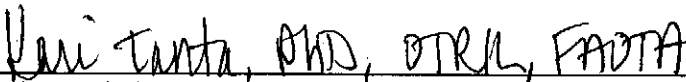
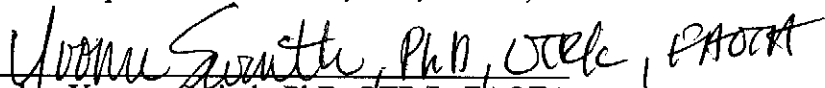


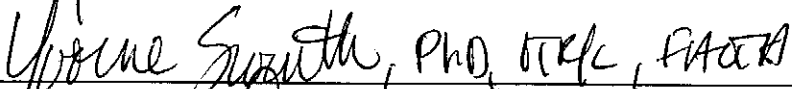
Teachers' Perceptions of the Wiggle Whomper Kit: Improving Sensory Regulation in the
General Education Classroom®: A Pilot Study

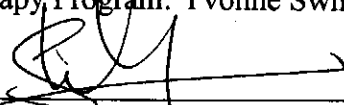
May 13, 2013

This research, submitted by Jessica Griesse and Jenny Ikard, has been approved and accepted in partial fulfillment of the requirements for the degree of Master of Science in Occupational Therapy from the University of Puget Sound
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Abstract

Increased emphasis on Response to Intervention and population based approaches in school systems is gaining popularity in literature. The current study examined the perceived effectiveness and patterns of use of The Wiggle Whomper Kit, a sensory regulation activity tool kit that was provided in all classrooms at a suburban elementary school. Thirty-six teachers and support personnel who had access to The Wiggle Whomper Kit were surveyed electronically, and member checking was performed through an interview with the school principal who was involved in The Wiggle Whomper Kit development and implementation. Responses (N = 9) indicated that The Wiggle Whomper Kit was most effective in increasing levels of attention, decreasing levels of hyperactivity, and increasing engagement in activities. Tools in The Wiggle Whomper Kit were used more often than activities, and tools were used by individual students more than by the class as a whole. Results also indicated that those who had a relationship with the school occupational therapist or occupational therapy assistant rated The Wiggle Whomper Kit as effective more often, indicating that collaboration is an essential component for successful implementation of any tool or program.

Teachers' Perceptions of The Wiggle Whomper Kit: Improving Sensory Regulation in the
General Education Classroom®: A Pilot Study

At the request of the principal of a suburban Pacific Northwest K-6 elementary school, Tanta and Dykman developed a sensory regulation activity kit that they named The Wiggle Whomper Activity Kit: Improving Sensory Regulation in the General Education Classroom® (Worthen, 2010), henceforth referred to as The Wiggle Whomper Kit. The Wiggle Whomper Kit was implemented in the fall of 2011 in general education classrooms of said school with the goal of helping children regulate environmental stimuli through the use of activities (Worthen, 2010). Some of the activities were designed for whole classroom participation and some items may be given to individual students if deemed necessary by the classroom teacher or support personnel. One year following implementation, anecdotal feedback from classroom teachers, support personnel, the school principal, and parents of students was positive regarding its effectiveness (K.J. Tanta, personal communication, January 4, 2012). The items and activities in The Wiggle Whomper Kit had individually been shown to be effective (Worthen, 2010), however, if the classroom teachers or support personnel found The Wiggle Whomper Kit too cumbersome, distracting, or time consuming, then it may not be used. In other words, classroom teachers and support personnel must see face validity in The Wiggle Whomper Kit if it is to be implemented in the schools.

The 2004 implementation of the Individuals with Disabilities Education Improvement Act (IDEA 2004) mandated that all children with disabilities learn within the least restrictive environment. The least restrictive environment means that students with disabilities are educated with their typically developing peers to the maximum extent appropriate. This usually takes place in the general education classroom, except when the nature or severity of the disability

makes it so those students cannot receive an appropriate education (U.S. Department of Education, 2007). Further, one-on-one pull out for occupational therapy services is only deemed appropriate when the general education classroom does not support learning. Given the nature of this mandate, collaboration among professionals and a system wide shift in the schools needs to happen to support children's learning in the least restrictive environment.

Teachers and occupational therapists are concerned with children's occupation as learners; if tools such as The Wiggle Whomper Kit can increase the occupational performance of a child's learning through a classroom wide program implementation, then both parties' goals have been reached. Teachers desire collaboration with occupational therapists regarding interventions that target children's educational need (Barnes & Turner, 2001; Reid, Chiu, Sinclair, Wehrmann, & Naseer, 2006; Vincent, Stewart, & Harrison, 2008). As collaborative practices between teachers and occupational therapists increase, teachers perceive occupational therapy interventions as more effective (Barnes & Turner, 2001; Dunn, 1990; Reid et al., 2006, Vincent et al., 2008). Teachers are experienced resources for reliable and accurate measures of program effectiveness (Boxer, Musher-Eizeman, Dubow, Danner, & Heretick, 2006). Further, engaging teachers in the evaluation process increases their contribution to program development and implementation (Cherniss, 1997; Reid, et al., 2006).

Background

The implementation of federal legislation such as the 2001 No Child Left Behind Act and IDEA 2004 required schools to continually assess all students' learning to ensure ongoing progress in the general education curriculum. These mandates necessitate a shift in occupational therapy services from a direct service model also known as a caseload model to one that integrates therapy into the general education classroom also known as a workload model (Hanft

& Shepherd, 2008; Laverdure & Rose, 2012). While this shift has created an increased opportunity to provide intervention that is client-centered and meets the needs of a diverse population in the natural context, it has also created pressure on the education system for all personnel in the school system by changing traditional roles and requiring increased academic performance.

Educational success may be difficult for children who experience dysfunction in the regulation of sensory stimuli (Pfeiffer, Henry, Miller, & Witherell, 2008); as such dysfunction can result in decreased attention and school performance (Peck, Kehle, Bray, & Theodore, 2005). Regulation of environmental stimuli is modulated by the sensory system and allows one to focus on the task at hand (Dunn, 2008b). Children may have difficulty regulating environmental stimuli due to sensory system dysfunction; which has been shown to negatively impact attention and school performance (Peck et al., 2005). Prevalence of sensory processing disorders among children without disabilities has been reported to be 5-10%; the rates among children with disabilities are as high as 40-88% (Ahn, Miller, Milberger, & McIntosh, 2004; Ayres, 1989). In a 2004 study, 703 parents of kindergartners completed the Short Sensory Profile. Results indicated that based on parent perceptions, 13.7% of kindergartners met criteria for sensory processing disorders (Ahn et al., 2004).

In a 2009 study of 796 four year olds from the public school system, researchers found that the incidence of sensory regulation dysfunction ranged from 3.4%-15.6% (Gouze, Hopkins, LeBailly, & Lavigne, 2009). In their 2007 study of the prevalence of attention deficit hyperactivity disorder (ADHD), Froehlich et al. found that of the 3,082 children surveyed, 8.7% met DSM IV criteria for ADHD (Froehlich et al., 2007). Sensory dysfunction is not associated with all children with ADHD, however, it is a common comorbidity and impacts learning in a

similar way (Parush, Sohmer, Steinberg, & Kaitz, 1997). As indicated by these statistics, sensory regulation dysfunction is often present in the general education classroom and impacts academic and social performance of students.

Effective use of time, sufficient attention span, and active participation in the classroom have been shown to strongly influence current and future academic performance (Alexander, Entwisle, & Dauber, 1993). A correlational descriptive study by Alexander et al. (1993) examined the relationship between children's classroom adjustment and school performance over a four-year period. Results indicated that children who actively participated in classroom activities, paid attention, and spent more time on task were more successful academically than children who were uninterested or distracted. Although the study had a large sample of 790 participants, a lower than average education level and a higher than average poverty rate among the parents of participants may limit generalizability of the study results.

Relationship to occupational therapy. Given the federal legislation requirements (2001 No Child Left Behind and IDEA 2004) enacted on schools, a system wide change is needed to facilitate collaboration among all professionals to guarantee all children are receiving the appropriate skills and services. While occupational therapists and teachers have different roles in the classroom, they have the same goal in mind for the students they serve. School-based occupational therapists desire and are required to use their knowledge and skills to help students optimize occupational performance in one of their natural environments (American Occupational Therapy Association, 2011; Dunn, 2008a; Miller-Kuhaneck, Henry, Glennon, & Mu, 2007; Pfeiffer et al., 2008; Sayers, 2008; Umeda & Deitz, 2011; Vincent et al., 2008). Teachers also desire optimal occupational performance from their students and are mandated to meet certain benchmarks according to the 2001 No Child Left Behind Act.

In addition to having common goals for the students they serve, occupational therapists and teachers also have similar pressures from the school system. According to Ahn et al. 2004, the prevalence of students with sensory processing concerns in schools is increasing, however often these children are not eligible for special education services. Occupational therapy in schools is still predominantly a special education service, so therapists may be unable to attend to students who are not eligible for these services. In addition, due to large caseloads, occupational therapists' time may be limited which may make it difficult to address the general school population. Teachers face similar pressures in the classroom through higher standards coupled with lack of time to prepare lessons, which may limit the ability to collaborate with other professionals (Riveros, 2012). Given the challenges to collaboration it is important to set up a system wide shift where the environment enables teachers and occupational therapists to collaborate more easily (Laverdure & Rose, 2012). Laverdure and Rose (2012) were change agents in their school district, by advocating for a collaborative environment, which impacted 120 occupational and physical therapists and created a dramatic shift in the culture of the district as a whole. The shift occurred through the need to follow the mandates, by providing educationally relevant services, developing and maintaining collaborative partnerships, creating team development and management, and providing student centered learning by encouraging students to advocate for themselves. In this example, occupational therapy shifted from a caseload to a workload model. When all professionals understand individual student goals and how progress will be measured student achievement and educational outcomes improve (Laverdure & Rose, 2012).

Although individual (one-on-one) occupational therapy has been found to be effective for children with decreased attention or school performance, classroom-wide programs designed by

occupational therapists and implemented in schools have been found to benefit children with and without developmental diagnosis while utilizing the best practice of implementing therapy within natural contexts (American Occupational Therapy Association, 2011; Sayers, 2008). Davies and Gavin (1994) found no significant difference between a direct therapy/pull-out intervention and group therapy intervention in a school setting among eighteen three to five-year-olds with a diagnosis of developmental delay. Both models facilitated an increase in motor and adaptive skills, however the gains were faster for the direct therapy intervention and the direct therapy intervention experienced an increase in IQ while the group therapy intervention did not. Dunn (1990) found no difference in Individual Education Program (IEP) goal attainment (75%) among 14 pre-K and kindergarten students receiving direct therapy and occupational therapist consultation. Further, the teachers of children in the consultation group reported they felt occupational therapy contributed more to goal attainment, and attitudes towards occupational therapy were more positive than the teachers in the direct therapy group, although IEP goal attainment was in fact equal between the groups.

Response to Intervention (RtI) is an early intervention service that has been implemented in the general education school system to ensure that all students develop at the appropriate level, both academically and behaviorally (American Occupational Therapy Association, 2012; National Center on Response to Intervention, 2010). RtI is a three tiered system aimed at preventing children from falling behind in schools. The primary tier is preventative in nature and focuses on high quality core instruction that is targeted towards the needs of most students in the classroom. The secondary tier is prevention at a higher intensity that uses evidence-based interventions to address groups of children who are at risk for falling behind in school. The tertiary tier is a more individual approach that uses evidence-based interventions at a high

intensity to individual or small groups of students who are still falling behind when second tier is not effective (National Center on Response to Intervention, 2010).

At the primary tier, RtI focuses on school-wide interventions aimed at catching students that have not yet been identified for special education services, but show academic or behavioral performance concerns (American Occupational Therapy Association, 2012). Successful implementation of RtI in the schools at this primary tier may lead to increased levels of student performance, decreased numbers of referrals to occupational therapy or other related services within special education, and decreased numbers of students labeled as having a disability related to school participation (American Occupational Therapy Association, 2012).

Occupational therapists have the appropriate qualifications to address RtI in schools due to possessing skills by implementing population-based interventions, early intervention screening measures, universal design of learning, and education on underlying factors that affect school performance such as sensory processing (American Occupational Therapy Association, 2012). The RtI model is supported through a study by Bazyk et al. (2009) where occupational therapy services were integrated into a kindergarten general education classroom, and resulted in improvements for children with and without disabilities. Similarly, Case-Smith, Holland, and Bishop (2011) found that children with and without disabilities made gains in handwriting when an occupational therapist and a teacher collaborated to implement a handwriting program in one kindergarten classroom.

In addition to the 2004 IDEA legislation supporting occupational therapists to act as providers for early intervention services for children in general education classroom (U.S. Department of Education, 2007), The American Occupational Therapy Association also endorses the idea to move from an individual, direct intervention method in school-based practice, to a

more population-based, indirect intervention method (American Occupational Therapy Association, 2006). Implementation of school-wide approaches to address academic and behavior concerns in schools is an important topic for the profession of occupational therapy given that more than 20% of occupational therapists in the United States provide services to public schools (American Occupational Therapy Association, 2011).

The Wiggle Whomper Kit could be used at all tiers of the RtI model, however it is designed to work at tier one by providing education and training to teachers by using a population-based classroom wide intervention to improve sensory system dysfunction within the child's natural environment (American Occupational Therapy Association, 2012).

Program implementation in the schools. Strategies that have been shown to be successful for program implementation in schools include: having a variety of options within the program, advertising via newsletters, team meetings, or promotional material in the school, education on the background research of the program, and a continuous funding support. Additionally, collaboration at a systems level among stakeholders, administrators, teachers, support personnel, parents, and students increased successful program implementation (Bai, Feldman, Wunderlich, & Aletras, 2011).

Cherniss (1997) supported the notion of collaboration between teachers and program developers through her research on factors that improved the development of new programs in schools. Giving teachers a role in program development and implementation in the classroom increased teacher empowerment and therefore, use of the programs. When a program was seen by teachers to be effective for improving school performance, it was used in the classroom, and the benefits of the program could be realized. Cherniss (1997) found supportive evidence for

collaboration among teachers and other school-based staff, however, occupational therapists were not involved in the consultation process.

Behavioral and educational programs in schools have utilized teacher perceptions to determine effectiveness (Chandler, Dalquist, Repp, & Feltz, 1999; Lee, Ajayi, & Richards, 2007). Boxer et. al (2006) evaluated teacher perceptions of school-based aggression prevention programs using focus-groups; since teachers implemented the program into their classrooms, they were determined to have a valuable perspective. Internal reliability analyses showed that teacher reports of the levels of student aggression in their classrooms were consistent with those levels reported by the students in said classrooms. Due to time constraints, teacher reports consisted of answers to open-ended questions with unstructured answers, which may have lead to less rigorous results. Despite the absence of quantitative data measures, the results highlight the importance of collaborating with teachers for program implementation and evaluation (Boxer et al., 2006).

Pyle, Wade-Wooley, and Hutchinson (2011) conducted a qualitative study seeking to describe the experience of teachers in implementing a new educational program designed to identify students at risk for later learning difficulties. Similar to Cherniss' (1997) findings, results indicated that teacher empowerment is important for successful program implementation. Although this study had a large sample of five schools, generalizability was called into question due to limited geographic variation.

In their 2006 study on occupational therapy/teacher collaboration, Reid et al. found increased student performance and satisfaction, increased teacher adherence and appreciation of occupational therapy suggestions, and a positive, yet not statistically significant increase, in teacher awareness of students' needs. Similarly, Barnes and Turner (2001) found that higher

levels of collaboration among teachers and occupational therapists led to higher perceived effectiveness of occupational therapy treatment as viewed by teachers, however this study focused on special education classrooms while the current study will focus on the general education classroom. While the evidence found by Reid et al. (2006) and Barnes and Turner (2001) is positive, Fairbairn and Davidson (1993) surveyed teachers who expressed a need for more support and programming in the classroom by occupational therapists. Teachers voiced confusion over the role of occupational therapists in schools due to lack of consultation and communication between the two professions. The differences in findings between Reid et al. (2006) and Barnes and Turner (2001) with Fairbairn and Davidson (1993) may be due to the fact that Fairbairn and Davidson (1993) conducted their study in a Canadian school district, which may limit its generalizability to the U.S. school system. Additionally, the Fairbairn and Davidson (1993) study was conducted 8-13 years prior to the Reid et al. (2006) and Barnes and Turner study (2001), which may not account for changing trends in schools.

Description of The Wiggle Whomper Kit. The Wiggle Whomper Kit was conceptualized by Tanta who is an occupational therapist, the original author, and parent of a child in the school where the study was conducted. Tanta was approached by the school principal asking for suggestions of ways to increase attention in the classroom. The principal expressed that parents of children in the school were asking for occupational therapy treatment for their children because they had either been diagnosed with sensory system dysfunction, or sensory system dysfunction was suspected, but their children were not eligible for special education services. This is not surprising given that parent perceptions have shown up to 13.7% of children in the general education classroom may have sensory processing disorder (Ahn et al., 2004). The principal asked Tanta to help her brainstorm ways to help all children in the school to enhance

attention and increasingly impact learning. After much collaboration with the principal, classroom teachers, support personnel at the school, the district special education director, and the Parent Teacher Association (PTA) who fully funded The Wiggle Whomper Kit, it was developed by Tanta and Dykman, an occupational therapist and occupational therapy student respectively, to promote sensory regulation in the classroom.

The Wiggle Whomper Kit consists of 11 items and 8 activities that stimulate the seven sensory systems. The following items were in The Wiggle Whomper Kit at said school at the time of the study: The Alert Program® CD: with Songs for Self-Regulation (Williams & Shellenberger, 1995), flexi straws, inflatable seat cushions, musical CDs, pipe cleaners, readiness exercises, silly putty, squeeze balls, therapy bands, and yoga exercises. Gum was also kept in the school office and was available by request. In addition to these items, they were also activities: animal walks, “Hand Sandwich,” “Head, Shoulders, Knees, & Toes,” “Hokey Pokey,” neck rolls, mystery item activity, “Row, Row, Row Your Boat,” and “Simon Says” (Tanta & Dykman, 2012). What made The Wiggle Whomper Kit unique was that it had a manual for use which included background information on each of the seven sensory systems, a guide on implementing and selecting activities, a quick reference for selecting activities based on the sensory system experiencing dysfunction, a description of each item and activity, quick tips for teachers, and a reference section with citations for evidence backing up each of the items and activities in The Wiggle Whomper Kit (Worthen, 2010). The manual also included a matrix that could be referenced whenever a teacher or support personnel needed to match an activity with the perceived sensory problem (Worthen, 2010). Finally, in the 2011-2012 school year all staff members were given a frequently asked questions page (FAQ) that addressed needs that may not

have been met originally, such as age appropriate modifications and more examples of ways to use the items and activities in The Wiggle Whomper Kit.

Following the creation of The Wiggle Whomper Kit, Tanta and Dykman conducted a pilot study for one month, implementing The Wiggle Whomper Kit in three academic classrooms (first, second, and third grade) to test the face validity of The Wiggle Whomper Kit (Worthen, 2010). If the three teachers deemed The Wiggle Whomper Kit ineffective or too demanding, further use of The Wiggle Whomper Kit would be unlikely. Teachers from the three classrooms received The Wiggle Whomper Kit and a manual, and attended an in-service given by Tanta and Dykman to receive training on how to use it. Following the pilot study, the researchers gave the three teachers a brief survey about their experiences with The Wiggle Whomper Kit. One of the teachers reported that the items in The Wiggle Whomper Kit were a distraction, while the other two teachers reported that the items were beneficial at increasing attention and academic performance in the classroom. Even though the sample size was very small, the results were promising and Tanta and Dykman (Worthen, 2010) along with the principal decided to provide The Wiggle Whomper Kit to all of the classrooms of said school for the 2011-2012 school year.

Following this decision, thirty-five classroom teachers and support personnel including the school occupational therapist, speech language pathologist, and resource room staff received The Wiggle Whomper Kit, a manual for use, and attended an in-service held by Tanta. Development of The Wiggle Whomper Kit was highly collaborative between The Wiggle Whomper Kit developers and the teachers, staff, and principal of the school.

Since the implementation of The Wiggle Whomper Kit, changes have been made to meet the needs of various students and classrooms. For example, Tanta learned of one child who picked all of the chenille off of a pipe cleaner when used as a fidget in class. Tanta collaborated with the

teacher and suggested the use of other more durable items in the kit for the student such as a straw. Tanta also learned of a child in fifth grade who popped an inflatable seat cushion. Tanta saw that this child needed a sturdier adaptive seating device, and because of this incident, all kits in said school now have one therapy-grade seat cushion in addition to the inflatable seat cushions. These examples demonstrate targeted intervention at tier two of the RTI model.

Cost versus durability was taken into consideration when The Wiggle Whomper Kit was developed. Not all items in the kit were therapy-grade in order to keep costs low so that the kit remained affordable and able to be implemented in a whole school. Low-cost items worked well for main streamed general education students. As mentioned, if items were broken by students, Tanta collaborated with the classroom teacher to find a more durable item as in the case of the pipe cleaners and inflatable seat cushion.

Teachers and support personnel had forms to request additional items that had broken, gone missing, or simply to request more of an item that has been useful. For example, one teacher requested stress balls for all of the students in his class since individual students found the item helpful. In addition, a kindergarten teacher asked for inflatable seat cushions for all of her students. Following feedback from Worthen's 2010 pilot study, feathers and gum were removed from The Kit, however gum is now kept in the school office and is available by request. The researchers hypothesized that because the teachers were so involved with the kit development that they will see The Wiggle Whomper Kit as effective and use it in their classrooms.

Utilization of The Wiggle Whomper Kit. While the items in The Wiggle Whomper Kit have been shown to be effective individually, and anecdotal feedback regarding The Wiggle Whomper Kit has been positive (Worthen, 2010), no school-wide data exist regarding the

effectiveness of The Wiggle Whomper Kit as a whole. Before attempting to measure attention levels and school performance in the students, these researchers sought to determine patterns of use and whether The Wiggle Whomper Kit was effective as determined by teacher and staff perceptions. If The Wiggle Whomper Kit lacked face validity it may not have been implemented in the classroom. The purpose of the study was to evaluate teacher and staff perceptions and patterns of use of The Wiggle Whomper Kit at a suburban Pacific Northwest K-6 elementary school, and to ascertain its effectiveness as judged by those who use it.

Method

Research Design

Mixed methodology was used in the current study to increase rigor by providing quantitative and qualitative data. Classroom teachers and support personnel at a K-6, public suburban elementary school located in the Pacific Northwest who had access to The Wiggle Whomper Kit beginning at the time of the pilot study in 2010 were surveyed. The variables studied were patterns of use and effectiveness of The Wiggle Whomper Kit as perceived by those who had access to The Wiggle Whomper Kit in their classrooms. Quantitative data such as survey data increases internal validity, which strengthened the rigor of the study. A survey was chosen because it allowed a wealth of information to be gathered relatively quickly and provided ease of use for participants and researchers. According to Salant and Dillman (1994), there are four principles that make a survey successful: (a) the sample is large enough to make assumptions of the population; (2) everyone in the sample has an equal chance of being selected; (3) the survey questions are asked in a way the provides willingness to answer and provide an accurate result; and (4) the characteristics of individuals in the population are represented

through the sample. The current survey encompassed these principles, which strengthened the research design.

Due to small sample size, qualitative data was obtained through an open-ended interview with the school principal to validate results as well as generate themes. These qualitative data allowed the researchers to gain further insights about the population from a member of the population who did not complete the survey; which increased the study's external validity as well as provided further insights regarding the Wiggle Whomper Kit.

Participants

The participation of all thirty-six classroom teachers and support personnel employed at the school in which The Wiggle Whomper Kit was implemented was sought for the study. The intended sample included classroom teachers and support personnel which for the purpose of this study included, music teachers, an occupational therapist, an occupational therapy assistant, a speech language pathologist, special education teachers, and resource room teachers. Surveys were made available to the participants via a link provided through an e-mail (Appendix) from the school principal. Inclusion criteria included those who are currently employed by the school and were employed at some point from the pilot study in 2010 to the dissemination of the survey. Exclusion criteria included staff members who did not have access to The Wiggle Whomper Kit, such as the school secretary or cafeteria workers and classroom teachers and support personnel who were no longer employed at the elementary school.

Instrumentation and Apparatus

The current study's survey (Appendix) contained a small number of questions from Worthen's (2010) pilot survey. Worthen's survey was original and the questions were centered around the usage, perceived effectiveness, and suggested modifications to The

Wiggle Whomper Kit. Worthen's survey consisted of two questions that were close-ended ordered choice, and eight questions that were open-ended. Due to the feedback from Worthen's survey, modifications were made to The Wiggle Whomper Kit before the school-wide dissemination. Therefore, The Wiggle Whomper Kit that Worthen studied was slightly different than the kit that was implemented school-wide in 2011, which was slightly different than the current Kit as one therapy-grade seat cushion was added, and feathers were removed. The current survey consisted of both open and close-ended questions, multiple choice, and write-in responses including questions from Worthen's survey and new material. The survey also included questions regarding demographics of the teachers and support personnel and student characteristics of their classrooms.

Procedures

In addition to IRB approval, approval from the school of interest was obtained. Prior to release of the survey, it was piloted to two classroom teachers who had access to The Wiggle Whomper Kit at some point after implementation, but were no longer employed at the school of interest, and an occupational therapist who is familiar with the research surrounding items and activities in The Kit who was previously employed in the school system and is not affiliated with the school in this study. Due to feedback from the pilot study, slight changes were made to the survey regarding clarity of questions.

Following finalization of the survey, researchers contacted the principal through the research chair via e-mail with an electronic cover letter (Appendix) and link to the survey through SurveyMonkey. The principal forwarded the cover letter and e-mail with the survey link to classroom teachers and support personnel meeting inclusion criteria. The cover letter contained

information including the purpose of the study, anonymity of responses, and a statement regarding confidentiality. Implied consent was obtained by the completion of the survey. Participants had the option to stop the survey at any point by exiting the survey window. Completed surveys were returned to the researchers through SurveyMonkey. Eight surveys were returned one week following dissemination of the survey link. A reminder e-mail (Appendix) was sent to the principal that incorporated the cover letter and survey link from the initial e-mail. Additionally, a comment was added to the e-mail that stating that participants should not complete the survey a second time if they have already completed it. One additional survey was received after the second wave.

After the survey responses were collected, the researchers presented preliminary findings to the principal as a way to confirm results and help provide context for some of the quantitative data from the survey responses.

Only the two student researchers had access to the completed surveys. The researchers entered the responses into SPSS and coded all responses together to increase data entry reliability, however due to small sample size data analysis could not be run in that format.

Data Analysis

SurveyMonkey was used for data analysis. The researchers reported descriptive statistics in order to gain insight into the characteristics of the sample (Table 1). Additionally, measures of central tendency such frequency and percentage of responses were reported to assess group attitudes and practices about The Wiggle Whomper Kit. Notes from the interview with the principal were reviewed for clarity between the two primary researchers and common themes were generated and used to support the results from the survey.

Results

Response Rate

Of the 36 teachers and support personnel whom received the survey, nine teachers (25%) completed it. No support personnel completed the survey. Of those nine, eight participants completed the survey after the first mailing and one participant completed the survey after the second mailing. Visual analysis showed consistent responses between the two waves so responses were pooled. Two participants did not finish the survey but their responses were utilized due to small sample size.

Demographics

Table 1 provides demographic information including gender, age, years of experience in the school system, years of experience at said school, and highest degree received. Responses were received from all grade levels (K-6) for the 2011-2012 school year. For the 2012-2013 school year surveys were not received from 3rd or 5th grade teachers (Table 2). The number of children on IEPs ranged from 0-28 children. The participant who reported having 28 children on IEPs also taught a classroom with children from multiple grade levels and had children on both traditional and highly capable IEPs.

Perceived Effectiveness of The Wiggle Whomper Kit

Table 3 reports the perceived effectiveness of The Wiggle Whomper Kit on target behaviors. Behavioral impacts of The Wiggle Whomper Kit that were rated as effective most often were increased levels of attention, decreased levels of hyperactivity, and increased engagement in activities. When asked about children with sensory system challenges and whether they have a harder time learning, paying attention, and regulating their behavior (n= 9), 44.4% strongly agreed and 55.6% agreed with the statement.

Individual Education Program and perceived effectiveness of The Wiggle Whomper Kit. Participants that indicated having children on IEPs reported The Wiggle Whomper Kit as being “Effective” on more behaviors listed in Table 3 (50-66.7% of behaviors) than participants who did not have children on IEPs (0-16.7% of behaviors).

Relationship with occupational therapist or occupational therapy assistant and perceived effectiveness of The Wiggle Whomper Kit. When asked about having a relationship with the school occupational therapist or occupational therapy assistant, 71.4% of participants (n = 7) reported having a relationship however, zero percent reported talking to the occupational therapist and 16.7% of participants reported talking to the occupational therapy assistant about The Wiggle Whomper Kit. Of the participants who reported having a relationship with the school occupational therapist or occupational therapy assistant, 80% reported The Wiggle Whomper Kit as being effective in decreasing levels of hyperactivity and 60% reported The Wiggle Whomper Kit as being effective in decreasing problem behaviors, increasing levels of attention, increasing time on task, increasing time in seat, and increasing engagement in activities, which is more compared to participants who did not report a relationship.

Recommendation of The Wiggle Whomper Kit. When asked whether they would recommend The Wiggle Whomper Kit to other teachers and staff in said school, 71.4% of participants said they would, with one person stating that he or she would recommend more to primary than upper elementary grades. A comment given in response to why The Wiggle Whomper Kit would not be recommended was that the participant reported liking other products better. When asked whether participants would recommend The Wiggle Whomper Kit to other schools (n = 6), 66.7% would recommend.

Patterns of use of The Wiggle Whomper Kit

Of the participants who answered the question about implementing The Wiggle Whomper Kit (n = 7), all participants said they have implemented it in their classroom. When asked about using activities from The Wiggle Whomper Kit in their classroom, 55.6% of participants used activities in their classroom. Of those that reported not using the activities their reasons included not having enough time, activities not being age appropriate, and too crowded classrooms. When asked about using resources, 88.9% have used tools from The Wiggle Whomper Kit in their classroom and zero percent of participants (n = 6) reported having read the research supporting The Wiggle Whomper Kit. When asked about research, 77.8% had not used The Wiggle Whomper Kit research in their classroom for various reasons including lack of time, familiarity with research, and trusting that The Wiggle Whomper Kit is supported by research and therefore not needing to validate.

2011-2012 school year. Of the participants who answered questions pertaining to patterns of use (n = 7), 71.4% reported using The Wiggle Whomper Kit items and activities less than one time per week as a group. When asked about students using items, 85.7% reported 1-5 students using kit items at least two times per day. All participants reported zero children independently using activities at least two times per day. Table 4 illustrates utilization of The Wiggle Whomper Kit during activities and blocks of time during the school day. Most participants reported “Almost Always” using The Wiggle Whomper Kit during AM and PM instruction. There were no significant patterns of use during transitions, and subjects that are typically performed during a school day (Table 4). The items used most frequently by students or the classroom as a whole were inflatable seat cushion (reported five times), straw, squeeze balls,

and movement activities (reported two times), and pipe cleaner, music CDs, and fidgets (reported one time).

2012-2013 school year. Of the participants who answered questions pertaining to patterns of use ($n = 5$), 60.0% reported using The Wiggle Whomper Kit items and activities less than one time per week as a group. When asked about students using items, 80.0% reported 1-5 students using kit items at least two times per day. When asked about children using activities, 60.0% reported zero children independently using activities at least two times per day. Table 5 illustrates utilization of The Wiggle Whomper Kit during activities and blocks of time during the school day. Most participants reported “Frequently” using The Wiggle Whomper Kit during AM and PM instruction. There were no significant patterns of use during transitions, and subjects that are typically performed during a school day (Table 5). The items used most frequently by students or the classroom as a whole were movement activities, pipe cleaner, inflatable seat cushion, straw, and squeeze balls (all reported two times) and classical music CD (reported one time).

Both school years. Items and activities reported difficult to implement or use were gum and inflatable seat cushion (reported two times), and pipe cleaners and resistance bands (reported one time). Comments related to difficulty implementing items and activities included anticipated distraction for gum chewing, difficulty inflating and maintaining air in the inflatable seat cushion, and difficulty utilizing the resistance bands. Items and activities reported to be eliminated were pipe cleaners (reported two times), and inflatable seat cushion (reported one time).

Regarding utilization of resources available at said school ($n = 6$), 83.3% reported having discussed The Wiggle Whomper Kit with other teachers and staff members. When asked about sharing resources, 50% reported having shared a tool and 16.7% reported sharing activities and

research from The Wiggle Whomper Kit with a parent or caregiver. When asked about requesting additional items for the kit, 16.7% reported asking for additional items and 16.7% reported discussing The Wiggle Whomper Kit with the school principal. Of the participants that answered the question ($n = 7$), 57.1% reported having read The Wiggle Whomper Kit manual and of those who read it, 75% reported that it was useful.

Qualitative member checking with principal. The student researchers and Tanta met with the principal to discuss initial findings and perform member checking of results. Several themes were apparent such as: consistency of the results with reality of use at said school, The Kit being useful and something she recommended, The Kit being an extra tool for teachers to use and try when they had difficulty with a student, The Kit being a tool to enable self advocacy for students, the effect of different service models for teachers and occupational therapists, and The Kit provided the opportunity for more collaboration between the school occupational therapist and educators at said school.

Discussion

Even though the current study yielded a small sample size, utilizing a mixed methodology increased confidence with results. Results from the study are consistent with previous literature and qualitative data obtained from the principal interview validated this as well. Perceptions of perceived effectiveness, and patterns of use of The Wiggle Whomper Kit were obtained through this study. Additionally, the current study validates research regarding collaboration among school professionals and successful program implementation supporting a RtI model. The Wiggle Whomper Kit is an example of a tier one RtI program that has been implemented in a public elementary school as it is designed to benefit all students. The Wiggle Whomper Kit has been used in a tier two capacity through a classroom teacher and Tanta

collaborating to meet the needs of a child who required a more durable item. The Wiggle Whomper Kit could also be used in a tier three capacity if items or activities were used in a one-on-one direct service situation such as in the occupational therapy room. Initial data regarding perceived effectiveness were positive, and the principal of the school reported The Wiggle Whomper Kit to be a tool she always recommends to teachers who come to her asking for guidance with a problem behavior or sensory challenge suggesting administrative support of the system wide change (R.B., personal communication, April 16, 2013).

Perceived effectiveness of The Wiggle Whomper Kit. In general the principal stated that the results from the study were not surprising and were consistent with what she has observed (R.B., personal communication, April 16, 2013). The majority of participants reported The Wiggle Whomper Kit as most effective in increasing levels of attention, decreasing levels of hyperactivity, and increasing engagement in activities which is consistent with the research supporting implementation of The Wiggle Whomper Kit (Fedewa & Erwin, 2011; Hallam, Price, & Katsarou, 2002; Kercood, Grskovic, Lee, & Emmert, 2007; Lopez & Swinth, 2008; Peck et al., 2005; Pfeiffer et al., 2008; Sayers, 2008; Scheerer, 1992; Schilling, Washington, Billingsley, & Deitz, 2003; Witter, 1998)

The fact that research supporting The Wiggle Whomper Kit implementation was not utilized may be due to reported lack of time to prepare daily lessons and one participant reported trusting the research and sharing it with a parent suggesting face validity of The Wiggle Whomper Kit (R.B., personal communication, April 16, 2013). The majority of participants reported having discussed The Wiggle Whomper Kit with other teachers and staff at said school and would recommend The Wiggle Whomper Kit to teachers at other schools suggesting positive response to program implementation and perceived effectiveness of The Wiggle Whomper Kit.

Interestingly, teachers with children on IEPs rated The Wiggle Whomper Kit as effective more often than teachers with zero children on IEPs. In addition, teachers who reported having a relationship with the school occupational therapist or occupational therapy assistant also reported The Wiggle Whomper Kit as effective more often than teachers who reported not having a relationship with the occupational therapist, which is consistent with the research on collaboration and was validated by the principal (Barnes & Turner, 2001; Hanft & Shepherd, 2008; Laverdue & Rose, 2012; R.B., personal communication, April 16, 2013). Further, the principal stated the lack of relationship between teachers without children on IEPs and the occupational therapist could be due the occupational therapist only interacting with teachers who have children who are eligible for special education on her caseload (R.B., personal communication, April 16, 2013). Although this school has adopted a school-wide program implementation at RtI tier one, from the occupational therapy perspective the school still functions at a caseload model, indicating room for growth towards a workload model to allow teachers and the occupational therapist to interact more.

Patterns of use of The Wiggle Whomper Kit. All of those who responded (two did not respond) stated that they had implemented The Wiggle Whomper Kit in their classrooms. However, the principal stated that this is not true for all teachers and support personnel in the school. According to the principal, The Wiggle Whomper Kit should not be the focus of classroom instruction, but instead a tool to support student performance. Although materials such as a research binder, manual, and FAQ sheet were provided, it appeared that when The Wiggle Whomper Kit was unfamiliar, or because of differing backgrounds and beliefs it may not have been used (R.B., personal communication, April 16, 2013). If the school occupational therapist would have been able to collaborate with educators regarding these materials to support their use,

it is proposed that these items may have been utilized more often. This is consistent with program implementation research, which highlights the need for more support when implementing programs in schools (Bai et al., 2011).

Although more participants answered questions pertaining to the 2011-2012 school year, patterns of use between the two school years are consistent. Interestingly, inflatable seat cushions were listed as the top item both school years and also a top item recommended for elimination. This suggests individual preference among teachers which may influence tools used and decision making. The principal stated that there is a lot of personal preference for kit items and that some teachers are less receptive to trying new things. She stated that this was consistent with any group of educators when implementing new programs. She further stressed that The Wiggle Whomper Kit was helpful in this area because it provides a large number of options for teacher and student use (R.B., personal communication, April 16, 2013).

Implications for Occupational Therapy

Although results are positive, information obtained in the current study suggests more collaboration is necessary. For example, none of the respondents reported having discussed The Wiggle Whomper Kit with the school occupational therapist. According to Laverdue & Rose (2012) and Hanft & Shepherd (2008), occupational therapists need to continually communicate with educators via documentation, e-mails, and meetings to make sure educators understand the research behind the programs and are available to problem-solve implementation strategies if necessary. When occupational therapists are not available for communication, collaboration is limited and educators may see interventions as less effective and may be less likely to implement occupational therapist strategies in their classrooms. This may explain lack of implementation in

some classrooms as reported by the principal (Barnes & Turner, 2011; R.B., personal communication, April 16, 2013; Reid et al., 2006).

Collaboration with teachers is critical when implementing programs in a general education classroom, as stated in the literature and confirmed by this study. Occupational therapists need to be flexible and adapt their unique expertise and strategies to the environment; it is well documented that collaboration results in better student outcomes (Barnes & Turner, 2001; Reid et al., 2006; Vincent et al., 2008). The principal stated that lack of collaboration could be due to differing service models between educators and school-based occupational therapists. She stated there needs to be more occupational therapy consultation with classroom teachers to support a bridge in services (R.B., personal communication, April 16th, 2013). Research indicates that teachers and occupational therapists can successfully collaborate to implement programs that have significant and long lasting results in the children they serve when their service model is more similar and at a workload level that encompasses the general education population (Bazk et al., 2009; Case-Smith et al., 2011).

There are specific strategies in the literature as well as strategies that have been highlighted in this study to increase collaboration and implement school-wide programs (Hanft & Shepherd, 2008; Villeneuve & Hutchinson, 2012). First, occupational therapists should seek to understand the classroom curriculum and how occupational therapy services can be applied and integrated successfully. Additionally, communicating with teachers, getting feedback, and implementing teacher strategies during treatment may encourage teachers to reinforce occupational therapy strategies as well (Hanft & Shepherd, 2008). Finally, being up front and defining roles early during program implementation would help improve collaboration and

ensure that all service providers are working in parallel. This also allows the opportunity to explain the ways that occupational therapy can support learning.

Occupational therapy's role in a system wide change in schools consists of team supports and system supports. Team supports are co-teaching, progress monitoring, mentoring team members, collaborative consultation, and helping to develop and implement IEPs. System supports are participating in committees, task forces, and presenting in-services. Team supports and system support benefit more than just those students on the occupational therapists case load (Hanft & Shepherd, 2008).

Collaboration associated with system wide program implementation such as RtI interventions that are student-centered often result in increased autonomy and self awareness among students (Laverdue & Rose, 2012). The principal reported this fact as well stating that since implementation, she has noticed an increase in self-regulation behaviors among students via tools in The Wiggle Whomper Kit. She stated that children have learned to recognize when they may need a tool to optimize their performance and have also learned that their teachers and school care about them and their continued success (R.B., personal communication, April 16th, 2013).

This topic is relevant to occupational therapy considering 20% of occupational therapists work in schools (American Occupational Therapy Association, 2011). Nationwide, a shift is happening to adopt a RtI model, but many schools are still operating at a caseload level. Occupational therapists should talk to their school district about their stance on RtI, whether it has been implemented, and whether state laws allow all tiers to be implemented (Hanft & Shepherd, 2008). Occupational therapists need to advocate for our role in this workload model and explain what we do and how we can collaborate with educators to support academic success.

Limitations

The biggest limitation of this study was the small sample size. The population size was only 36 so researchers were already limited in the number of possible participants for the study. That being said, 25% is a relatively good response rate given the population size. Another limitation of this study was the limited amount of time that was given to collect data. The researchers had to accommodate the school schedule so data collection only took place over the course of two weeks, which was half the amount of time that was initially anticipated by the researchers.

Some of the participants who filled out the survey appeared to be confused about the format involving the two separate years. There were conflicting reports about when The Wiggle Whomper Kit was implemented and then when the participants completed the information for the school years. Also, many of the participants skipped questions which was a flaw in the survey design.

Although no comments were left on the survey regarding additional information, anecdotal feedback to one of The Wiggle Whomper Kit developers was that the survey was too long and there were no comment boxes for some of the responses, which was consistent with the principal's report (R.B., personal communication, April 16th, 2013). When piloting the survey no feedback was received regarding formatting and time. Finally, researcher bias could also be a limitation given that all of the communication with said school was through the developer of The Wiggle Whomper Kit, Tanta, and not the researchers themselves.

Future Research

Participants appeared confused about the structure of the survey as indicated by conflicting responses. Increasing the number of individuals to pilot the survey should increase

feedback and sensitivity to the needs of teachers. Future research on The Wiggle Whomper Kit needs to take into account the demands of teachers and draft a survey that is shorter and more intuitive. Conducting a study involving training on The Wiggle Whomper Kit involving pre and post data collection for measuring effectiveness would strengthen the results of this study. Also, given the limitations of working around a school schedule, data collection was limited to two weeks; future research should plan on working around the school schedule to increase the amount of time for data collection.

One participant commented on the durability of The Wiggle Whomper Kit stating that other products were better. As mentioned, the items in The Wiggle Whomper Kit were carefully chosen balancing cost and durability to impact the largest number of students in the general education population. Future research should compare The Wiggle Whomper Kit to other sensory regulation kits or products to assess effectiveness related to durability of items.

Future research should also look into the relationship between teachers and occupational therapists and the implementation of programs in schools and exploring school wide programs such as those at the primary tier of RtI (National Center on Response to Intervention, 2010). Finally, The current study found that teachers who reported having a relationship with the occupational therapist and/or occupational therapy assistant perceived The Kit to be effective more often than teachers who did not have this relationship, however more research is needed to evaluate this result.

Conclusion

All participants reported implementing The Wiggle Whomper Kit in their classroom, which provided the researchers with information about perceived effectiveness and patterns of use. Additionally, this study added a qualitative component by interviewing the school principal

and reaffirming the results that were gained from the survey. The majority of participants reported The Wiggle Whomper Kit as most effective in increasing levels of attention, decreasing levels of hyperactivity, and increasing engagement in activities. Participants appeared to like The Wiggle Whomper Kit as illustrated by stating that they would recommend The Wiggle Whomper Kit to other teachers at said school and to teachers at other schools. Tools were used more often than activities, and tools were used by students individually more often than as a whole class providing information about patterns of use.

Given the increased prevalence of the RtI model in schools, the current study highlights the importance of teacher and occupational therapy collaboration for program implementation in the classroom. Given the stressors put on teachers, staff members, and support personnel that exist in the school system, it is critical that a system wide change such as the three tiered RtI model take place to better meet the needs of students and the learning process by implementing programs to children with and without disabilities. Occupational therapists should encourage collaboration to take place in the schools as well as encourage classroom-wide intervention in the general education classroom such as The Wiggle Whomper Kit. Future research should look into effectiveness of The Wiggle Whomper Kit with a larger sample size to further strengthen the results found in this study.

While the current study highlights The Wiggle Whomper Kit as an effective resource for a classroom-wide intervention, more importantly it emphasizes how essential collaboration is for successful implementation of any tool or program in the school system.

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Appendix

Dear (Principal's name),

Please forward the following message to the teachers and staff members who had access to The Wiggle Whomper Kit: Improving Sensory Regulation in the General Education Classroom® from the point of implementation (October 2010) until the present. Please delete the portion of the message that appears before the line below before forwarding.

Thank you so much,

Jessica Griesse and Jennifer Ikard

Dear Staff Members of Little Cedars Elementary:

One week from today you will receive an e-mail with a link that allows access to a survey regarding your perceptions of The Wiggle Whomper Kit: Improving Sensory Regulation in the General Education Classroom® (hereby referred to as The Wiggle Whomper Kit) that you have had access to. Two masters of science in occupational therapy students from the University of Puget Sound under the direction of Dr. Kari Tanta, PhD, OTR/L, FAOTA are investigating patterns of use and perceived effectiveness of The Wiggle Whomper Kit as judged by those who use it. Your feedback is very important in gleaning this information. Your participation is greatly appreciated as it will add to the body of evidence surrounding the way children regulate their sensory systems in the classroom. The survey itself should take about 30 minutes to complete online. As previously mentioned, you will receive the email giving the link to the survey in one week. Should you have any questions, please contact the student researchers via phone at 253-879-3514 or via e-mail at jgriesse@pugetesound.edu or jikard@pugetsound.edu.

Thank you,

Jessica Griesse and Jenny Ikard

Dear (Principal's name)

Please forward the following message to the teachers and staff members who had access to The Wiggle Whomper Kit: Improving Sensory Regulation in the General Education Classroom® from the point of implementation (October 2010) until the present. Please delete the portion of the message that appears before the line below before forwarding.

Thank you so much,

Jessica Griesse and Jennifer Ikard

Dear Staff Members of Little Cedars Elementary,

Last week you received the message below regarding a survey of your perceptions of The Wiggle Whomper Kit. If you have not already completed the online survey, please consider doing so. Thank you to those who have already completed the survey. Please keep in mind that there are questions for 2 separate years which is why questions are repeated. If you are limited by time, feel free to answer only one of the sets of questions. The survey should take about 30 minutes to complete if you answer both sets of questions.

You are being asked to participate in a research study to learn more about perceived effectiveness, pattern of use, and suggested modifications of The Wiggle Whomper Kit. You

have been selected to take the survey since you have had access to The Wiggle Whomper Kit and manual for use in your classroom. You are being asked to complete a survey with questions about perceived effectiveness and patterns of use of The Wiggle Whomper Kit. The survey consists of open-ended and close-ended questions. Based on your experiences with The Wiggle Whomper Kit, you will answer between 30-45 questions.

We will measure your perceptions of The Wiggle Whomper Kit via online survey through SurveyMonkey. The survey can be accessed by clicking on this link <https://www.surveymonkey.com/s/WiggleWhomperKit>. After completing all of the questions, you will be prompted to click “done” to return the survey. The survey is anonymous and there is no way to link your responses back to you. The two student researchers are the only people who will be able to access the survey data which will be imported directly into data processing software anonymously. Completion of the survey implies consent to participate. Participation in this study involves minimal risk; the risks associated with everyday life. Participants benefit from this study by gaining experience with the process of conducting research in occupational therapy. Participants will also benefit by being able to give personal feedback about the kit. By giving feedback about The Wiggle Whomper Kit the researchers will be able to improve the quality of the kit. You are free to not answer any questions you feel uncomfortable with, and you are free to exit the survey at any time by exiting the browser window.

The results of this survey will be made available to all staff members upon the completion of the study. If you have any questions, please contact the researchers at 253-879-3514 or via e-mail at jgriesse@pugetesound.edu or jikard@pugetesound.edu.

Thank you,

Jessica Griesse and Jenny Ikard

You have been asked to participate in this study because you have had access to The Wiggle Whomper Kit at some point from school-wide implementation of the kit in fall 2011 until the present. The researchers are trying to learn more about patterns of use and perceived effectiveness of The Wiggle Whomper Kit. Your responses will help answer these questions. If at anytime you wish to exit the survey you may do so by closing out of your window browser. Your responses are anonymous and there is no way of tracing responses back to you. If you have had experience with The Wiggle Whomper Kit previous to the 2012/2013 school year you will be asked questions pertaining to multiple school years. Your participation is appreciated.

1. Please indicate your level of familiarity with the concept of the “seven sensory systems”:

- VERY FAMILIAR
- SOMEWHAT FAMILIAR
- NOT VERY FAMILIAR
- NOT FAMILIAR AT ALL

2. Research has shown that students who experience sensory system challenges may have a harder time learning, paying attention, and regulating their behavior. Please indicate your level of agreement with the research.

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

3. Have you used The Wiggle Whomper Kit activities in your classroom (e.g. Animal Walks, Simon Says)?

- YES
- NO

If NO, why?

4. Have you used The Wiggle Whomper Kit tools in your classroom (e.g. Gum, Squeeze Balls)?

- YES
- NO

If NO, why?

5. Have you used The Wiggle Whomper Kit research in your classroom (e.g. Binder of research articles supporting items and activities)?

- YES
- NO

If NO, why?

6. Research has shown that items and activities such as those found in The Wiggle Whomper Kit have been shown to influence the items listed below. Please check the following behaviors you have noticed that you associate with the implementation of The Wiggle Whomper Kit and how effective you see them as (Check all that apply).

Effective Neutral Not Effective Not Applicable

- BETTER ACADEMIC PERFORMANCE
- IMPROVEMENT IN HANDWRITING
- DECREASE IN PROBLEM BEHAVIORS
- INCREASED LEVELS OF ATTENTION
- DECREASED LEVELS OF HYPERACTIVITY
- INCREASED TIME ON TASK
- INCREASED TIME IN SEAT
- INCREASED TASK COMPLETION
- INCREASED SOCIAL PARTICIPATION
- INCREASED ENGAGEMENT IN ACTIVITIES
- SELF-ESTEEM
- DECREASED ANXIETY

Comments

7. Check all that apply

- I WORK IN THE CONNECTIONS CLASSROOM
- I HAVE IMPLEMENTED THE WIGGLE WHOMPER KIT IN MY CLASSROOM
- I GAVE INPUT TO THE WIGGLE WHOMPER KIT DEVELOPMENT

- I ATTENDED THE WIGGLE WHOMPER KIT INSERVICE
- I HAVE SHARED WIGGLE WHOMPER TOOLS/ACTIVITIES/RESEARCH WITH PARENTS

For the purpose of this research we will refer to the following staff members such as music teachers, art teachers, occupational therapy, occupational therapy assistant, speech language pathologist, physical therapist, special education teachers, and resource room teachers as support personnel

8. Indicate what you are currently employed as:
- I AM A TEACHER
 - I AM A RELATED SERVICES PERSONNEL

9. When did you begin using The Wiggle Whomper?
- PARTICIPATED IN PILOT STUDY IN 2010
 - AT IMPLEMENTATION IN FALL 2011
 - I INHERITED THE KIT IN SPRING 2012
 - I INHERITED THE KIT IN FALL 2012

We will now ask questions about your experience working at Little Cedars during the **2011/2012** School Year:

10. What grade level do you teach?
- GRADE
- NOT APPLICABLE TO MY ROLE (YES OF TRUE)

11. Of the children you teach how many are on an Individualized Education Program (IEP)?
- NUMBER OF CHILDREN
- NOT APPLICABLE TO MY ROLE (YES OF TRUE)

12. How frequently, on average, how many times per week did the classroom use kit items or perform additional activities as a group?
- MULTIPLE TIMES A DAY
 - ONE TIME PER DAY
 - 3-4
 - 1-2
 - LESS THAN 1 TIME PER WEEK

13. How many of your students independently used the kit items on a regular basis (at least 2 x per day)?
- 0
 - 1-5
 - 5-10
 - 10-20
 - MORE THAN 20

14. How many of your students independently performed Wiggle Whomper Kit activities on a regular basis (at least 2 x per day)?

- 0
- 1-5
- 5-10
- 10-20
- MORE THAN 20

15. Did you use any of the kit items in a way that was different than described in the kit manual? If yes, please describe

16. A typical school day includes several blocks of time, of the following how frequently was The Wiggle Whomper Kit utilized:

ALMOST ALWAYS FREQUENTLY OCCASIONALLY SELDOM
 ALMOST NEVER NOT APPLICABLE
 AM INSTRUCTION
 AM RECESS
 LUNCH
 PM INSTRUCTION
 PM RECESS
 RELATED SERVICES (music, library)
 OTHER

Comments:

17. A typical school day also includes different activities, of the following how frequently was The Wiggle Whomper Kit utilized:

ALMOST ALWAYS FREQUENTLY OCCASIONALLY SELDOM ALMOST NEVER NOT APPLICABLE

TRANSITIONS
 WRITING
 MATH
 READING
 SOCIAL STUDIES
 SCIENCE
 Other (please specify)

Comments:

18. What are the top 3 kit item(s) or additional activities that were used most frequently by students and/or classroom as a whole? Please list in order of importance with top kit item listed first.

- 1.
- 2.
- 3.

We will now ask questions about your experience with The Wiggle Whomper Kit while working at Little Cedars during the **2012/2013** School Year:

19. What grade level do you teach?

GRADE

NOT APPLICABLE TO MY ROLE (YES OF TRUE)

20. Of the children you teach how many are on an Individualized Education Program (IEP)?

NUMBER OF CHILDREN

NOT APPLICABLE TO MY ROLE (YES OF TRUE)

21. How frequently, on average, how many times per week did the classroom use kit items or perform additional activities as a group?

- MULTIPLE TIMES A DAY

- ONE TIME PER DAY

- 3-4

- 1-2

- LESS THAN 1 TIME PER WEEK

22. How many of your students independently used the kit items on a regular basis (at least 2 x per day)?

- 0

- 1-5

- 5-10

- 10-20

- MORE THAN 20

23. How many of your students independently performed Wiggle Whomper Kit activities on a regular basis (at least 2 x per day)?

- 0

- 1-5

- 5-10

- 10-20

-MORE THAN 20

24. Did you use any of the kit items in a way that was different than described in the kit manual?
If yes, please describe

25. A typical school day includes several blocks of time, of the following how frequently was The Wiggle Whomper Kit utilized:

ALMOST ALWAYS FREQUENTLY OCCASIONALLY SELDOM ALMOST NEVER NOT APPLICABLE

AM INSTRUCTION

AM RECESS

LUNCH

PM INSTRUCTION

PM RECESS

RELATED SERVICES (music, library)

OTHER

Comments:

26. A typical school day also includes different activities, of the following how frequently was The Wiggle Whomper Kit utilized:

ALMOST ALWAYS FREQUENTLY OCCASIONALLY SELDOM ALMOST NEVER NOT APPLICABLE

TRANSITIONS

WRITING

MATH

READING

SOCIAL STUDIES

SCIENCE

Other (please specify)

Comments:

27. What are the top 3 kit item(s) or additional activities that were used most frequently by students and/or classroom as a whole? Please list in order of importance with top kit item listed first.

- 1.
- 2.
- 3.

28. Were any items or activities difficult for you to implement or for students to use? If so, please explain (e.g. Were they messy? Did they cause distraction for other students? etc.)

29. Would you recommend eliminating any items in The Wiggle Whomper kit? If so, which one(s) and why?

30. Do you have any suggestions for items or additional activities that may be added to the kit and manual? If so, please describe the items or activities.

31. Would you recommend The Wiggle Whomper kit to other teachers/staff members in your school?

- YES
- NO

COMMENTS

32. Would you recommend The Wiggle Whomper kit to other schools?

- YES
- NO

COMMENTS

33. Have you utilized the resources available at Little Cedars? Please check all that apply.

- I HAVE READ THE WIGGLE WHOMPER KIT MANUAL

- I HAVE CONTACTED KARI TANTA ABOUT THE WIGGLE WHOMPER KIT
 - I HAVE ASKED FOR ADDITIONAL ITEMS FOR THE WIGGLE WHOMPER KIT
 - I HAVE SHARED THE WIGGLE WHOMPER ACTIVITIES (E.G. ANIMAL WALKS) WITH A PARENT OR CAREGIVER
 - I HAVE SHARED THE WOGGLE WHOMPER TOOL (E.G. GUM) WITH A PARENT OR CAREGIVER
 - I HAVE SHARED THE WIGGLE WHOMPER RESEARCH (E.G. BINDER OF ARTICLES) WITH A PARENT OR CAREGIVER.
 - I HAVE READ THE RESEARCH ARTICLES SUPPORTING THE WIGGLE WHOMPER KIT IMPLEMENTATION
 - I HAVE DISCUSSED THE WIGGLE WHOMPER KIT WITH THE SCHOOL PRINCIPAL
 - I HAVE DISCUSSED THE WIGGLE WHOMPER KIT WITH OTHER TEACHERS/STAFF MEMBERS
 - I HAVE DISCUSSED THE WIGGLE WHOMPER KIT WITH THE SCHOOL OCCUPATIONAL THERAPIST
 - I HAVE DISCUSSED THE WIGGLE WHOMPER KIT WITH THE SCHOOL OCCUPATIONAL THERAPY ASSISTANT
- COMMENTS

34. Have you read The Wiggle Whomper manual?

- YES
- NO

COMMENTS

35. If you have read The Wiggle Whomper Kit manual, did you find it useful?

- YES
- NO

COMMENTS

36. Do you have a relationship with the school occupational therapist or occupational therapy assistant?

- YES
- NO
- NOT APPLICABLE TO MY ROLE

COMMENTS

37. Is there anything else you would like to tell us about the subjects addressed in this questionnaire?

Demographics

38. What is your gender?

39. What is your age?

21-30

31-40

41-50
51-60
61 or older

40. How many years of experience do you have working in the school system?

- LESS THAN 1
- 2-9
- 10-19
- 20-29
- MORE THAN 29

41. How many years have you been working at Little Cedars?

- LESS THAN 1
- 2-9
- 10-19
- 20-29
- MORE THAN 29

42. What is the highest degree or level of school you have completed (from any field of study)?

If currently enrolled, mark the previous grade or highest degree received.

- HIGH SCHOOL DIPLOMA OR EQUIVALENT
- SOME COLLEGE CREDIT, NO DEGREE
- ASSOCIATE DEGREE
- BACHELORS DEGREE
- MASTERS DEGREE
- PROFESSIONAL DEGREE
- DOCTORATE DEGREE
- Other (please specify)

43. Do you have any teaching certifications? If so, please list.

Thank you so much for participating in our research study. The time you took to fill out the survey is greatly appreciated. If you have further questions please contact one of the two researchers.

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44. If you have any further comments please leave them here.

Table 1

Demographics

Variable	N	%
Gender		
Female	6	100
Age		
21-30	1	16.7
31-40	0	0
41-50	2	33.3
51-60	1	16.7
61 or older	2	33.3
Years of Experience		
Less than 1 year	0	0
2-9 years	1	16.7
10-19 years	1	16.7
20-29 years	3	50
More than 29 years	1	16.7
Years at Said School		
2-9 years	6	100
Highest Degree Received		
Bachelors Degree	2	33.3
Masters Degree	4	66.7

Note. N = 6

Table 2

Grade Taught by School Year

Grade	2011-2012	2012-2013
	N	n
K	1	1
1	2	1
2	1	1
3	1	0
4 ^a	1	1
5 ^a	1	0
6 ^a	2	1

Note. 2011-2012 N = 7 and 2012-2013 N = 5

^aOne participant reported teaching 4th, 5th, and 6th grade students in 2011-2012.

Table 3

Perceived Effectiveness of The Wiggle Whomper Kit on Behaviors

	Effective	Neutral	Not Effective	Not Applicable
Increased Levels of Attention	62.5%(5)	25%(2)	12.5%(1)	0%
Decreased Levels of				
Hyperactivity	62.5%(5)	37.5%(3)	0%	0%
Increased Engagement in	62.5%(5)	37.5%(3)	0%	0%
Activities				
Decrease in Problem Behaviors	50%(4)	37.5%(3)	12.5%(1)	0%
Increased Time On Task	50%(4)	50%(4)	0%	0%
Increased Time In Seat	50%(4)	37.5%(3)	12.5%(1)	0%
Better Academic Performance	25%(2)	75%(6)	0%	0%
Increased Task Completion	25%(2)	62.5%(5)	12.5%(1)	0%
Decreased Anxiety	25%(2)	75%(6)	0%	0%
Improvement in Handwriting	0%	62.5%(5)	25%(2)	12.5%(1)
Increased Social Participation	0%	87.5%(7)	12.5%(1)	0%
Self-Esteem	0%	87.5%(7)	12.5%(1)	0%

Note. N = 8; (n)

Table 4

2011-2012 School Year Utilization of The Wiggle Whomper Kit During School Day Activities and Blocks of Time

	Almost Always	Frequently	Occasionally	Seldom	Almost Never	N/A
AM	42.9% (3)	14.3%(1)	14.3%(1)	14.3%(1)	14.3%(1)	0%
Instruction						
PM	42.9% (3)	14.3%(1)	14.3%(1)	0%	14.3%(1)	14.3%(1)
Instruction						
Writing	28.6%(2)	14.3%(1)	28.6%(2)	0%	14.3%(1)	14.3%(1)
Math	28.6%(2)	0%	14.3%(1)	28.6%(2)	14.3%(1)	14.3%(1)
Reading	28.6%(2)	0%	28.6%(2)	14.3%(1)	14.3%(1)	14.3%(1)
Related	14.3%(1)	0%	0%	0%	71.4%(5)	14.3%(1)
Services						
Social	14.3%(1)	0%	28.6%(2)	28.6%(2)	14.3%(1)	14.3%(1)
Studies						
AM Recess	0%	0%	0%	14.3%(1)	71.4%(5)	14.3%(1)
Lunch	0%	0%	0%	14.3%(1)	71.4%(5)	14.3%(1)
PM Recess	0%	0%	14.3%(1)	0%	57.1%(4)	28.6%(2)
Transitions ^a	0%	0%	50%(3)	16.7%(1)	16.7%(1)	16.7%(1)
Science	0%	0%	42.9% (3)	28.6%(2)	14.3%(1)	14.3%(1)

Note. N = 7; (n)

^an=6

Table 5

2012-2013 School Year Utilization of The Wiggle Whomper Kit During School Day Activities and Blocks of Time

	Almost Always	Frequently	Occasionally	Seldom	Almost Never	N/A
Writing	40%(2)	0%	40%(2)	0%	20%(1)	0%
AM	20%(1)	40%(2)	20%(1)	0%	20%(1)	0%
Instruction						
PM	20% (1)	40%(2)	20%(1)	20%(1)	0%	0%
Instruction						
Math	20%(1)	0%	60%(3)	20%(1)	0%	0%
Reading	20%(1)	0%	40%(2)	40%(2)	0%	0%
Related	20%(1)	0%	20%(1)	0%	40%(2)	20%(1)
Services						
Transitions	0%	40%(2)	40%(2)	0%	20%(1)	0%
Social	0%	20%(1)	20%(1)	40%(2)	20%(1)	0%
Studies						
Science	0%	0%	40% (2)	40%(2)	20%(1)	0%
AM Recess	0%	0%	0%	20%(1)	60%(3)	20%(1)
Lunch	0%	0%	0%	20%(1)	60%(3)	20%(1)
PM Recess	0%	0%	0%	20%(1)	40%(2)	40%(2)

Note. N = 5; (n)