no, I mean, you’d say...you know, “No, I don’t want to.” So, where that came from, I don’t know. They just don’t want to use it.

K: No particular reason why.

Class 5 Teacher: No, they can’t really verbalize the reason.

K: Yeah. And did, when students did use it, did they sometimes go on their own initiative, or was it almost always...?

Class 5 Teacher: Always. Always on their own. I never...

K: Oh, no, I mean, like without reminder, or...

Class 5 Teacher: No, without, they would...with no reminders. And, sometimes I just kind of, generally, in the morning would say, you know, “Remember guys, if you need the calm carrel, then you can go by yourself, okay?” And, you know, then you’d remind them again, but, never would I say....you know, they went to the calm carrel on their own.

K: Okay.

Class 5 Teacher: Not as much as I wanted that to happen, but they did manage to get over there.

K: That's good, yeah. And, sometimes you would remind right before, and then they would go there, or was it always, like...

Class 5 Teacher: I would never direct them to go. Like, after a reminder they might use it later.

K: Yeah.

Class 5 Teacher: They knew the rules: three times, five minutes. They knew all that. I never had a kid go over the limit. Or abuse it.

K: That's good. And, in terms of that rule, do you think that was appropriate: the three times, five minutes. Or, did you feel that was too much time away, if someone had used it that much, or...

Class 5 Teacher: Well, I think it was appropriate. For our duration of the day, I think you need a limit. Otherwise they would abuse it. If they want to hide out. I mean, if you put me in the carrel for an hour, I might stay there for an hour and just listen to music. I wouldn't mind doing that. So, they were pretty accepting.

K: That's good. And there wasn't any...you didn't have the feeling that they were using it to get out of work at all?

Class 5 Teacher: No.

K: That's interesting how that worked, 'cause in one class, the teacher said that they would, like, they would ask her, "How much time is there left in math?" or something, and she'd say, "Oh, five minutes" or something, and they would say, "Oh, can I use the calm carrel?", like to get out of the last five minutes of math or something.

Class 5 Teacher: (Laughs). Oh! Not bad! We started, we were starting something one time, and one kid was going back, and I said, "Oh, come back. Not the time."

K: But, so there was no, other than that one time there was no, in your class, no cases where you thought they were...

Class 5 Teacher: No, no.

K: That's good. And, is there anything about the design of the carrel itself that could have maybe...or the rules, that could have encouraged greater use of it? Like, particular elements of other types of strategies that could be included there, or...?

Class 5 Teacher: Do you mean calming strategies?

K: Yeah that, or a way to build it into the class more, or, like anything that might have led to greater use if it had been...

Class 5 Teacher: You know, I went to one school one time where they had, what's it called, the multisensory rooms, you know, for kids that are quite handicapped? Um...

K: Like a separate room with...

Class 5 Teacher: Yeah, it was a separate room, and...very expensive set-up.

K: Is it?

Class 5 Teacher: Extremely. I thought, that'd be a great thing to have. Except you'd change, when a kid became, you know, they could go there for a few minutes and calm down, then go back to class. So, it could be separate from the classroom, for kids who can just... You know, not for all kids, but for, if you have kids who would be using a calming technique...

K: Right, that's good.

Class 5 Teacher: You can have a separate room. Instead of having, you know, directing them right to the time-out room, saying, you know, "You're upset, let's try some different strategies."

K: Yeah, and then there's more of a distinction between...

Class 5 Teacher: Yeah, you know, misbehaviour that occurs because of defiance, or misbehaviour that occurs for other reasons. And I think we don't differentiate that in schools very much.

K: Yeah, that's true.

Class 5 Teacher: You know, like I've got a girl in there who's being called, well, they say she's OCD, but I actually think she's autistic because she needs to complete something, like "I need to complete this." And, that led to a lot of her misbehaviour, her blow-ups, was that factor. Like, it could be OCD too, but OCD isn't, you know... So, I mean, other strategies to help her to deal with that, other than let her blow up and bang, you know, she's in a BA classroom. So, you've got to be careful with that.

K: Yeah, it's a good point for sure. I wonder if, did you notice any specific improvements, ever, after a child had used the carrel? Like, did there appear to be any difference in their attitude or behaviour or their work, right after they'd used it?

Class 5 Teacher: They were just calm. Like, you know, they came out, and they were like, you know, like a breath of fresh air. You know, you're (*makes sound of letting out a deep breath*), you take a breath and you're kind of relaxed. And, length of time: I couldn't tell you how long they were relaxed for, but, you know they came back, you know, just kind of ready to go back to work.

K: Hmm hmm, so less likelihood of a difficulty arising. But, and then you mentioned though, like, if the issue that led to their going there came up again, then they would still, uh, that would still be problematic?

Class 5 Teacher: Yeah, the issue, like, some of the girls have girl issues. So, if the issue represents....you know, reoccurred, then you'd still have the same...

K: Right, yeah, but there was kind of a general, more calming kind of attitude, or...?

Class 5 Teacher: Yeah, calmer. I mean, I could see having, you know, like three in there, where you could send three people at the same time, and say, you know, "Go calm down...listen to...and then come back, and we'll reprocess this."

K: Hmm hmm, so sending them as a group?

Class 5 Teacher: Well, as a group, like having like a center, if they were able to handle it, and have three different stations, where you could say, "Okay, let's go", you know.

K: Yeah, that's a good idea too, for sure.

Class 5 Teacher: Possibly even like, like they have with that channel on TV with the fireplace.

K: Oh yeah.

Class 5 Teacher: Which, for some strange reason, is popular in many countries.

K: Yeah, just the burning, yeah, with music in the background....

Class 5 Teacher: Yeah, so I mean, I know it suits me. I've got a fireplace. When I turn it on, and it calms you... So maybe even like a visual...

K: Hmm hmm, that's a good suggestion too, yeah. Like the fish in the aquariums in doctor's and dentist's offices to calm people...

Class 5 Teacher: You know, and why don't we have these kind of things in classrooms for kids, where they can, cause they have to focus on the teacher all the time, but why not have it available?

K: Yeah, that's a good point too. For sure. Um, I guess there probably wasn't enough use to notice any kind of general difference among the, within the class as a whole. It was more individual?

Class 5 Teacher: More individual, I think. Yeah, day-to-day.

K: Hmm hmm. And, do you think that the...oh, and it tended to be immediately after use, really?

Class 5 Teacher: Yeah.

K: Okay. Do you think that the dependent measures (that was the rating scale and the time-out, keeping track of the time-outs)...do you think that captured the improvement, like just in your general sense from...?

Class 5 Teacher: Not really.

K: Not really, yeah?

Class 5 Teacher: Yeah, I think it's hard to measure any kind of changes in that objectively, and... because the time-outs, to keep track of all of them, I kind of rounded them off. You know, you can have at the end of the day, you go, "Well how many did that person have? About this many. Kind of day for that person, you know, is about a six or a seven." You know...

K: It's relative.

Class 5 Teacher: Very subjective, relative, yeah, to how you felt about the situation.

K: Right.

Class 5 Teacher: And some were, like (*Student 5-7*), she had a two-day, she had a two-day, I mean, you know, in time-out or whatever, sent home. So, some were a little more than others, but um... Yeah, to get consistency between teachers would be kind of hard...

K: Oh yeah, definitely.

Class 5 Teacher: ...when it comes to collecting data like that.

K: That's true, yeah.

Class 5 Teacher: If I could pinpoint, say, "Okay, time-out chair", this and that, but, I'm pretty tough on these guys. So, whereas another teacher might be a little looser...

K: Yeah, there'd be a lot of variability. Do you think there would be any kind of objective measure that would capture that, or is it more...

Class 5 Teacher: Well, if you get a video. Videotape, and then basically look at teaching, what teachers are doing in classrooms, and how kids are handling it. You know, very objective, and you'd have to collect all that data from those, right? You'd get a team to do that. That'd be much better. But, taking in all the factors, teaching strengths, and then how the kids are reacting, and how they're using the carrel... But, nobody's got time to do that.

K: Yeah, that's true. How many students in the class would you say did benefit in any way, either academically or behaviourally or in terms of motivation, over the course of the study?

Class 5 Teacher: I'd say about four.

K: Hmm hmm, four, and there was eight in the end, or...

Class 5 Teacher: I think there were eight, yeah...Let's see, one, two, three, four, five, six, seven, eight. (*Student 5-8*) didn't participate, right, 'cause he was never here. He's been absent like, uh, I can't recall the last time I saw him.

K: Hmmm, wow. Yeah, and four out of eight kind of benefited?

Class 5 Teacher: I'd say four, yeah.

K: That's pretty good.

Class 5 Teacher: It was actually, you know. I didn't really take a look at their book, like, I kind of scanned. Like, (*Student 5-7*), but I did see...okay, she did it one time, Thursday. But, I mean, she's been...she didn't circle the number either. For her, I saw her use it a few times. She's actually the one that has the most deficits in the class. That's who the rocking chair's for.

K: Oh, okay. Would you say that the students who did use the carrel became at all more, like, not aware of their behaviour, but more sort of...

Class 5 Teacher: In tune with themselves?

K: Yeah...over the course of...

Class 5 Teacher: No.

K: Not really, no? Yeah.

Class 5 Teacher: No, I think it's a lifelong process for these guys to become aware of who they are and what they're doing and... They don't have a clue. 'Cause, I mean, we're dealing with kids who continue to have temper tantrums at home. Home life is just so unstable...what kind of strategies do they use at home, to survive?

K: Right, exactly. That's difficult for sure. Do you think that you would, would this be something you'd continue to use in your class, or...?

Class 5 Teacher: Yeah, I think I'd continue using it. I'd like to apply different strategies, you know, that would incorporate, like say, the different sensory modes. But also, you know, for kids who...this is a nice simple strategy, because it doesn't require any intellectual abilities.

K: Yeah, that's...

Class 5 Teacher: Just the basic soothing technique that works well with these guys.

K: Yeah, that's good. So, you would keep it 'as is', but you'd add some...what types of things would you change, do you think, with the carrel itself? Like, if you...like, you plan to continue it this year, or?

Class 5 Teacher: I'll continue it. I mean, if we could afford to get a different chair...

K: Oh yeah.

Class 5 Teacher: Yeah, that's what I would want. A nice, comfortable chair. Something nice to look at. You know, nice to look at. If you could tie in a TV with the music, and just have like a, you know, an ocean scene or...that would be nice.

K: Right, yeah. And would you take out anything that was there? Is there anything that you would, as you continue to use it, that you think wouldn't be...

Class 5 Teacher: Well, the carrel...I don't like carrels. So, I might want to change the format of the carrel itself. Maintain its privacy but...a carrel is so self-enclosed that it would make me uncomfortable.

K: So more like just a regular table?

Class 5 Teacher: A table, yeah.

K: Yeah. And would you keep the, like, the music and the visualizations and the relaxation, or do you think there's any of those that weren't really...

Class 5 Teacher: Well, I like the visualization. I mean, I think that helps kids. Whether or not they used it, I don't know. You know, I talked to them about, you know, do they imagine themselves someplace when they're feeling upset or disappointed or frustrated. You know, like I think people do that, just picture yourself somewhere, like on the beach, on a vacation, you know lying in the sun, warm. They couldn't relate to it. They couldn't...

K: Yeah.

Class 5 Teacher: Yeah, I told them that you know, one of my safest places was in my grandma's hands, arms, when she gave me a hug every time I came from school. They looked at me like I was an alien.

K: Hmm, really? So those would be the main kinds of changes you'd make, would be changing the format of the desk and providing a couple of...

Class 5 Teacher: The format, but also, it's hard to develop their experiences on what visualization is. I mean, that'd have to be taught and enforced, reinforced at home, and I don't think parents are going to be doing that.

K: Right, that's true.

Class 5 Teacher: Like maybe over a beer or something, but not with their kids.

K: Right, no that's true. Would you see the carrel as being something that could be worthwhile implementing in other BLA classes, like, as it is now, or with some...

Class 5 Teacher: I would go with the *regular* classroom. I mean 'cause...

K: Yeah, I was going to ask...

Class 5 Teacher: ...we have issues in this school where kids...I mean, one kid who was BA now is back in my classroom, right? He may have benefited from that even in *kindergarten*.

K: Hmm hmm, yeah.

Class 5 Teacher: Start young, and then have them implement it as they go through their schooling, right?

K: Yeah, that's a good point, yeah.

Class 5 Teacher: Yeah, I mean, even develop a centre where you can go to a school and say, "I've got this centre, it's got all these strategies. You know, and kids can go there when they're feeling a little upset or agitated, and they can listen

to music, they can, you know, visualize. K to six, different areas.” I mean, and you could make a fortune, because we need an option in schools...

K: Right, that’s compatible with regular classes...

Class 5 Teacher: That can be, that won’t disturb the regular classroom, you know. Sort of like that room, the sensory room, where kids can go and, but then you need that supervision...

K: So, you mentioned it being useful in a regular class, or potentially being useful. Do you think any changes would make it more compatible with that, or...

Class 5 Teacher: I think you need more, like, options...music, right...

K: More choices.

Class 5 Teacher: More choices. One wouldn’t be enough, I think. Different modalities for kids. Just different types of things that they can actually be able to cool, calm themselves down...

K: Yeah, do you think different genres of music, as well, or, like this had classical and instrumental and new age...

Class 5 Teacher: No, I think you’re on the right track. I think other genres would pump them up a little bit.

K: Yeah, I mean, there’s always kids who will suggest rap or whatever, but...

Class 5 Teacher: And we know what’s in rap!

K: Yeah, exactly.

Class 5 Teacher: No, I wouldn’t go there.

K: No, for sure. Yeah, the problem-solving form. That’s this, that form that was included as an optional one where they just check off why they went to the carrel and what they thought they might do when they go back. Do you think that was worth including, or...

Class 5 Teacher: Oh, I think it was worth...they didn’t mind completing that.

K: Okay.

Class 5 Teacher: It was no, never, like “I don’t want to do this.” I think it helped them try to problem solve, you know, see the situation more clearly by writing it. No, I think it was a good component of it. The other question, you said what

other techniques. You know, even like different cultural types of techniques. You know, like there's the sand...

K: Oh yeah.

Class 5 Teacher: The one where you do the sand.

K: Right, with the rake.

Class 5 Teacher: Yeah, the rake. Just, looking at different cultures and see how they, what kind of techniques would be calming for them.

K: Yeah, that's a good suggestion too, yeah. And that would fit in with having a little more of a centre, like, set-up. Yeah, that's really good.

Class 5 Teacher: 'Cause, I was watching this science show last night. They had this sand, where it was sand but once you dropped it in the water, in the container, you could make a sand castle. It was treated with a certain chemical where, when it went in, right...

K: You could build it within the water.

Class 5 Teacher: You build within water. Once you pulled it out, it was sand again. Dry sand.

K: Hmm, that is neat.

Class 5 Teacher: So, I mean, even something simple like that that can be placed, like someone who is feeling, you know, like, it might bring them down. 'Cause water does have that...

K: Calming effect, yeah.

Class 5 Teacher: You couldn't do a warm shower, but you could do a...

K: Yeah, having your hands in it, yeah. Definitely, that's really good. Did students in the class say anything to you, like, during the course of the study, about the carrel that would give additional insight into what they thought...

Class 5 Teacher: (*Shakes head*)

K: No, nothing? Yeah. You don't recall anything as they went or as they came back? No. Yeah. And, I think that wraps up all the questions, unless you had anything else to add, or, any other suggestions or thoughts or anything. No? That was a lot of feedback you gave. It was great. Thanks.

APPENDIX O3

SALIENT POINTS AND QUOTES FROM TEACHER INTERVIEWS

Class 1

-The teacher expanded on comments she made on her feedback form, by indicating that the reason she knew her students had been going to the calm carrel to get out of work was that this occurred in cases where they were working well and were not visibly agitated, and then a student would ask how much time there was until recess, and she would tell them there were five minutes, and then the student would ask to go to the carrel. She said that they were “manipulating the situation” and that “all they wanted was to waste that five minutes”.

-She indicated that pretty much all students in the class “caught onto” this way of trying to use the carrel to get out of work, except for her student who was coded as “opportunity” (Student 1-3). She mentioned that this latter student did not use the carrel “very much at all” anyway. (According to the student’s own usage records, in fact, he did not use the carrel at all.) The teacher indicated that the student could not understand the concept of the carrel (because “he’s quite low and has some real developmental issues”) and that, even with prompting, he did not choose to use the carrel.

-When asked if the students who used the carrel to get out of work demonstrated any behavioural improvement subsequent to their use of it (even in these cases where they were going there for the wrong reasons), the teacher said that she did not notice anything. However, she also said that neither did she notice them ever returning from the carrel in an “excited or hyper” state. She stated that “there was always a smooth transition from that to whatever they were moving onto next”.

-The teacher indicated that, once at the carrel (whether they went there to get out of work or not), the students never abused the privilege of using it (i.e. they never behaved inappropriately while they were there).

-The teacher stated that initially students were using the carrel “quite a bit”. She felt that they were “manipulating the situation” (by using it at inappropriate times, to get out of work), and that “it got to the point where I had to intervene, because it was being manipulated and at that point I was starting to lose my, kind of, control or presence in the classroom”. She indicated that after she intervened, the students stopped using the carrel. *(Note, however, that the students’ own usage charts suggest that there was a total of only 6 carrel uses among all 5 students in the class, for the entirety of the 20-day experimental phase. The recorded carrel uses occurred on the 3rd, 4th, 4th, 4th, 6th, and 13th days of the experimental phase. The teacher’s comments suggest that the students must have neglected to record much of their use of the carrel at the start of the experimental phase.)*

-The teacher further explained that “it was taking away from my authority. And so, when they knew that I couldn’t say no to them asking to use it, there would be a grin or a snide remark because I would have to let them go. So then at that point I had to intervene and say that I can say if I find that you’re manipulating the situation, I’m going to have to intervene and say ‘No’.” *(Note that this comment reflects a misunderstanding of the calm carrel procedure on the part of the teacher. It was clearly communicated to all teachers both orally and in writing at the commencement of the study that if a student was using the carrel inappropriately or going to the carrel at an inappropriate time, the teacher was to prevent them from doing so.)*

-She indicated that students’ use of the carrel “pretty much stopped” after she spoke to the class about manipulation. She said that three out of the five students in her class were using the carrel in a manipulative way (she said again that she would not count Student 1-3 in this because he’s “very Division One and this, to me, is a very Division Two kind of a concept”).

-The teacher stated that one student in her class (Student 1-2) did find the carrel useful, that he would go to it “when he was in a behaviour or escalating towards a behaviour”, and that “it seemed to definitely calm him down and relax him when he would return back to his desk”. She recalled that on one particular day that he used it, a time-out did not become necessary. The teacher expanded on this by saying “on this one particular day he was very aggressive and becoming violent, and very defiant and very...lots of rude... talking back, arguing, defiance. Just, very severe for him. So, at that point he had asked to go to the carrel, I believe at least two or three times in that period...I think it did help him in breaking that cycle, for sure.” As a result, she stated that “as another intervention before time-out, I felt that it was a very useful strategy”.

-In response to a question about how the rules for carrel use might be altered to prevent the manipulation that the teacher had noticed, she said she would still provide the calm carrel as an option for students when they feel agitated, but that she would do so in such a way that she could intervene and stop them from going if they were trying to manipulate the situation. She stated that they would need her permission before going to the carrel, and that this “would allow me the power and the control to say, ‘Out of my classroom’”. *(Note that once again this reflects a misunderstanding on the part of the teacher. It was communicated to the teacher prior to the commencement of the study, and again before she trained the students in the use of the carrel, that she could stop a student from using the*

carrel if she felt they were attempting to do so at an inopportune time or in an inappropriate way.)

-The teacher also indicated that she would prefer to build the carrel into her existing discipline cycle as an additional, proactive step. She said that the calm carrel would be an initial step, and that if a student was still agitated after 5 minutes there (or if they were too agitated to go to the calm carrel in the first place or were abusing it), he/she would then go to the regular carrel (which the teacher also uses currently as a step before time-out), and that this could then progress to a time-out, if necessary.

-The teacher further explained that she would want to start using the calm carrel in her class right from the start of the year, in light of the students' need for structure and routine. Because of this, she also felt that, at least with her current group of students, she would need to actually send them to the calm carrel (while alerting them to their agitated and escalating behaviour). She said they could refuse to go (i.e. it could still be kept as an option in this sense), but that then they would need to go to the other (regular) carrel, which would be the next step up in the discipline cycle. She felt that building the calm carrel into her system in this way would prove to be effective in helping the students to calm down and preventing their behaviour from escalating and requiring further consequences.

-She felt that some of the initial use of the carrel was due to the novelty of it, and that some could be accounted for by the fact that the students were testing to see if she would tell them not to go. She pointed out that, given that all of her students "are severe oppositional defiant with a conduct disorder" and in light of their previous histories, this testing of the limits is not unusual for them.

-The teacher said that the one student (1-2) who used the carrel appropriately and also benefited from it, has ADHD, and that this is the main thing that distinguishes him from the other four students in the class. Although this student used the carrel more than the others, the teacher did not feel that he was any more aware of his own behaviour.

-She indicated that nothing about the students' use or lack of use particularly surprised her, because she has been teaching a lot of them for two or three years and knows them well. She also said that there was not as much use of the carrel in part because the students have improved so much since they first came to her class. She said if the carrel had been put in place when they'd first arrived, it would have been used a lot more. She also made reference to one student (1-4) whose behaviour is so good ("he pretty much has 'seven' days every day") that the carrel really wasn't necessary for him. That being said (*despite his excellent behaviour*), she also mentioned that he was "the one child that did manipulate it

when he could” (previously she had indicated that 3 of the 5 students were manipulative in their use of the carrel).

-The teacher said that she did not prompt or remind students that they could use the carrel (with the exception, according to her earlier statement, of Student 1-3). Rather, she said that they always asked and went there of their own initiative.

-The teacher acknowledged that “sometimes it was hard to tell” if students were actually being manipulative in their use of the carrel or not, but that after she spoke to the class as a whole about this and told them she could stop them from going to the carrel, use dropped off and became “pretty much nonexistent”.

-The teacher noted that a factor which might have impacted on lack of use of the carrel (aside from her discouraging it herself), was that the stakes were very high in her class and that “the rewards and the consequences and the rules are so structured in that classroom, there isn’t a lot of movement in there”. She indicated that, for this reason, the calm carrel was a “kink in their structure”. She pointed out how the structure of the class itself, the way she has it set up, promotes good behaviour and that this might also have reduced the need for the carrel. She also commented on the fact that some of her students have obsessive-compulsive disorder, and said “you don’t put in a calm carrel when one of those kids is obsessive compulsive” because “that would be too much in their day”. She said that having the carrel set up right from the start of the year, and making some changes to the way it is laid out, would be beneficial.

-She did indicate that she liked the rules regarding the amount of carrel use permitted (3 times per day, for 5 minutes each time), and that she would keep this the same.

-In terms of the material/strategies available at the carrel, the teacher commented on how some of the students had asked her why the music was all classical. She said that, although they would probably prefer rap, there might in fact be some other types of music that could be added, in addition to classical, that would be more interesting for them, while still being positive and calming. *(Note that, in fact, very few of the songs on the CDs were actually classical music. Rather, they covered a range of genres, including avante garde/new age, world music, and instrumentals in various styles.)*

-When asked about the specific nature of behavioural improvements resulting from use of the calm carrel in the student she felt benefited from it, the teacher indicated that “it seemed to help the ADHD a bit”, and, on the particular day she’d noticed this, his behaviours, while very problematic, did not escalate to the point where he was posing a danger to himself or others. She said that “maybe (the calm carrel) was the intervention that helped to prevent that from happening”. She said she could not be certain, but had noticed a “correlation on that particular day”.

-Although Student 1-2 was the only one who demonstrated clear behavioural improvements immediately after using the carrel, the teacher acknowledged that the fact that she had always observed all students who used the carrel returning to class with a smooth transition and without any difficulties, could indicate that the carrel might indeed have prevented some problematic behaviours that may otherwise have occurred.

-The teacher felt that the dependent measures (behavioural ratings and time-out records) were both appropriate measures which would have captured any behavioural change, had it been present. She did note the fact that a single behavioural rating (e.g. 5) could represent very different standards of behaviour for different students.

-The teacher indicated that she felt having the calm carrel in place in the class only benefited one out of the five students. She said that in the case of another student, “it almost increased his behaviours, because he wanted to get out of doing work. So he knew that if he could get his behaviours to go up, then he could ask to go to the calm carrel. Like, he would manipulate it that much. So, in a way the calm carrel was kind of...had an opposite effect on that child.”

-She indicated that she did, nevertheless, plan to continue using the carrel in her classroom, and to build it into her discipline cycle. She also mentioned that the students she thought should use the carrel did not have parental permission for participation in the study, so this was another factor to consider.

-The teacher stated that she did feel that the one student (1-2) who was using the carrel appropriately and benefiting from it probably did become more aware of his behaviours over the course of the study, in the sense of realizing when using the carrel would be a good idea, although she didn’t think he was able to reflect on his behaviours and their relation to his use of the carrel, after the fact.

-The teacher indicated that she felt the calm carrel could be a valuable strategy to have in place in other classrooms for students with emotional and behavioural disorders, provided it is built in as part of the classroom structure and, preferably, as part of the discipline cycle itself (although she acknowledged that use of the carrel might be able to be left as more of an open option, depending upon the particular class of students). She commented that, although having the carrel in place would involve more work for the teacher in the sense of having to do more monitoring (of the carrel's use, and to ensure students do not damage it), she felt that the benefits would outweigh this in a "well-structured and well-run classroom". She said, however, that some teachers may say "there's no possible way I could put this extra stuff in. I've already got too much stuff going on", and that, in this sense, it depends largely on the individual teacher and their classroom.

-The teacher felt that the calm carrel could also prove very useful in a regular class setting, and, in particular, for students with ADHD in a regular class setting, as long as the right controls are in place to prevent its misuse.

-The teacher did not feel that having the optional problem-solving form available to the students at the carrel was valuable. She indicated that she did not think any of the students completed it (*in fact, one did*), but then said that if anyone did it was because it would mean they could delay having to return to their desk to continue with their work, by three or four minutes. (*In fact, as was also communicated to the teacher beforehand, completion of the problem-solving form (if the student chose to fill it out) was to occur during the course of the 5-minute period allotted for carrel use.*)

-The teacher felt that the strategies (music, relaxation exercises, and visualization stories) available to students at the carrel were all appropriate and soothing, and that she couldn't think of any additional ones that would be worth adding. She also noted that she would look over and could see the students doing what they were told to do on the CD (in the case of the relaxation exercises). She said that, as far as she could tell, "they were there they were using it properly and they were utilizing it and seemed to enjoy it".

-The teacher indicated she was pleased that she could continue to use the carrel in her classroom, and to adapt it to fit better for her students.

Class 2 and Class 4

-Class 2: Students were clearly sometimes going to the carrel for no reason other than to get out of a certain subject or because they didn't want to participate in class; 2 students out of the 9 in this teacher's class seemed to use the carrel in this way.

-Class 4: The teacher also noticed this (for example, one student would invariably ask to use the calm carrel at the start of a spelling lesson); 3 students out of the 8 in this teacher's class tried to use the carrel in this way; the rest seemed to "use it appropriately for their actual...venting of their frustrations, trying to calm down and collect themselves".

-Class 4: In speaking about a student who used the calm carrel appropriately, the teacher stated: "I had one student who, for sure, every time he went to the calm carrel, came back calmer. And, he commented, he's like, 'Yeah, I just press on this one song,' and he's like, 'I feel much better when I'm done'."

-Class 2: If the students were going to the carrel for the wrong reasons (i.e. to get out of work), it didn't seem to have any notable impact on their behaviour.

-Class 4: One student who used the carrel (for the right reasons) did show behavioural improvement (i.e. was more calm) subsequent to using it, but only for a short period of time.

-Class 2 and 4: In both classes, overall, most students were going to the carrel for the right reasons, the majority of the time.

-Class 2 and 4: In both classes, all students (even the ones who went there for the wrong reasons initially) used the carrel appropriately (i.e. did not fool around or misuse it) once they were there.

-Class 2 and 4: In both classes, students who did go to the carrel for the wrong reasons didn't seem to do so less as the study went on.

-Class 4: This teacher suggested that, as far as how to reduce inappropriate use, it was just important to make it clear to students at the beginning about rules for when to go and when not to go to the calm carrel (this had been incorporated in the teacher training materials, but this teacher joined the other Class 4 teacher after the study had begun, so was not aware of all the details of the initial training). Nevertheless, both Class 2 and 4 teachers indicated that most of their students asked before using the calm carrel, anyway.

-In Class 4, perhaps due to the novelty of having the carrel in the classroom as a new strategy, “all” students tried the carrel early on, according to the teacher (note that this is not entirely borne out by the students’ own usage charts, however, where it appears that one student never used the carrel and another did not use the carrel until mid-way through the experimental phase). The teacher of Class 2 indicated that not all students tried the carrel in her class, even throughout the course of the study. The Class 4 teacher felt that this might be due to the fact that the older, more mature students were mostly in Class 2. Also, in Class 2 novelty did not seem to play a role, because the students who used the carrel more at the start tended to use it more throughout the study as well.

-The Class 4 teacher explained the other Class 4 teacher’s remark on the feedback form about how students were “beginning” to use the calm carrel to help them calm down (by the end of the study), by saying he felt that whereas at the start the carrel was quite a new thing, over the course of the experimental phase it became a common and accepted aspect of the classroom, and the students recognized it more as an available option (“it’s just kind of ingrained in them now”).

-In Class 2, Student 2-9 used the carrel a lot, but didn’t seem to be more aware of his behaviour than other students; In Class 4, Student 4-6 used the carrel when he knew he was frustrated and found certain CD tracks really helped him to relax.

-In general, though, both the Class 2 and Class 4 teacher did not feel that there was any real distinction between students who used the carrel more and students who used it less, with respect to their awareness of their own behaviour. Nevertheless, the Class 4 teacher did say that the students he expected would use the carrel most, did tend to use it most. The Class 2 teacher had expected certain of the older students in her class to use the carrel more often than they ended up doing (but felt that these particular students chose to stick with the strategies that they were most used to, like going for a “quiet time” in the time-out room itself).

-In both classes, the teachers sometimes provided prompts and reminders to students when they felt it would be useful for them to make use of the calm carrel (the Class 4 teacher offered it as a choice, telling a student, when their behaviour was becoming a concern, that they could either go to the time-out room or the calm carrel); the number of reminders given to students to use the calm carrel did not decrease in either class, over the course of the study.

-Both teachers felt that the rules about the number of times students could use the carrel in a given day (3) and the length of time they could spend there in each case (5 minutes) were appropriate, and should not be changed. The Class 2 teacher

liked it as it was and said that if the time limit were increased, she would worry about the students missing too much of their work.

-The Class 2 teacher mentioned some students having suggested that they would have preferred different types of music on the CD at the carrel. The Class 4 teacher pointed out, however, that having Eminem (a rap singer) on the CD might not be helpful, and the Class 2 teacher agreed. She said that she was pleased with the music selection that had been included, and the Class 4 teacher agreed.

-Both teachers felt that the calm carrel did tend to result in short-term behavioural improvement after a student used it.

-The Class 4 teacher said he felt that “if a student used it, it always had an initial impact”, but that sometimes a student did not go to the carrel when it would have been helpful for them to do so. He also mentioned that negative behaviours did sometimes reappear quite soon after carrel use, sometimes leading to a time-out (particularly for students in the class with attention deficit disorder and opposition defiant disorder), but that there was always an initial improvement in behaviour after a student returned from a session at the carrel.

-In terms of the nature of the behavioural improvement after carrel use, the Class 4 teacher explained that students were more on-task and ready to focus. The Class 2 teacher indicated that they were calmer, and the Class 4 teacher agreed.

-Both teachers felt that the dependent measures used in the study (the behavioural rating scale and the time-out records) did not really capture the behavioural improvements that they had noticed as a result of students’ carrel use. Both teachers felt that the students with higher behavioural ratings weren’t necessarily the ones who were using the calm carrel. They also felt that some of the students with higher ratings had higher ratings throughout the study, whether or not they used the carrel.

-The Class 4 teacher suggested that having teachers assign students a behavioural rating for both the morning and afternoon each day might better capture the improvement that resulted from carrel use. He pointed out that, with the single daily rating used in this study, if a student had a good morning but misbehaved and received a time-out later in the afternoon, this would then bring their overall rating for the day down considerably, which would obscure the fact that they had behaved well for the majority of the day. He acknowledged that this would require more record-keeping on the part of teachers, however.

-Both teachers felt that over 50% of the students in their respective classes benefited either behaviourally or academically from having the carrel in place.

-Both teachers felt that, although students did demonstrate short-term behavioural improvements as a result of their use of the calm carrel, they did not appear to develop increased awareness of their behaviour over the course of the study. The Class 4 teacher felt this might be due in part to the extent of his students' impulsivity.

-Both teachers indicated they would be continuing to use the carrel in their respective classrooms, and that they did not plan to make any changes to it (i.e. they planned to continue to use it in the way it had been set up for the study, without changing the rules for its use or the strategies it included).

-Both teachers felt that the calm carrel would be a strategy which would be worthwhile implementing in other BLA classrooms as well as in a regular classroom context, and neither could think of any improvements they would make to it in either case.

-As an aside, the Class 4 teacher commented on how he felt that the record-keeping forms (provided to teachers for keeping track of the students' behavioural ratings and time-outs) were well laid-out and easy to complete.

-When asked about the value of the problem-solving form that students had the option of completing at the carrel, both teachers felt that it had merit but that it was good that this was left as an option and not required of the students. The Class 2 teacher pointed out that while writing things down could help some students to reflect on their behaviour, for other students it's more helpful for them just to calm down without having to verbalize it. The Class 4 teacher said that he thought the majority of the students did not use the problem-solving form when they went to the carrel.

-Both teachers indicated that they liked the strategies (music, relaxation, and visualization) that were available at the carrel, and would not have changed anything. The Class 2 teacher mentioned that she does some relaxation and visualization strategies with her class as a whole already, and so this meant that some of the students were used to these types of techniques already.

-When asked if they had overheard any additional student feedback about the carrel, the Class 4 teacher commented about one student who "pretty much every time he used it, say, he's like, "Yeah, whenever I listen to that one song, I just feel better, I feel...it relaxes me."

Class 3 and Class 6

-Class 3: Throughout the experimental phase, one student in particular (Student 3-2) was sometimes attempting to go to the calm carrel at inappropriate times (to get out of work). The teacher indicated that she intervened and stopped him from going there when this was happening. When this student actually used the carrel, however, it was for a legitimate reason (e.g. when upset). In other words, the teacher did not allow him to use it to get out of work (he just attempted to use it in this way sometimes). The teacher did not think that changing the rules regarding use of the calm carrel would be necessary to deal with this type of situation, however.

-Class 6: One student (who joined the class part way through the study and for whom parental permission could not be secured) seemed to use the carrel to get out of work at first, but then soon began using it for the right reasons, and it seemed to be helpful for him, in particular. The rest of the students in the class all used the carrel for the right reasons (i.e. not to escape or get out of work) when they did use it.

-Class 6: Students in this class did not use the calm carrel at all initially, and once they did start to use it, they did so infrequently. The teacher felt, in afterthought, that this was probably due largely to the fact that there was another carrel in the classroom (minus the CD player). This second carrel was situated at the back of the room, whereas the calm carrel was at the side, near the teacher's desk. The teacher felt students were used to the carrel at the back of the room, and were reluctant to go to the one near the teacher's desk (note, however, that the placement of the calm carrel was the teacher's choice, and he had specified expressly, when we were setting it up, that he wanted it beside his desk). The teacher said that they did use it, when reminded that this 2nd (calm) carrel was another option.

-Class 3: This teacher also commented on the possible effect of location, as explaining why the carrel did not receive a lot of use. In retrospect (though she too had determined the initial carrel location in her classroom), she felt that situating the carrel on the other side of the room where it would have been closer to the students, would have resulted in greater use. She also noted that students didn't seem to be using the carrel any extra to begin with due to the novelty of it.

-Class 3 and 6: The teachers proposed collecting an extra week's worth of data, in both cases, to see if carrel use would increase once the location of the carrel in each class was changed.

-Class 3: The one student who joined the class part way through the study, and who had not received parental permission (for participation in the study), but who used the carrel a lot did so, the teacher felt, because it represented a strategy that she already employed to some extent on her own. The teacher indicated that she “used it more, I think, in the last week than some of them used it ever...because it’s a strategy that she has already. She carries an MP3 player with her, and uses it to manage her mood swings. She’s bipolar, and so that’s why, like she recognizes it as a strategy that she had already, and so then she was really excited to have it here, and she went there quite often ...”.

-Class 6: This teacher noted what he saw as more use of the carrel by students who were hyperactive and had ADHD, as compared to the other students. He said that they found it particularly relaxing. He felt that the other students needed more of a reminder to know that the calm carrel was available to them, but he did not want to remind them too much.

-Class 6: The teacher commented further on the value that the carrel had for the one student who used it the most (the student who had arrived late and was not included in the data collection for the study): “My goodness what a change. Like he would...the frustration level was through the roof...he had extremely aggressive behaviour before he came into the classroom, like fighting out on the park, and so we knew that it could escalate to restraints. And, he definitely did exhibit hostility when he would go to the time-out room too, with regards, you know, slamming a pen down, or you know, slamming the door when he went in. And, after a week of, when he found out about the carrel, and he’d go back and listen to it, and he’d come back and, you know, attempt... And it was, I’d say, 90% of the time it was during math, that he would do it, because that’s his frustration time. Any other time he just kind of copes in his own way, but math it just, he boils over, and he says, “Can I go listen to music?”, and I say, “Absolutely.”... then he came back, sat down, finished off a couple more questions... you can notice the difference when he had some time to himself.”

-Class 6: The teacher did not remind individual students to use the calm carrel a great deal, but did provide generic reminders to the class as a whole. In particular, at the start of the day, he would sometimes remind them that if they were getting frustrated in math (a particularly frustrating unit on multiplication was being taught), they could make use of the carrel then.

-Class 3: This teacher did not really prompt the students to use the carrel. Students who went there tended to remember on their own that they could use it.

-Class 6: None of the students used the carrel the maximum number of times (3 in a day), but the teacher said that, in the case of the student who used it the most, if he had wanted to use it even more: “I would never, you know, hesitate to say, ‘Go

ahead, use it three, even four, times,' if he can calm down like that. Because otherwise, the escalating, I mean, we both know when they're going to escalate, and it would have...it was guaranteed time-out and numerous points lost, essays written... It saved him a lot of frustration, and, *both* of us frustration, from using that."

-Class 3: The teacher indicated that one student (Student 3-7) demonstrated a particularly notable improvement as soon as she had finished using the carrel. The student has Fragile X syndrome and is "very picky about, like, space and people getting in her business. And, she can really just work herself up into a full-blown, like, temper tantrum." The teacher said that after using the carrel, "when the timer went off then she was fine, and then she wouldn't be still at that state where you could really set her off easily, so that was nice to see." The teacher went on to comment about the value of the timer (which let the students know their 5 minutes at the carrel had elapsed): "if the timer goes off then it's okay for her to stop and move on, whereas otherwise transitions are difficult. So...it was good, it's like, that buzzer goes off and (*Student 3-7*) is in a good mood, so then she can go back to work." The teacher indicated that this student's usage charts may not be correctly completed (as the student has trouble with this), but that she did use it and like it. (*The student's usage chart only indicates a single use of the carrel by this student. Given the teacher's comments here, it is clear that this underestimates the actual usage by Student 3-7.*)

-Class 6: In terms of the dependent measures, the teacher said that he liked the 7-point behavioural rating scale measure and found it easy to use. He indicated that, as far as the time-outs he assigned the students, often these did not fit into the categories I had listed. He often ended up classifying time-outs as falling in Category 4 (other) because of this. He explained that with the system in his class, most time-outs result from a series of 3 misbehaviours, but that the behaviours did not tend to include the ones I'd listed (for his particular students).

-Class 3: In contrast, this teacher indicated that she didn't think she had used the 4 (other) category at all, in classifying the time-outs (the categories I'd provided were in keeping with the main reasons why students in her class were assigned time-outs).

-Class 3: The teacher felt that some students in her class who could have really benefited from the carrel (and those with the most time-outs), did not choose to use it (e.g. Student 3-1). She said this might be because they wouldn't want to admit that they needed to use a strategy.

-Class 3: The teacher noted that other extraneous factors (e.g. a student going off their medication or moving) probably impacted on the behavioural ratings the students received (and that it would be hard to tie the introduction or use of the

carrel intervention to trends in the ratings). The teacher mentioned the use of words as another possible descriptor of behaviour (for an alternative dependent measure), but then commented that, because these would be correlated to the numbers anyway, it wouldn't be much different. As such, she said that she could not think of a more appropriate possible dependent measure.

-Class 6: The teacher felt that 3 out of the 9 students in his room (one had moved away) benefitted from having the calm carrel in place. *(He said there were only 3 who remembered to use it, but the students' usage charts indicate that 5 of the students used the carrel, plus the student referred to previously for whom parental permission had not been secured.)*

-Class 3: This teacher said that she thought 3 or 4 students out of the 9 students had used the carrel *(actually, the usage charts indicate that 5 students used it, plus the student referred to previously for whom parental permission had not been secured)*. She felt that the students who did use the carrel benefitted from it.

-Class 6: The teacher felt that, for the new student in the class (for whom parental permission had not been secured), the student was seeing the carrel as a viable option and was starting to notice his own behaviours and to ask (without having to be prompted) to go and use the carrel. The occasions when this student chose to use the carrel were also occasions when the teacher would have suggested it (had the student not asked himself).

-Class 3: The teacher felt that the carrel provided a good "immediate option" for students, since the other alternatives, as behaviours actually start to become problematic, are more extreme, and take the form of them either being moved to another space to work, or being sent to time-out.

-Class 6: The teacher indicated that he could see the calm carrel strategy being valuable for students during unstructured activities outside the classroom as well (e.g. during gym, computers, or music class). He said that in his class students experience a lot of frustration in these settings, and mentioned gym in particular, due to the competitive nature of the class.

-Class 3: The teacher added that the strategy could be portable in the sense of just having the CD player in a basket/bin ready to go when the class went to gym, etc.

-Class 6: The teacher did note that cost may need to be a consideration, since, with the CD player not being affixed to the carrel, students could potentially damage it if they were angry.

-Class 3 and 6: Both teachers indicated they planned to continue using the carrel strategy after the conclusion of the study.

-Class 3: As far as changes to the use of the carrel strategy now that the study was concluding, this teacher said that she would keep it essentially the same, aside from suggesting its use to students more often, relocating it so that it is closer to the group, and perhaps being more flexible about the maximum number of uses allowed in a day. She also said that she would encourage those students who had not used it at all to give it a try.

-Class 6: This teacher said he would definitely keep the music aspect of the carrel, but felt that the student record-keeping tasks associated with use of the carrel (like the optional completion of the problem solving form), may be a deterrent for some students. He indicated that he would not have any written tasks as part of students' use of the carrel. ("They'll do anything to get away from writing. So I wouldn't have any sort of, "write out what you're feeling now", after.")

-Class 3: The teacher also felt that the problem-solving form was too much for the students, and she said she would not continue to use it. She also felt that many of her students would not be able to complete a written component like this on their own, so expecting them to complete it would mean that she would need to help them with it.

-Class 6: The teacher feels the calm carrel is a very effective strategy for Division II classes. He made reference to the 'turtle' premise (the child withdrawing into their private space to calm themselves down), and indicated that this idea is something that has a lot of merit.

-Class 3: The teacher felt this could be used as a strategy with Division I also, but that it would just require more teaching and less of a written component to it.

-Class 6: The teacher said he believed that the calm carrel would be effective ("almost more effective") in an inclusive class environment, "because there's triple the noise".

-Class 3: This teacher agreed that the calm carrel could be really useful in inclusive class settings, and pointed out that just because students in regular classes may not be coded doesn't mean that they don't have behaviour issues. She indicated that overstimulated students can be found in all classrooms.

-Class 3: The teacher also said that she didn't feel monitoring of the carrel would be an issue ("I think once you have it up and running it really just monitors itself.")

-Class 3: All the strategies were useful, although she felt the students mainly just used the music. She said that she might have wanted to take longer to explain the other strategies (e.g. to work through the breathing exercises), and that she might have played the CD for the class as a whole at the start, also.

-Class 6: The teacher said that he would tend to think that adding rap or rock music to the carrel CD (as some students who participated in the study suggested in their feedback forms) would not be a good idea, as it would probably increase the students' hyperactivity. However, he said that if it were found to actually have a calming effect for a student who was having a tantrum or becoming aggressive, then it could actually be worthwhile considering.

-Class 3: As far as oral feedback from the students, the teacher said she did not hear any negative comments about the carrel, and that the children said they liked the music. They were also good about making sure that the 5-minute timer was reset if someone forgot.

-Class 6: This teacher also indicated that he did not hear any negative comments about the carrel from his students.

-Class 3 and 6: Both teachers indicated that the students used the carrel appropriately when they went there.

Class 5

-The teacher clarified a response he had made on the teacher feedback form, by explaining that while he had not observed the students doing deep breathing or using the tense and release relaxation exercises at the carrel (just listening to the music), they may have been doing so without him noticing. He felt that deep breathing would be useful for the class as a whole to practice.

-He also expanded on comments he had made on the feedback form about the value of strategies that would take into account multiple sensory modalities. The teacher indicated that for one student with FAS, he was planning to make use of a rocking chair to help calm her, and for another student with ADHD he has been using a ball to help relieve his fidgety tendencies so that he will pay more attention in class.

-The teacher indicated that there did not seem to be a peak of carrel use at the start of the study due to the novelty of the carrel. He stated that: "I think they used it when they had to use it. Like, whenever there was a socially stressful moment. I'd say, 'Well, where'd she go?', and she'd be in there, listening to music."

-He also indicated that the students did use the carrel appropriately, and for the right reasons, albeit not as often as he would have hoped. He said that some students did not use the carrel at all, whereas others used it somewhat regularly.

-The teacher thought that some of the students with conduct disorder had been less likely to use the carrel simply because they tend to reject things that are recommended to them. He said that the more "open" students went to the carrel on their own. He felt that the fact that they liked music, and the calming effect of music, also played a role in their choice to use the carrel.

-The teacher did not think that the students who used the carrel were necessarily any more aware of their own behaviours. He indicated that the students in his class have very low IQs, and he was not sure of the extent to which they could process or consider the effect that their behaviour has on others, or the implications of their behaviours. He said that while the students who used the carrel had enough awareness to know that they needed to get away from a situation that was upsetting them in order to calm down, they weren't necessarily aware of *why* they needed to calm down, and they would become upset again when he tried to discuss an incident and debrief with them afterwards. The teacher felt that the carrel did calm the students, but that the issue causing the original frustration would still be there and would cause additional upset when revisited. In this sense, he felt that the carrel did not "maintain the calmness".

-Despite this, the teacher did not feel there was anything about the carrel itself that could be changed to make the calming effect last longer. He said it was more a matter of deficits that the individual children present with that prevent them from being able to maintain a sense of lasting calmness.

-He indicated that some students who he thought might have wanted to use the carrel, in fact did not (and they would say so, when he suggested it to them, although they could not provide a reason).

-The teacher indicated that, aside from sometimes providing a general reminder at the start of the day about the option of using the calm carrel, and the occasional additional reminder, he never directed the students to go to the carrel (they always went on their own initiative).

-The teacher said that the students were well aware of the rules about carrel usage, and he never had a student go over the limit, or otherwise abuse the privilege of using the carrel.

-He felt that the limit (specifying that a student could use the carrel a maximum of 3 times per day, for 5 minutes each time) was appropriate, and that it was necessary to have this rule in place.

-The teacher did not feel that the students were ever using the carrel as a way to get out of work (and only once did he even have to tell a student that it was not a good time to use the carrel, because they were just starting something in class at that moment).

-When asked about ways the calm carrel could be improved, the teacher spoke of a “multisensory room” he had seen as a separate room attached to a class for children with severe disabilities. He said that something of this nature could offer another alternative to the time-out room as a separate room where students could go to calm down (particularly in cases where misbehaviour is not due to defiance, and hence would not merit a time-out).

-As far as the influence of the calm carrel on students’ behaviour immediately following their use of it, the teacher stated: “They were just calm. Like, you know, they came out, and they were like, you know, like a breath of fresh air. You know, you’re (*makes sound of letting out a deep breath*), you take a breath and you’re kind of relaxed. And, length of time: I couldn’t tell you how long they were relaxed for, but, you know they came back, you know, just kind of ready to go back to work.”

-The teacher said that he could imagine having a “center” with “three different stations” where he could send three students at once, if they could handle going as a group, to calm down and then return to the class.

-He also suggested it might be useful to have a visual (“like they have with that channel on TV with the fireplace”) at the carrel for the students, as an additional calming influence to go along with the music at the carrel.

-The teacher indicated that the improvements he noticed in behaviour as a result of carrel use were more specific to individual students, on a day-to-day basis, rather than among the class as a whole. He also said that the improvements tended to be apparent immediately after carrel use.

-He thought that the dependent measures probably did not capture the behavioural improvements he had noted from the carrel use. He talked about the subjective nature of rating scale measures like this, and also indicated that even with the time-outs, “to keep track of all of them, I kind of rounded them off” at the end of the day.

-The teacher also mentioned that the different standards that different teachers have for student behaviour could be problematic for collecting data like this (and he said that he is “pretty tough on these guys”).

-When asked about an alternative dependent measure, the teacher mentioned the possibility of videotaping everything that goes on in a classroom, and then looking at carrel use in the context of other factors that might impinge upon it (teaching style, how students react to the teacher, etc.). He did mention the impractical nature of an approach like this, however.

-The teacher felt that about 4 of the students in his class (out of the total of 8 students who were at school regularly) benefited either behaviourally or academically from having the carrel in the classroom over the course of the study.

-The teacher mentioned that he had seen one student (5-7) use the carrel a few times, although she had only noted a single use in her chart. He also said that she has the most deficits in the class.

-He indicated that he did not think that the students who used the carrel became more aware of their own behaviour over the course of the study. He said that it is a lifelong process for them to develop this kind of awareness, in large part because their home lives are so unstable.

-The teacher indicated that he did plan to continue using the calm carrel strategy in his class, and would like to supplement it with some additional strategies (in particular, to incorporate “the different sensory modes”). He said he liked the carrel as it is a “nice simple strategy, because it doesn’t require any intellectual abilities...just the basic soothing technique that works well with these guys”.

-He also said that he would like to try to get a more comfortable chair for the students to use, and a nice visual for them to look at, to go along with the music. In addition, he said he might want to replace the carrel itself with something less self-enclosed, like a regular table.

-The teacher said he likes the idea of the visualizations at the carrel, and feels that this helps students. He said he was not sure how much they used it, however. He said that he had tried talking to them about visualizing a relaxing scene when they were feeling frustrated, and had given them an example of one that works for him, but they could not seem to relate to this idea. The teacher said it might need to be something that is reinforced at home, but he couldn’t see parents actually doing this.

-The teacher felt that the calm carrel could be an especially helpful strategy for students in regular classrooms. He said he has a student in the class currently who had been in a BLA class, then in a regular class, and then back to a BLA class. He said that starting a program like the calm carrel for students in kindergarten and then providing it as an option in regular classes throughout elementary could be very helpful: “...even develop a centre where you can go to a school and say, ‘I’ve got this centre, it’s got all these strategies. You know, and kids can go there when they’re feeling a little upset or agitated, and they can listen to music, they can, you know, visualize. K to six, different areas.’ I mean, and you could make a fortune, because we need an option in schools...”

-As far as suggestions for making the calm carrel a more effective option for regular classes, the teacher thought it would be good to include more options (additional strategies) that students could use to help calm themselves down. In terms of the genres of music available at the carrel, he felt that these were good. He said that including other styles of music “might pump them up a little bit”.

-The teacher felt that the optional problem-solving form had been worth including at the carrel and that it “helped them try to problem solve, you know, see the situation more clearly by writing it”.

-He suggested trying to incorporate strategies that other cultures find relaxing (he mentioned possibly having a little sand garden and rake that the students could use, or sand that they could build with in water).

APPENDIX P

PRE- AND POST-INTERVENTION 'MY BEHAVIOUR' SURVEY RESULTS

**1. What types of things make you feel upset or angry at school?
(Please give a few examples)**

Class 1

Student 1-1 (Pre): Getting confused.

Student 1-1 (Post): Getting confused.

Student 1-2 (Pre): When a kid trys (sic: tries) to chite (sic: cheat).

Student 1-2 (Post): When a student cheat's (sic: cheats) in the game.

When I don't want to do my work but my teachers make me.

Student 1-3 (Pre): Went (sic: when) I get stock (sic: stuck). Went (sic: when) somebody bost (sic: bossed) me.

Student 1-3 (Post): When I can not fier (sic: figure) out the math ansers (sic: answers).

Student 1-4 (Pre): Head ache (sic: headache), stress, teacher tells me to do little more. Not really mad.

Student 1-4 (Post): Math, reading gives me a head ache (sic: headache).

Student 1-5 (Pre): I get mad from math and from social.

Student 1-5 (Post): When I get a loss of all priviliges (sic: privileges).

When I have to do language (sic: language) power (*a textbook*). When I do math.

Class 2

Student 2-1 (Pre): (*Student 2-3*) makes me mad. Because when I do something by accident he makes a noise with his mouth (aagh) and then says "*(Student 2-1)*". (*Scribed*)

Student 2-1 (Post): When people treat me badly (throw snow at my face). When people tell me to stop talking.

Student 2-2 (Pre): When the teachers and students get me in trouble. (*Partly scribed*)

Student 2-2 (Post): Teachers (by yelling, putting me in time-out). Students (by getting me in trouble, hitting me, verbally hurting...etc.) Homework (piles up). School (just upsets me). (*Partly scribed*)

Student 2-3 (Pre): When someone (sic: someone) makes me feel bad and unwanted. When someone (sic: someone) hits me. When someone (sic: someone) makes fun of me.

Student 2-3 (Post): When people yell in my face or at me. When people lie and try to get me in trouble just because they don't like me.

Student 2-4 (Pre): People not minding their business (sic: business), people bugging me and people calling me names.

Student 2-5 (Pre): When people boss me around, if people are rude to me and if people start to cry because it's (sic: it's) annoying (sic: annoying).

Student 2-5 (Post): The school work, peers.

Student 2-6 (Pre): When I don't get harder work when it is too (sic: too) easy. When I get blamed on stuff that I did something wrong when I didn't do it.

Student 2-6 (Post): When people say no. When I'm not allowed (sic: allowed) doing what I want.

Student 2-7 (Pre): When people are bugging me talking to me.

Student 2-7 (Post): When I get teased or when people tell me what to do.

Student 2-8 (Pre): (1) When people butt (sic: butt) in front of me. (2) Get twos and ones and not be able to go to the reward. (3) Not getting gym. (4) Going to the timeout room. (*Partly scribed*)

Student 2-8 (Post): Getting called names, getting pushed, getting hit.

Student 2-9 (Pre): Reading my work makes my (sic: me) angry. Not letting me go and do something. (*Partly scribed*)

Student 2-9 (Post): Not playing right, not listening (sic: listening) to me.

Student 2-10 (Pre): Brain gym and homework.

Class 3

Student 3-1 (Post): When work is hard. When I get restrained.

Student 3-2 (Post): Essays (sic: essays), time out room.

Student 3-7 (Post): Upset is people bugging me every two seconds. The thing that makes me angry (sic: angry) is people bossing me around (sic: around) every 1 minute.

Student 3-8 (Post): When (*indecipherable word*) bugs (sic: bugs) me (sic: me).

Student 3-9 (Post): Thing (sic: things) I do not like.

Class 4

Student 4-1 (Pre): My worck (sic: work) mayek (sic: makes) me angry.

Student 4-1 (Post): My writing, my math, sometimes I miss my mom.
(Scribed)

Student 4-2 (Pre): Kids bothering me! Kids makeing (sic: making) noise.
Kids laughing at you. Kids looking at you.

Student 4-2 (Post): Nothing. (Scribed)

Student 4-3 (Pre): Noises. Kids laughing at me.

Student 4-3 (Post): People calling me names, people make noises.
(Scribed)

Student 4-4 (Pre): Peopel (sic: people) ho (sic: who) upset me.

Student 4-5 (Pre): When everyone teases me and calls me a cry baby.
(Scribed)

Student 4-5 (Post): When other students bug me, when I need to do
printing or writing, when I do spelling test. (Scribed)

Student 4-6 (Pre): When someone gives me the finger, when kids laugh
at me, and when I get frustrated because I can't do my work. (Scribed)

Student 4-6 (Post): People who tell stories to the teacher about me, when
teacher blame me for something, when I get corrected for walking fast.

Student 4-7 (Pre): Someone giveing (sic: giving) me the finger.

Student 4-7 (Post): When people sing rude songs, people make fun of me.
(Scribed)

Student 4-8 (Pre): Music, social.

Student 4-8 (Post): When I get bored, or I have to do social and when
classmates tease me. (Scribed)

Class 5

Student 5-1 (Post): The student a round (sic: around) me.

Student 5-2 (Pre): People saying my last name incorrectly. People talk
rudely about my family. When I see someone hitting someone else, I go
over and talk to that person. (Scribed)

Student 5-2 (Post): I can not (sic: cannot) fins (sic: finish) my lunch on
time.

Student 5-3 (Pre): When people call me names.

Student 5-4 (Pre): Sometimes when people tell me to do something and then they tell me to do something else.

Student 5-4 (Post): Math, computers, social, science.

Student 5-5 (Pre): When I make a mistake five times. When other people nage (sic: nag) me. When other people say that the words I make up is not a word.

Student 5-5 (Post): People taking my things from my desk without asking. People not minding their own bussnise (sic: business). People mimican (sic: mimicking) me. People being rude to me.

Student 5-6 (Post): Wen (sic: when) someone boses (sic: bosses) me around. Wen (sic: when) someone make fun of me.

Student 5-7 (Pre): (1) When peopple (sic: people) say on the bus don't be her friend. Like (*student's name*) and (*other student's name*). (2) When peopple (sic: people) say I have a mole on my nose.

Student 5-7 (Post): (1) When peopple (sic: people) bug me and that's what bugs me. (2) When peopple (sic: people) sit rilly (sic: really) close to me. (3) When peopple (sic: people) give me a headake (sic: headache).

Student 5-8 (Pre): (1) When people bug or ano (sic: annoy) me. (2) Well (sic: when) people heart (sic: hurt) me or yell at me.

Student 5-9 (Pre): People busing (sic: bugging) me. Not lising (sic: listening) to me.

Student 5-9 (Post): School, worck (sic: work), reading, people at school.

Class 6

Student 6-2 (Post): Math, essays, and missing the party.

Student 6-3 (Post): When people ignore me or talk over me, or when people won't cooperate.

Student 6-5 (Post): Being mocked, having me and my family insulted non-jockingly (sic: jokingly), or being treated unfairly.

Student 6-6 (Post): Art, colering (sic: colouring).

Student 6-7 (Post): When I get axcussed (sic: accused) of something. When I get into trouble.

Student 6-8 (Post): Having to (sic: too) many essays.

Student 6-9 (Post): Forgetting my homework, sometimes my teacher makes mistakes on the subject, the letter bord (sic: board) is my biggest disipointment (sic: disappointment).

2. Please describe what your behaviour is like when you feel upset or angry at school.

Class 1

Student 1-1 (Pre): Crying.

Student 1-1 (Post): Crying, mad.

Student 1-2 (Pre): Bad body ixpressions (sic: expressions), bad mode (sic: mood) and bad behaeavior (sic: behaviour).

Student 1-2 (Post): I don't lissen (sic: listen) to teachers. I don't do my work. I play with my hands.

Student 1-3 (Pre): Sratracking (sic: scratching) my head. I will took (sic: talk) back. I will ceak (sic: creak or kick) my desk.

Student 1-3 (Post): When I cannot get on to battLeon (sic: BattleOn) (*video gaming website*).

Student 1-4 (Pre): It looks like I am a little kid.

Student 1-4 (Post): My face is red, dash (sic: bash or rash) on my head.

Student 1-5 (Pre): My behaviour is still. Tence (sic: tense) in my museles (sic: muscles). Damage things if I get two (sic: too) angry.

Student 1-5 (Post): My anger is still. It only stays in my mind. When i'm (sic: I'm) at home I burst it out.

Class 2

Student 2-1 (Pre): Yell and punch sometimes, and kick until I run out of energy and then I talk and then I feel better. (*Scribed*)

Student 2-1 (Post): I kick, punch, yell.

Student 2-2 (Pre): I spaz attack. I get mad, hurt people and I scream. (*Partly scribed*)

Student 2-2 (Post): Hurting people, yell, throw chair. (*Partly scribed*)

Student 2-3 (Pre): I will start to yell at the person and slam doors.

Student 2-3 (Post): I start to get mad that's when I tell them to stop. If they don't I start to do what the (sic: they) did. If people threaten anyone who is my friend or family I hurt them.

Student 2-4 (Pre): When I get angry at school, I walk to the time out room and take deep breaths until I'm ready to go back to class.

Student 2-5 (Pre): I don't listen, I be rude, I get sent to the timeout.

Student 2-5 (Post): I get sent to timeout and normially (sic: normally) punch, kick and thretening (sic: threatening), swearing.

Student 2-6 (Pre): I hurt people and I mouth them off.

Student 2-6 (Post): I throw stuff. I rip and destroy stuff.

Student 2-7 (Pre): I clench my fists and my teeth.

Student 2-7 (Post): I say can you please stop and I don't ignore it.

Student 2-8 (Pre): I get mad a lot at my school and in the time out room. I kick the door, but sometimes I don't do that. But when I get mad that's all I do.

Student 2-8 (Post): Not really good at school.

Student 2-9 (Pre): My fists start to clinch (sic: clench) and my teeth start to clinch (sic: clench).

Student 2-9 (Post): It feels like I want to stomp someone.

Student 2-10 (Pre): I clench my fists and my face turns bright redd (sic: red).

Class 3

Student 3-1 (Post): I mite (sic: might) get restrained and I fight.

Student 3-2 (Post): Mad.

Student 3-7 (Post): People will not leve (sic: leave) me alone. They make me angry when they do that.

Student 3-8 (Post): I get mad.

Student 3-9 (Post): Hold it in.

Class 4

Student 4-1 (Pre): Crack my knuckles.

Student 4-1 (Post): Swearing. It goes all throughout my body. (*Scribed*)

Student 4-2 (Pre): I break cans when I'm feeling agrey (sic: angry).

Student 4-2 (Post): Put hood over face, bang the walls. (*Scribed*)

Student 4-3 (Pre): Yelling, swearing on the bus.

Student 4-3 (Post): Get mad at people. (*Scribed*)

Student 4-4 (Pre): I through (sic: throw) things and I feel like I won't (sic: want) to punch someone.

Student 4-5 (Pre): I get mad and stomp around and kick stuff. (*Scribed*)

Student 4-5 (Post): I squeeze my hands and tense up, then I get real frustrated. (*Scribed*)

Student 4-6 (Pre): I squeeze (sic: squeeze) my fist. (*Scribed*)

Student 4-7 (Pre): Like killing someone.

Student 4-7 (Post): Very, very, very touchy. (*Scribed*)

Student 4-8 (Pre): I blow up.

Student 4-8 (Post): I just want to explode, I start to shake and make fists.

Class 5

Student 5-1 (Post): I feel upset when students (*incomplete response*)

Student 5-2 (Pre): I'm very mad- nothing you can do to make me stop it. Just tell me to sit down/lay down and relax. My conscious (sic: conscience) tells me to do this. (*Scribed*)

Student 5-2 (Post): Like I... (*indecipherable*)

Student 5-3 (Pre): When people bug me, call me names.

Student 5-4 (Pre): When I am angry I like to sware (sic: swear) but I do not want to. I try to control it but I can't.

Student 5-4 (Post): Frustrated (sic: frustrated), dumb, upset, angry.

Student 5-5 (Pre): I throw a huge temper tamtrume (sic: tantrum). I bang on walls and doors. I cry for almost ten minutes. My body loses control.

Student 5-5 (Post): Out of control, fureous (sic: furious), dangorous (sic: dangerous), weird.

Student 5-6 (Post): My feel wan (sic: when) I am upset or angry I feel rely rely (sic: really really) upset and angry.

Student 5-7 (Pre): I freack (sic: freak) out at people and I yell and I try to punch and I kike (sic: kick) and then I get restrand (sic: restrained) and I make outhur (sic: other) people (sic: people) unsafe.

Student 5-7 (Post): (1) I hit people (sic: people) and I berst (sic: burst) out and I try not to. (2) I sometimes give myself a timeout.

Student 5-8 (Pre): When (*student's name*) comes up to me and steels (sic: steals) me (sic: my) food.

Student 5-9 (Pre): Mean, naste (sic: nasty), rude.

Student 5-9 (Post): Mean, rude, call names.

Class 6

Student 6-2 (Post): I sometimes pout or whine.

Student 6-3 (Post): Mopey, angry.

Student 6-5 (Post): I will cry or tell people what is bothering me.

Student 6-6 (Post): Get rude, go like uh (sic: "uh").

Student 6-7 (Post): I get really anrgy (sic: angry) at someone.

Student 6-8 (Post): It is not very bad at al (sic: all).

Student 6-9 (Post): Depesest (sic: depressed), destructive and angry at the person.

3. What do you do to help yourself feel better when you are upset or angry at school?

Class 1

Student 1-1 (Pre): Take deep breaths.

Student 1-1 (Post): Count to ten, take deep breaths.

Student 1-2 (Pre): Sing to myself and draw.

Student 1-2 (Post): I go and come (sic: calm?) down or in the calm carrel.

Student 1-3 (Pre): I will tock (sic: talk) to a teacher. I will get help. I will reas (sic: raise) my hand. I will (*did not finish this sentence*)

Student 1-3 (Post): I take deep berfees (sic: breaths).

Student 1-4 (Pre): Ask my teacher to take a walk down the hall to the washroom.

Student 1-4 (Post): Go to the carrel.

Student 1-5 (Pre): Take a break. Breath (sic: breathe) in and out. Relax my body.

Student 1-5 (Post): Change languege (sic: language) power (*a textbook*) to cursive writin (sic: writing). Change math to social.

Class 2

Student 2-1 (Pre): Talk to myself when I am mad. (*Scribed*)

Student 2-1 (Post): I play with my fingers, talk to myself, daydream. (*Scribed*)

Student 2-2 (Pre): Playing video games. (*Partly scribed*)

Student 2-2 (Post): Play Halo music in my head. Playing Halo.

Student 2-3 (Pre): Be alone with no one bothering me and talk to a friend.

Student 2-3 (Post): I go to the timeout room.

Student 2-4 (Pre): I think of something funny that might cheer me up.

Student 2-5 (Pre): Take deep breths (sic: breaths), and go to timeout.

Student 2-5 (Post): Take deep breath and cool down.

Student 2-6 (Pre): Crunch up in a ball and take deep breaths. (*Partly scribed*)

Student 2-6 (Post): Punching my pillow.

Student 2-7 (Pre): I listen to my music and play my game boy.

Student 2-7 (Post): I could use “STP” (Stop, Think, Pick a Plan). (*Partly scribed*)

Student 2-8 (Pre): I go to the timeout room to calm down. I put down my head on my desk. I ask the teacher if I can listen to my music in the timeout room. (*Partly scribed*)

Student 2-8 (Post): Go to the timeout room. Go to calm carrel.

Student 2-9 (Pre): Do brain gym- the hook-ups. Sometimes going to time out. (*Scribed*)

Student 2-9 (Post): Go to time out. Go to calm carrel.

Student 2-10 (Pre): I think about all the games I download on my computer.

Class 3

Student 3-1 (Post): I just calm down.

Student 3-2 (Post): Go to the colm (sic: calm) carle (sic : carrel).

Student 3-7 (Post): Ask to go to the calm carle (sic: carrel) from my teacher.

Student 3-8 (Post): I do nothen (sic: nothing).

Student 3-9 (Post): Iknor (sic: ignore) it.

Class 4

Student 4-1 (Pre): I go into timeout.

Student 4-1 (Post): Go to calm carrel or timeout room. (*Scribed*)

Student 4-2 (Pre): I like doing navtive (sic: native) art.

Student 4-2 (Post): Go to the timeout room, deep breathing. (*Scribed*)

Student 4-3 (Pre): Ignore it.

Student 4-3 (Post): Try to calm myself down by telling myself to calm down. (*Scribed*)

Student 4-4 (Pre): I put my head down or I go for a walk.

Student 4-5 (Pre): Go to the timeout room. (*Scribed*)

Student 4-5 (Post): I breath (sic: breathe) in and out, go to the calm carol (sic: carrel) or go to the timeout room. (*Scribed*)

Student 4-6 (Pre): Break a pencil, ripe (sic: rip) a piece of paper. (*Scribed*)

Student 4-6 (Post): I got (sic: go) to the calm carl (sic: carrel).

Student 4-7 (Pre): Holed (sic: hold) it in.

Student 4-7 (Post): Go to the calm carrel. (*Scribed*)

Student 4-8 (Pre): Timeout room.

Student 4-8 (Post): I use STP (*Stop, Think, Pick a Plan strategy*).

Class 5

Student 5-1 (Post): I blow up on them.

Student 5-2 (Pre): I just sit down and think about a farm or a lake. A lake does better...relaxes me. Farm doesn't. (*Scribed*)

Student 5-2 (Post): I go to the cam (sic: calm) caln (sic: carrel) and (*incomplete response*)

Student 5-3 (Pre): Take two minenite's (sic: minutes) to calm down or chont (sic: count) to ten.

Student 5-4 (Pre): I take a couple minutes by myself or I take a walk.

Student 5-4 (Post): Calm or take a minute by yourself.

Student 5-5 (Pre): Sit down count to ten. Sit down mak (sic: make) myself happy. Sit down and take a big brethe (sic: breath). Sit down and look at the picture of my dad.

Student 5-5 (Post): Count to ten. Take a deep breathe (sic: breath). Go to the calm carole (sic: carrel). Go out in the hall.

Student 5-6 (Post): I think of something more pecfol (sic: peaceful) like swimming (sic: swimming) or dancing.

Student 5-7 (Pre): I sit and think adout (sic: about) my mom how (sic: who) loves me very much and I hope so with (*person's name*).

Student 5-7 (Post): I take two deep breaths and yha (sic: yawn).

Student 5-8 (Pre): Go and take 10 deep breths (sic : breaths).

Student 5-9 (Pre): Talck (sic: talk) to myself, talck (sic: talk) to someone, put my head down.

Student 5-9 (Post): Talck (sic: talk) to my mom in my head, or pretend she is here.

Class 6

Student 6-2 (Post): I take deep breaths.

Student 6-3 (Post): Breath (sic: breathe) deeply and count two (sic: to) ten.

Student 6-5 (Post): I think of the awesome, long summer vacation.

Student 6-6 (Post): Breathe, calm carrel.

Student 6-7 (Post): I take ten deep breathes (sic: breaths).

Student 6-8 (Post): I think good thoughts.

Student 6-9 (Post): Think of the bright (sic: bright side) of the problem.

4. How happy are you with the way you handle frustration/anger at school? (Please circle ONE choice)

- e) ***Very happy.*** I do a really good job of keeping myself calm and not losing my temper or getting too stressed out.
- f) ***Fairly happy.*** Most of the time I do a good job of staying calm and I don't lose my temper or get too stressed out very often.
- g) ***Not too happy.*** It is hard for me to stay calm when I get frustrated or angry. I lose my temper and/or get stressed out too often.
- h) ***Not happy at all.*** I have a lot of difficulty staying calm when I get frustrated or angry. I lose my temper quickly and get stressed out very often.

Class 1

Student 1-1 (Pre): b)
Student 1-1 (Post): b)

Student 1-2 (Pre): a)
Student 1-2 (Post): a)

Student 1-3 (Pre): a)
Student 1-3 (Post): a)

Student 1-4 (Pre): b)
Student 1-4 (Post): a)

Student 1-5 (Pre): b)
Student 1-5 (Post): *Wrote "middle", with an arrow indicating between b) (Fairly happy) and c) (Not too happy). Then he wrote: "I make pour (sic: poor) choices at home. I get made (sic: mad) and at school I don't."*

Class 2

Student 2-1 (Pre): d)
Student 2-1 (Post): d)

Student 2-2 (Pre): d)
Student 2-2 (Post): d)

Student 2-3 (Pre): c)
Student 2-3 (Post): b)

Student 2-4 (Pre): a)

Student 2-5 (Pre): c)
Student 2-5 (Post): b)

Student 2-6 (Pre): b)
Student 2-6 (Post): b)

Student 2-7 (Pre): b)
Student 2-7 (Post): b)

Student 2-8 (Pre): d)
Student 2-8 (Post): d)

Student 2-9 (Pre): a)
Student 2-9 (Post): d)

Student 2-10 (Pre): d)

Class 3

Student 3-1 (Post): c)

Student 3-2 (Post): c)

Student 3-7 (Post): d)

Student 3-8 (Post): b)

Student 3-9 (Post): b)

Class 4

Student 4-1 (Post): b)

Student 4-2 (Pre): a)
Student 4-2 (Post): a)

Student 4-3 (Pre): a)
Student 4-3 (Post): a)

Student 4-4 (Pre): a)

Student 4-5 (Pre): b)
Student 4-5 (Post): b)

Student 4-6 (Pre): c)
Student 4-6 (Post): a)

Student 4-7 (Pre): d)
Student 4-7 (Post): b)

Student 4-8 (Pre): c)
Student 4-8 (Post): c)

Class 5

Student 5-1 (Post): c)

Student 5-2 (Pre): a)
Student 5-2 (Post): a)

Student 5-3 (Pre): b)

Student 5-4 (Pre): b)
Student 5-4 (Post): a)

Student 5-5 (Pre): b)
Student 5-5 (Post): c)

Student 5-6 (Post): b)

Student 5-7 (Pre): c)
Student 5-7 (Post): b)

Student 5-8 (Pre): b)

Student 5-9 (Pre): d)
Student 5-9 (Post): c)

Class 6

Student 6-2 (Post): b)

Student 6-3 (Post): b)

Student 6-5 (Post): b)

Student 6-7 (Post): b)

Student 6-8 (Post): c)

Student 6-9 (Post): b)

5. How happy do you think your teacher is with your *overall* behaviour at school? (*Please circle ONE choice*)

- e) *Very happy.* I think that my teacher feels that I am very well-behaved at school almost all of the time.**
- f) *Fairly happy.* I think that my teacher feels that I am quite well-behaved at school, most of the time, but that I have some difficulty once in a while.**
- g) *Not too happy.* I think that my teacher feels that I am not usually well-behaved at school, and that I need to make quite a bit of improvement.**
- h) *Not happy at all.* I think that my teacher is unhappy with the way I behave at school most of the time, and thinks that I need to make a lot of improvement.**

Class 1

Student 1-1 (Pre): c)
Student 1-1 (Post): b)

Student 1-2 (Pre): a)
Student 1-2 (Post): a)

Student 1-3 (Pre): b)
Student 1-3 (Post): d)

Student 1-4 (Pre): a)
Student 1-4 (Post): b)

Student 1-5 (Pre): b)
Student 1-5 (Post): c)

Class 2

Student 2-1 (Pre): d)
Student 2-1 (Post): d)

Student 2-2 (Pre): c)
Student 2-2 (Post): b)

Student 2-3 (Pre): b)
Student 2-3 (Post): b)

Student 2-4 (Pre): b)

Student 2-5 (Pre): b)
Student 2-5 (Post): d)

Student 2-6 (Pre): c)
Student 2-6 (Post): d)

Student 2-7 (Pre): b)
Student 2-7 (Post): b)

Student 2-8 (Pre): d)
Student 2-8 (Post): d)

Student 2-9 (Pre): a)
Student 2-9 (Post): a)

Student 2-10 (Pre): a)

Class 3

Student 3-1 (Post): d)

Student 3-2 (Post): c)

Student 3-7 (Post): d)

Student 3-8 (Post): d)

Student 3-9 (Post): b)

Class 4

Student 4-1 (Post): b)

Student 4-2 (Pre): b)
Student 4-2 (Post): b)

Student 4-3 (Pre): a)
Student 4-3 (Post): a)

Student 4-4 (Pre): a)

Student 4-5 (Pre): a)
Student 4-5 (Post): b)

Student 4-6 (Pre): b)
Student 4-6 (Post): a)

Student 4-7 (Pre): d)
Student 4-7 (Post): b)

Student 4-8 (Pre): c)
Student 4-8 (Post): b)

Class 5

Student 5-1 (Post): d)

Student 5-2 (Pre): a)
Student 5-2 (Post): a)

Student 5-3 (Pre): c)

Student 5-4 (Pre): b)
Student 5-4 (Post): b)

Student 5-5 (Pre): b)
Student 5-5 (Post): b)

Student 5-6 (Post): b)

Student 5-7 (Pre): d)
Student 5-7 (Post): d)

Student 5-8 (Pre): b)

Student 5-9 (Pre): b)
Student 5-9 (Post): b)

Class 6

Student 6-2 (Post): c)

Student 6-3 (Post): b)

Student 6-5 (Post): b)

Student 6-7 (Post): c)

Student 6-8 (Post): a)

Student 6-9 (Post): b)

APPENDIX Q

SUMMARY OF STUDENT RESPONSES ON PROBLEM-SOLVING FORM

Table Q

Summary of Student Responses on Problem-Solving Form

Class	Number of forms completed	Number of students who completed forms	Question 1				Question 2				
			a	b	c	d	a	b	c	d	e
1	1	1	0	0	1	0	0	0	0	1	0
2	28	7	12	4	10	2	7	5	10	3	3
3	0	0									
4	19	5	13	2	1	3	4	5	6	1	0
5	17	5	3	2	3	9	2	2	3	3	6
6	1	1	0	0	1	0	1	0	0	0	0
Total	66	19	28	8	16	14	14	12	19	8	9

Supplementary Student Responses on Problem-Solving Form

Question 1: 'For Another Reason' (d) responses:

I couldn't foceus (sic: focus). (Student 2-9)

I was sad. (Student 2-9)

I was sixx (sic: sick). (Student 5-2)

My head was hurting me. (Student 5-5)

I was frustrated with myself, my work and my teacher. (Student 5-5)

Nobody was listening to me. (Student 5-5)

(*Teacher's name*) wasn't listening to me. (Student 5-5)

Because no one ever listens to me. (Student 5-5)

I was frusterated (sic: frustrated) with the teacher. (Student 5-9)

I was frusterated (sic: frustrated) with the teacher. (Student 5-9)

I was fusterated (sic: frustrated) with the nose (sic: noise). (Student 5-9)

Question 2: 'Something else' (e) responses:

I will listen to the song in my head. (Student 2-4)

I will listen to the song in my head. (Student 2-4)

Tell my teacher why I was angry. (Student 2-4)

I'll do my work. (Student 5-2)

I will put my head down. (Student 5-5)

I will go outside in the hall for one minute or so. (Student 5-5)

Go in the hall and calm down for a minute or so. (Student 5-5)

I will not put my foot up when someon (sic: someone) else is going to sit there. (Student 5-9)

? (Student 5-9)