University of Nevada, Reno

An Evaluation of the Use of a Time-in Procedure to Increase On-task Behavior

A thesis submitted in partial fulfillment of the
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by

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THE GRADUATE SCHOOL

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Abstract

Off -task behavior is problematic as it interferes with an individual's ability to be successful (Ackerman & Shapiro, 1984). Some of the most reported problems that teachers experience in the classroom are related to a student's difficulty remaining on-task (Bowen, Jenson, & Clark, 2004). On-task behavior has also been identified by teachers as a highly desirable behavior and may result in higher levels of approval and recognition from those teachers (Walker & Rankin, 1983). Time-in procedures have been found to be an effective treatment for reducing escape-maintained behavior (Williams, 1977; Brown, 2012). There has been no research evaluating the effectiveness of a time-in procedure for increasing on-task behavior. The current study evaluates and compares the effectiveness of time-in and a free-operant procedure for increasing work duration. Three children with teacher reported off task behavior participated in the study. The study compared fixed time and fixed interval schedules procedure and finding that a fixed interval, time-in procedure was effective in increasing the duration of on-task behavior for two of the three participants. The third participant exhibited lower durations of on-task behavior in the fixed interval condition as compared to the fixed time condition. However, the third participant exhibited higher rates of problem completion when on-task in the fixed interval time-in condition.

Dedication

To my mother, Kathy Garrido. Thank you for a lifetime of unconditional love and support in all of my endeavors. You act as an example as to how to live with a grace, compassion, and intelligence that I aspire to.

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I would like to thank Dr. W. Larry Williams for sharing a wealth of knowledge and support during this project. Your advisement during my clinical, professional, and academic career has helped shape who I am as a behavior analyst. Thank you to Lauren Brown, you shared your research with me and acted as a continual resource and sounding-board through the entire process. I would like to thank my research assistants, Danica Violago and Jessica Hinman. Without your dedication, hard-work, and in no little part, your humor, this project would not have been possible. Thank you to my fellow lab members for your feedback and suggestions throughout the project and my academic career. I would like to thank Linda Wilson, you got this project off the ground and going and I will forever be thankful. I would like to thank my family, my mother, father, and brother. Each of you provided me with the belief that anything can be possible and have always acted as examples for how to carry myself and pursue my goals. I need to thank my partner David Wilson. You have been a support in so many ways. It is not an exaggeration to say that I would not have been able to finish this project without you. You are a source of love, laughter, and patience, more than I could every repay. Thank you.

Table of Contents

List of Tables

List of Figures

Introduction

On-Task Behavior

Off task behavior is problematic in classrooms as it interferes with an individual's ability to be successful (Ackerman & Shapiro, 1984). Some of the most reported problems that teachers experience in the classroom are related to a student's difficulty remaining on-task (Bowen, Jenson, & Clark, 2004). The average student that experiences these difficulties in the classroom is on-task no more than 50% of the time, whereas students that are reported to be progressing sufficiently are typically on-task at least 85% of the time (Rhode, Jenson, & Reavis, 2010). On-task behavior has also been identified by teachers as a highly desirable behavior and may result in higher levels of approval and recognition from those teachers (Walker & Rankin, 1983). Not only do higher rates of on-task behavior correspond with higher rates of acceptance from teachers, they are also associated with higher levels of peer acceptance (Leflot, Lier, Onghena, & Colpin, 2013). Staying on-task is a critical skill and has been described as a "keystone" behavior. Ducharme and Shecter (2011) describe a keystone behavior as a "target behavior that is foundational to a range of skills and related to other responses such that, when modified, can have a substantial positive influence on those other responses" (p.261). On-task behavior has also been described as an "academic enabler". DiPerna & Elliot (2002) describe "academic enablers" as "behaviors that allow a student to participate in, and ultimately benefit from, academic instruction" (p. 294). One primary reason for the "keystone" and "academic enabler" qualities of on-task behavior is that on-task behaviors are directly incompatible with many inappropriate behaviors that distract from a student's instructional time. Treatments that result in an increase of a student's on-task behavior are hypothesized to produce additional desirable effects including improved academic performance (Ducharme & Shector, 2011). Increasing student's on-task behaviors may be an effective way to improve the academic outcomes of those students.

Although on-task behavior has been found to be important for the academic improvement of students it has multiple definitions. DiGangi, Maag, & Rutherford (1991) defined on-task behavior as any time the student had their eyes on assigned work materials, were writing answers, checking answers, or asking for teacher assistance and the student was required to be seated and silent when not directly asking the teacher questions. Most often on-task is often defined in terms of what it is not. Seymour and Stokes (1976) defined off-task behavior as an interruption of work for 5 to 10 seconds. Saunders, McEntee, and Saunders (2005) defined off-task as seeking peer or supervisor attention, sitting idly, or engaging in stereotypical behaviors. The current study utilized a definition of on-task behaviors adapted from Athens, Vollmer, & St. Peter Pipkin (2007). The authors identified on-task engagement as writing, tracing, or erasing work with an onset-offset criterion of 3 seconds. On-task behavior, like other forms of attending, is a necessary prerequisite to successful behavior in a classroom setting.

Attending and Observing

"Time-in" as a procedure, developed out of the concept of attending and observing. In a time-in procedure, the individual initiates performance and subsequent reinforcement. Typically, attention refers to the duration that an individual is able to attend to a stimulus. In the behavior analytic literature attention is often described as task perseverance (Martin & Powers, 1967). An important component of an individual's ability to attend to stimuli is the observing response. Dinsmoor (1995a) further discusses the importance of an observing response:

> "Neither the subject in an experiment nor the ordinary person going about his or her daily business can discriminate between stimuli with which he or she has no sensory contact. To take an extreme case, a person who is currently located in London cannot react to the color displayed on a traffic signal located in Tokyo. Similarly, even if the signal is within the range of his or her vision, this same person cannot react to it unless he or she looks in the right direction to see that signal… As a collective category, the responses that bring about these contacts between stimulus energies and receptor cells are known, after Wyckoff (1952), as observing responses" (p. 61).

In order for an individual's behavior to come under the control of a stimulus, it is necessary for the stimulus to first be observed. Without an observing response eventual stimulus control is not possible. The salience of a stimulus has an effect on the rate of responding observed (Dinsmoor, 1983). Observing responses have been found to be positively correlated with higher levels of discrimination (Dinsmoor, Mueller, Martin, & Bowe, 1982). Observing responses are logically necessary in clinical settings as a component of successful treatment.

One commonly used procedure to obtain attention in a clinical setting is eye contact. A relationship between eye contact and attention has been noted in multiple studies (Greer & Ross, 2007; Lovaas, 1977). Eye contact has been used in a wide range of interventions before the delivery of instructions (Foxx, 1977; Greer & Ross, 2007; Helgeson, Fantuzzo, Smith, & Barr, 1989; Lovaas, 1977; Lovaas, 1981; Mirenda, Donnellan, & Yoder, 1983). Some studies found that if eye contact was not obtained before instruction delivery that the children would fail to respond to instructions (Foxx, 1977; Helgeson et al., 1989; Lovaas, 1977; Lovaas 1981). An effective observing response has been found to be necessary for an individual to accurately make visual discriminations (Dinsmoor, 1985; Schroeder, 1997). Eye tracking of stimuli has also been found to be necessary for teaching some skills and increased duration of observing is associated with increased accuracy (Dube et al., 2010). Some different approaches exist in the literature regarding the approach to obtaining eye contact. In some cases, eye contact is prompted by the teacher/trainer on a dense schedule until obtained and before the delivery of instructions (Lovaas, 1996; Risley & Wolf, 1967). Martin, England, Kaprowy, Kilgour, & Pilek (1968) waited until the client gave independent eye contact without providing any prompts, allowing the client to initiate the instruction. The authors found that waiting for the client to initiate eye contact was effective in ensuring the client was attending to demands. The authors also did not note any long delays in the teaching procedure when waiting for client initiation. This client initiation of demands may

have had some effect on acquisition rates and reduction of problem behavior. Client initiation of instructions is also a primary feature of a time-in procedure.

Issues with Time-out

There is very little research on time-in outside of the context of time-out. Time-out has been examined and is described as a procedure where time away from reinforcers is used as a punisher for problem behaviors (Roberts, 1984). Some features that affect the utility of a time-out procedure are that the conditions must be highly discriminated, and that the problem behavior must be maintained by attention or tangible reinforcers (Sterling Turner & Watson, 1999). Some behaviors that time-out has been effective in reducing include aggression, tantrums, and out of seat (Alberto, Heflin, & Andrews, 2002; Mortimer, Adamsky, & McLaughin, 1998). However, there are limitations of time-out. The individual may engage in problem behavior related to the environment or task that has been associated with time-out (Plummer, Baer, & LeBlanc, 1977). In the case of clients that are large or engage in self-injurious or aggressive behaviors, time out may not be feasibly conducted. There is also the issue that time-out may function as a reinforcer for some children (Azrin, 1961:Steeves, Martin, & Pear, 1970). If the behavior is escape maintained a time-in procedure is contra-indicated. If the time the individual is allowed to engage in the "time in" activities is limited, then time-out is less likely to be effective (Solnick, Rincover, & Peterson 1977). As well, practitioners may be inclined to treat time-out as a part of their "tool box" which results in the overuse of the procedure and in settings that are not appropriate. The over and misuse of time out that has resulted in a poor public opinion of the procedure. There has been litigation regarding the use of time-out and limiting its use within school districts (Hayes v. Unified School District No. 377, 1989; Stickney, 1974). The time-in might address the concerns related to time-out.

Time-in Procedures

A time-in procedure was first identified as an observing response. Williams (1977), in an unpublished dissertation, evaluated a cooperation response between dyads of children diagnosed with severe intellectual disabilities. As part of a series of experiments the study attempted to teach the children in dyads to sign as well as respond to the other child's signing. In the Williams study, the children engaged in an observing response by illuminating a red light. The lights of both children had to be illuminated before any instructions were delivered. After each successful trial, involving responding to instructions after illuminating their lights an edible was delivered and the lights were turned off. The instructor then waited for the children to once again illuminate their lights. It was noted that using this procedure the instructor had to use very little effort to gain the children's "attention" and that the children engaged in very little problem behavior. One component that may account for the effectiveness of the Williams (1997) procedure is related to free operant choice. Many laboratory studies have demonstrated that in free operant conditions there are low rates of problem behavior. For example, in an experimental chamber a rat is pressing a lever with the behavior constantly available to the rat. The rat is given free access to a response that results in a food pellet. Under these conditions, there is little likelihood that the rat will be engaged in any behaviors to escape the condition as there are no aversive stimuli to escape from and food pellets are readily available (Jacob & Fantino, 1988).

Brown (2012) further evaluated the utility of a time-in procedure in the treatment of children's escape-maintained behavior. The author evaluated the utility of a time-in procedure with three children diagnosed with autism ranging in ages 8-11. Participants were students that attended a special education school in the Washoe County School District. A functional analysis (Iwata et al. 1982/1994) was conducted with each child to determine that their problem behavior was maintained by escape from demands. A preference assessment (Fisher et al. 1992) was then conducted for each child to determine tangibles to be used in the study. The children were then each presented with demands in a time-in and no time-in light condition. Time-in conditions were

run first, and the no time-in light condition had demands yoked for density and timing to ensure equivalence between conditions. For all three children frequency of problem behavior was lower in the time-in condition. The participants' average delay to response following instruction was also lower in the time-in conditions. The authors found the time-in procedure to be effective in the treatment of escape-maintained behavior. However, there were some limitations to the above study. Because of the nature of the study, there was no baseline or follow-up. The consistent presentation of conditions, time-in and then no time-in, may have had an effect on the results. The findings may have been the result of sequence effects. The time-in light was turned off after each response making it difficult to adapt to a classroom setting as it would be impractical for a teacher to have to use the time-in light for each response. It is also unknown what specific features of a time-in procedure were effective in the treatment of escape maintained behavior.

Further research is needed on time-in procedures to further show their effects and determine the relevant and effective components of the procedure.

Specific Aims

The purpose of the current study was to compare the effectiveness of a time-in procedure and a free-operant procedure for increasing work duration. The study aimed to extend previous studies on time-in procedures through the application of the procedure to a different population.

Method

Setting and Participants

The study included 3 children that all attended the same 2nd grade class. Leroy was an 8 year old boy. Marcus and Nigel were both 7 year old boys. None of the participants had any known diagnoses, IEP, 504 plans, or any other disabilities. All participants were identified by their teachers due to short duration working during class time. Permission from the school's

principal, the Washoe County School District, and the UNR IRB was obtained before flyers were sent home to guardians/parents. An empty room in the school's library was used for all sessions.

Inclusionary criterion

Inclusionary criterion for the study was that the child did not work continuously for more than 5 minutes based on the report of the child's teacher. Teacher report was confirmed by a classroom observation conducted by the researchers. Of the 4 children were evaluated for this study, 3 met the requirements to participate in the study. This observation functioned as an additional baseline for the current study. Participants were enrolled in a school in the Washoe County School District. Participants were excluded if they have an IEP or 504 plan. Participants also spoke English fluently, and were placed in a typical classroom.

Preference Assessment

A multiple stimulus without replacement (MSWO) preference assessment was conducted with each participant (DeLeon & Iwata, 1996) and with tangible or edible items determined from teacher and child report. The participant was presented with an array of stimuli on a table approximately 5 cm from each other and .5 M from the child. The child was asked to pick one and then given access to the stimulus for 15 seconds. After the child picked an item, access to other stimuli was prevented for the remainder of the trial. Following selection, the item was removed from the array for subsequent trials until all of the items are chosen. After 30 seconds of no response following a prompt to "pick one," the item was marked as "not selected". The procedure was conducted for a minimum of 3 sessions. The top three items, with the highest percentage of selection, were used during the study.

Social Validity Measures

Social validity interviews were conducted pre and post treatment. The Behavior Intervention Rating Scale (BIRS) (Von Brock & Elliot, 1987) was completed by the child's teacher pre and post treatment regarding the use of the time-in procedure. Teacher's answers were ranked on a scale of 1-5 corresponding to "strongly disagree" to "agree". The participants answered one component (8 questions) of the Student- Assisted Functional Assessment Interview (Dunlap, Foster-Johnson, Clarke, Kern, & Childs, 1995) with the assistance of a research assistant prior to participating in the study. Student responses were rated on a three-point scale of "always" to "never". Following treatment, the child was asked 5 questions rated from 1-3 regarding their preference for the treatment with the Treatment Acceptance Scale (Miltenberger, Lennox, & Lindeman, 1991). Participants ranked their preference for each condition of the study. They were ranked as "yes", "no", or "I don't know".

Dependent/ Independent Variables

The independent variables in this study were the presence and use, or absence of a time-in light. The primary dependent variables were the duration and frequency of the on-task behavior. The definition for on-task behavior was based on the protocol used in Athens, Vollmer, and St. Peter Pipkin (2007). A student was considered as on-task if looking at the worksheet, writing, or erasing with a 3 second on and off set. The current study also included the participant counting on their fingers and counting audibly, in a whisper, or by mouthing in the definition of on-task behavior. After 3 seconds off-task the student was considered to be off-task.

Token Training

Participants underwent token training prior to the start of conditions (Kazdin, 1978). The tokens used were plastic poker chips and were delivered into a plastic bowl present on the work table. The menu for trading tokens was for the top three items identified in the preference assessment. Token training occurred in the method recommended by Cooper, Heron, and Heward

(2007). The researcher delivered a scripted statement to the participant which described the token system. The researcher then demonstrated the delivery of the tokens. Tokens were delivered following the procedure identified in Athens, Vollmer, and St. Peter Pipkin (2007). Tokens were delivered on a fixed-time (FT) 2 min schedule. Athens, Vollmer, and St. Peter Pipkin utilized a 2.5 min schedule to ensure an equal density of reinforcement in conditions and ensure that differences in results could be accounted for by the procedure and not density of reinforcement. The procedure for token exchange was then demonstrated. The token exchange procedure occurred following the delivery of the first token, which was earned in the token delivery step. The participant was allowed to pick from their menu and was given access to the chosen item for 5 min. The number of tokens required to trade was systematically increased based on that participant's performance. A schedule of FT 2 min was used during token training. Participants were able to trade tokens following the first 2 min interval for 5 min of interaction with a tangible of their choice. After 2 successful trades the participants were able to trade following 3 tokens. After 2 successful trades the participant then was required to earn 5 tokens before trading. Following successful trading of 5 tokens the participant was asked if they understood the tokens procedure and if they wanted more practice. All of the participants indicated that they did not require further practice and were moved to the next phase of the experiment.

Time-in Condition Training

A pre-training step was conducted before the start of the study. The child was told that when they want to work they can turn on a provided light and when they are done working to turn off the light. After explaining how to use the button, the child practiced with a task. The task given was academic worksheets in math, the difficulty of the worksheets was determined based off of the recommendation of the child's teacher. The child then received a token following the completion of a task. Tokens could be traded at the end of the session for a preferred item and social praise. If the child independently pressed the button, completed the task, and turned off the light 3 trials in a row, pre-training was ended and the child then moved on to the time-in/no time-in phase of the study. The pre-training step took no more than 10 minutes from start to finish for

any child

Experimental design

A three phase alternating treatments design with generalization probes was used to compare treatments (Barlow & Hayes, 1979; Cooper, Heron, & Heward, 2007). Condition A was the baseline condition as described below. Condition B was the fixed time, free operant (FO FT 2) condition described below. Condition C was the fixed time, time-in (TI FT 2) condition described below. Condition D was the fixed interval, free operant (FO FI 2) condition described below. Condition E was the fixed interval, time-in (TI FI 2) condition described below. The FT phase was conducted first in order to control for the effects of reinforcement density and allow for a direct comparison of a free operant and time-in procedure. The FI phase was used to identify if the effectiveness of a time-in procedure was due to the time-in light functioning as a signaling stimulus that indicated that reinforcement was available. In the FI phase the researcher turned off the light contingent on the participant no longer meeting the definition for on-task behavior, described in above in the dependent variable section. The FI phase involved a feedback component that also may have contributed to the effectiveness of the time-in procedure.

The first phase of the design was baseline. The second phase of the design alternated between B and C in 10-minute sessions. The order of the B and C conditions was reversed one time to account for possible sequence effects. The third phase of the design alternated between D and E in 10-minute sessions. The order of the D and E conditions was reversed one time to account for possible sequence effects. To summarize the design was as follows: phase 1, AAA, phase 2, BCBC CBCB, and phase 3, DEDE EDED. Generalization probes were conducted following each phase and naturalistic observations were conducted in the classroom pre and post-treatment on on-task and off-task behavior to test for generalization.

Conditions were completed over a 3 week period, sessions were conducted no more than 3 times a weeks and were no longer than 2.5 hours each. The first day was as follows: naturalistic observation, preference assessment, pre-treatment social validity measures, and baseline. The second day was as follows: generalization and the training procedures for tokens and time-in. The third day was as follows: BCBC conditions. The fourth day was as follows: CBCB

conditions and social validity measures regarding the FT TI procedure. The fifth day was as follows: DEDE conditions. The sixth day was as follows: EDED conditions and social validity measures regarding the FI TI procedure. The seventh day was as follows: generalization and naturalistic observation.

Baseline

During the baseline condition, the participants were told that it was “time to work” and given grade level appropriate math worksheets. Data were collected on on-task and off-task behavior. Data were collected on other identified behaviors within 10-second intervals. No tokens or prompting were delivered within the baseline condition. Each baseline session lasted10 minutes.

Free Operant Condition (Fixed Time)

In the fixed time, free operant condition (FO FT), the same worksheets were used as in the time-in condition. This is the B condition mentioned above. There was no light present. There was no requirement for the duration of on-task behavior in order for tokens to be provided. Tokens were delivered on a fixed-time (FI) 2 min schedule. A timer set to vibrate signaled to the researcher when to deliver tokens. The participant was asked to complete grade level math worksheets. At the start of the session, the participant was prompted “time to work”. Session duration lasted 10 minutes. No feedback was delivered contingent on correct or incorrect responses on the worksheets during the condition. There were no programmed consequences for problem behavior. Following the completion of the session, the worksheets were graded and given to the teacher. The light was not available during the free operant sessions. The child received no direct feedback from the experimenters regarding performance accuracy during the condition or the rest of the study. The free operant condition only varied from the time-in condition in that there was no light available and instead worksheets were continuously present.

Time-in Condition (Fixed Time)

In the fixed time, time-in condition (TI FT), the time-in light was available. This is the C condition mentioned above. The light was turned on and off by the participant without

prompting from the researchers beyond an initial instruction that it was “time to work”. Worksheets were only provided while the time-in light was on. Worksheets were removed when the participant turned off the light. There was no criterion for the duration of on-task behavior for tokens to be provided. Tokens were delivered on a fixed-time (FT) 2 min schedule. A timer set to vibrate signaled to the researcher when to deliver tokens. The participant was asked to complete grade level math worksheets. At the start of the session, the participant was prompted “time to work”. Session duration was 10 minutes. No feedback was delivered contingent on correct or incorrect responses on the worksheets during the condition. There were no programmed consequences for problem behavior. Following the completion of the session, the worksheets were graded and given to the teacher. The child received no direct feedback from the experimenters regarding performance accuracy during the condition or the rest of the study.

Free Operant Condition (Fixed Interval)

In the fixed Interval, free operant condition (FO FI), the same worksheets were used as in the time-in condition. This is the D condition mentioned above. There was no light present. Tokens were delivered on a fixed-interval (FI) 2 min schedule for on-task behavior. A timer set to vibrate signaled to the researcher when to deliver tokens. The participant was asked to complete grade level math worksheets. At the start of the session, the participant was prompted “time to work”. Session duration was 10 minutes. No feedback was delivered contingent on correct or incorrect responses on the worksheets during the condition. There were no programmed consequences for problem behavior. Following the completion of the session, the worksheets were graded and given to the teacher. The child did not receive direct feedback from the experimenters regarding performance accuracy during the condition or the rest of the study.

Time-in Condition (Fixed Interval)

In the fixed interval, time-in condition (TI FI), the time-in light was available. This is the E condition mentioned above. The light was turned on by the participant without prompting from the researchers beyond an initial instruction that it was “time to work”. If the participant met criterion for off task, the researcher would turn off the light, remove the worksheets, and wait for

the participant to independently turn the light on. Worksheets were only provided while the time-in light was on. Tokens were delivered on a fixed-interval (FI) 2 min schedule. A timer set to vibrate signaled to the researcher when to deliver tokens. The participant was asked to complete grade level math worksheets. At the start of the session, the participant was prompted "time to work".

Session duration was 10 minutes. No feedback was delivered contingent on correct or incorrect responses on the worksheets during the condition. There were no programmed consequences for problem behavior. Following the completion of the session, the worksheets were graded and given to the teacher. The child received no direct feedback from the experimenters regarding performance accuracy during the condition or the rest of the study.

Generalization Probes

Generalization probes were conducted with a different worksheet task determined by the participant's teacher. Generalization probes were run with a different researcher than the other conditions. Probes occurred following each phase, including baseline. Each generalization phase consisted of 3 probes. Following the third phase, 3 generalization probes were conducted. If generalization was not demonstrated, the primary researcher would conduct 2 more probes. If still no generalization was demonstrated, the light was reintroduced for 2 more sessions.

Additional generalization

Naturalistic observations were conducted in the participants' classrooms. Observations were conducted as unobtrusively as possible. Observations occurred during work time and included the duration of on-task and off-task behavior. The naturalistic observations occurred pre and post treatment.

Data Collection / Interobserver Agreement/ Procedural Integrity

Sessions were videotaped to facilitate later coding and for interobserver agreement (IOA) and procedural integrity (PI). Data were collected on the total duration of on-and off-task behavior in a session in seconds (600 seconds). The operational definition described in the dependent variable section above was used for all sessions. On-task behavior had a 3 second on

and off set criterion as was used in the Athens, Vollmer, and St. Peter Pipkin (2007) article. The total duration of on-and off-task behavior was calculated by instance of on-and off-task behavior. For example, if the participant was off-task for the first 15 seconds of a session, the researcher waited for the participant to be on-task for 3 seconds before recording "on-task". The researcher would indicate that the participant was off-task for 18 seconds (as an on-task interval did not begin until the participant was on-task for 3 consecutive seconds). If the participant was then on-task for 3 minutes, the researcher would record 183 seconds (as an on-task interval did not end until the participant was off-task for 3 consecutive seconds). The total time on and off-task was then calculated for each session by adding the on-task intervals together and adding the off-task intervals together. The total duration of on-task and off-task added together would total the 10 min session (600 seconds).

The first author acted as the implementer for most sessions. Secondary observers were undergraduate research assistants that were taught with behavior skills training (BST) to accurately code videos for client performance and PI (Sarokoff & Sturmey, 2004). Observers were trained on data collection for training sessions, functional assessments, normative comparisons, and preference assessment. BST consisted of first receiving verbal training on how to collect data, then observation of the primary observer collecting data from video, and finally secondary observers collecting data from video. Secondary observers were required to meet 100% accuracy on three consecutive trials on each level of training before collecting IOA and PI data for the study. Secondary observers were also provided with relevant literature on preference assessments, functional analysis, and normative comparisons prior to data collection. Data were recorded on paper data collection sheets on the duration of each instance of on-and-off task behavior and then entered and graphed using Excel®. IOA data were scored by dividing the shorter total duration by the longer total duration of each session and multiplying by 100 (Cooper, Heron, & Heward,2007).

Procedural integrity was collected on 60% of baseline sessions, 100% of generalization sessions, 83% of fixed time sessions, 63% of fixed interval sessions, and 33% of preference assessments. The procedural integrity scores were as follows: baseline (96%), generalization

(100%), fixed time sessions (98%), fixed interval sessions (93%), and preference assessment (100%).

Interobserver agreement (IOA) was collected on 45.4% of baseline sessions, 51.3% of generalization sessions, 37.5% of fixed time sessions, 41.6% of fixed interval sessions, 33% of preference assessments, and 33% of naturalistic observations. IOA was completed on 42.8% of Nigel's sessions, 53.3% of Leroy's sessions, and 35.7% of Marcus' sessions. IOA scores were as follows: baseline (97.6% with a range of 95-99%), generalization sessions (93.8% with a range of 79.5- 100%), fixed-time sessions (90.4% with a range of 77-100%), fixed-interval sessions (92.8% with a range of 87-100%), preference assessments (100%), naturalistic observations (97.9% with a range of 97.1-98.7%), and IOA was completed on 66% of graded worksheets (96.6%).

Results

Preference Assessment

Figures 1-3 depict the preference assessments for Leroy, Marcus, and Nigel. Preference was assessed on tangibles for all participants. Preferred items for Leroy were drawing, soccer, and basketball. Preferred items for Marcus were a Minecraft© game, a D&D video game©, and Mario cart©. Preferred items for Nigel were Legos©, football, and a candy phone game.

Student-Assisted Functional Assessment Interview

Table 2 depicts the questions asked during the Student-Assisted Functional Assessment Interview (Dunlap, Foster-Johnson, Clarke, Kern, & Childs, 1995). Figures 4-6 depict the participants' answers. Leroy and Marcus both indicated that there were things in the classroom that he found to be distracting as well that he believed he would do better in school if he earned more rewards. Leroy also indicated that sometimes his work is too hard and work periods are sometimes too long. Nigel indicated that his work is often too hard and work durations are often too long. Nigel also indicated that he believed that he would do better with more rewards and that his classroom is distracting.

Time in/ Free Operant

Figure 7 depicts the duration on-task by session for Leroy. During the initial naturalistic observation, Leroy was on-task for 67 seconds. The longest period he was on-task during the naturalistic observation was 17 seconds. Participants were eligible for the study if they were not on-task for 300 seconds (5 minutes) or longer. During the 5 baseline sessions, Leroy was on-task for 135- 356 seconds, with the duration of on-task decreasing throughout sessions. During the first generalization session, he was on task for 46-395 seconds. The first session of generalization had the longest duration on-task. During Phase 2 (FT), he was on-task for 90-335 seconds in the time-in condition, with on-task duration decreasing during the condition. During Phase 2 (FT), he was on-task for 206-484 seconds in the free operant condition, with on-task duration increasing during the condition. During the second generalization session, he was on-task for 59-79 seconds, with on-task duration decreasing through the condition. During Phase 3 (FI), he was on-task for 394-590 seconds in the time-in condition, with on-task duration increasing during the condition. During Phase 2 (FI), he was on-task for 3-507 seconds in the free operant condition, with on-task duration decreasing significantly during the condition and then increasing during the last session. During the last generalization session, he was on task for 257-551 seconds. Following treatment, a naturalistic observation was run in the classroom. Leroy was on-task for 449 seconds. The longest period he was on-task during the naturalistic observation was 169 seconds.

Figure 8 depicts the duration on-task by session for Marcus. During the initial naturalistic observation Marcus was on-task for 343 seconds. The longest period he was on-task during the naturalistic observation was 132 seconds. Participants were eligible for the study if they were not on-task for 300 seconds (5 minutes) or longer. During the 3 baseline sessions, Marcus was on-task for 277-373 seconds, with the duration of on-task staying consistent throughout sessions. During the first generalization session, he was on task for 458-522 seconds, with a slight decrease in on-task duration in the final session. During Phase 2 (FT), he was on-task for 93-441 seconds in the time-in condition, with on-task duration initially increasing and then staying steady during

the condition. During Phase 2 (FT), he was on-task for 331-443 seconds in the free operant condition, with on-task duration slightly decreasing during the condition. During the second generalization session, he was on-task for 425-511 seconds, with on-task duration remaining steady through the condition. During the last generalization session, he was on-task for 470-555 seconds. Following treatment, a naturalistic observation was run in the classroom. Marcus was on-task for 550 seconds. The longest period he was on-task during the naturalistic observation was 167 seconds.

Figure 9 depicts the duration on-task by session for Nigel. During the initial naturalistic observation, Nigel was on-task for 265 seconds. The longest period he was on-task during the naturalistic observation was 110 seconds. Participants were eligible for the study if they were not on-task for 300 seconds (5 minutes) or longer. During the 3 baseline sessions, Nigel was on-task for 89-373 seconds, with the duration of on-task decreasing throughout sessions. During the first generalization session, he was on task for 0-71 seconds, with the on-task duration remaining low through the condition. During Phase 2 (FT), he was on-task for 120-438 seconds in the time-in condition, with on-task duration initially decreasing and then increasing during the condition. During Phase 2 (FT), he was on-task for 93-493 seconds in the free operant condition, with on-task duration slightly decreasing during the condition. During the second generalization session, he was on task for 113-257 seconds, with on-task duration slightly increasing through the condition. During Phase 3 (FI), he was on-task for 24-194 seconds in the time-in condition, with on-task duration occurring at lower levels than in phase 2. During Phase 2 (FI), he was on-task for 39-294 seconds in the free operant condition, with on-task duration occurring at lower levels than in phase 2. During the last generalization session, he was on task for 31-196 seconds with the duration of on-task behavior decreasing through the session. Due to low duration of responding, 2 additional generalization sessions were run with the primary researcher. During the 2 additional generalization sessions on-task duration was 8-303 seconds. Another 2 sessions were run with the time-in light with a duration of 122-384 seconds with a decrease in duration. Following treatment, a naturalistic observation was run in the classroom. Leroy was on-task for 42 seconds. The longest period he was on-task during the naturalistic observation was 17 seconds.

Figure 10 depicts the rate of responses by total on-task by session by second for Leroy.

During the 5 baseline sessions, Leroy completed problems at a rate of .018- .107, with the rate of responding decreasing throughout sessions. During the first generalization session, he completed problems at a rate of 0- .003. During Phase 2 (FT), he completed problems at a rate of .02-.1 during the time-in condition. During Phase 2 (FT), he completed problems at a rate of .021-.11 in the free operant condition, with problem completion decreasing during the condition. During the second generalization session, he completed problems at a rate of 0-.005, with problem completion decreasing during the condition. During Phase 3 (FI), he completed problems at a rate of .001-.08 during the time-in condition, with steady responding and a decrease in the final session. During Phase 3 (FI), he completed problems at a rate of .02-.087 during the free operant condition, with a steady increase in responding and a decrease in the final session. During the last generalization condition, he completed problems at a rate of .005-.008

Figure 11 depicts the rate of responses by total on-task by session by second for Marcus. During the baseline sessions, Marcus completed problems at a rate of .126- .204, with the rate of responding remaining stable throughout sessions. During the first generalization session, he completed problems at a rate of .019-.054 with an increase during the sessions. During Phase 2 (FT), he completed problems at a rate of .031-.441 during the time-in condition. During Phase 2 (FT), he completed problems at a rate of .074-.154 in the free operant condition. During the second generalization session, he completed problems at a rate of .037-.075. During Phase 3 (FI), he completed problems at a rate of .123-.177 during the time-in condition. During Phase 3 (FI), he completed problems at a rate of .094-.206 during the free operant condition. During the last generalization condition, he completed problems at a rate of .018-.047

Figure 12 depicts the rate of responses by total on-task by session by second for Nigel. During the baseline sessions, Nigel completed problems at a rate of .064- .269, with the rate of responding remaining stable throughout sessions. During the first generalization session, he completed problems at a rate of 0-.111 with a decrease during the sessions. During Phase 2 (FT), he completed problems at a rate of .03-.11 during the time-in condition. During Phase 2 (FT), he completed problems at a rate of .016-.2 in the free operant condition. During the second generalization condition, he completed problems at a rate of 0 each session. During Phase 3 (FI),

he completed problems at a rate of .051-.27 during the time-in condition. During Phase 3 (FI), he completed problems at a rate of .013-.051 during the free operant condition. During the last generalization condition, he completed problems at a rate of 0-.0078.

Social Validity

Table 3 depicts the questions asked for the Treatment Acceptance Scale. The results for the Treatment Acceptance Scale are depicted in figures 13-18. The Treatment Acceptance Scale was completed by each participant following the FT and FI conditions of the time-in procedure. All participants answered "yes" to the questions: "Do you like it?", "Will it help you?" and "Should your teacher use it?" for both FT and FI conditions. The only exception is that Leroy indicated that he didn't think his teacher should use the FI time-in procedure.

Table 1 depicts the Behavior Intervention Rating Scale that was completed by the participants' teacher. All of the participants had the same teacher. The teacher completed the survey for each participant for both the FT and FI time-in procedures. The teacher answered "agree" for each question, for each participant, and for each condition.

Discussion

The current study evaluated the effectiveness of a time-in procedure in increasing the on-task behavior of typically developing children. The current study compared a time-in procedure with a free-operant procedure to further evaluate the effective components of the time-in procedure. Previous research on the time-in procedure found it to be effective in increasing compliance and decreasing escape maintained behaviors in children diagnosed with developmental disabilities (Brown, 2012; Williams, 1977). The current study extended previous research by evaluating the time-in procedure to increase the duration of on-task behavior. As well, the current study extended previous literature by utilizing the procedure with children that did not exhibit problem behaviors. The children in the current study were all placed in a typical classroom. None of the children had any reported diagnosis or supports provided by the school.

It is important to discuss the definition of on-task that was used in this study. The study used a definition based off of a definition used in Athens, Vollmer, St. Peter Pipkin (2007). The current study defined on-task behavior as counting by mouthing, or counting on the fingers, writing, erasing, and tracing. The definition was broadened from the Athens, Vollmer, St. Peter Pipkin (2007) definition to include counting due to observations during this study's pilot. It was noted that the participant was regularly observed to be counting, which would not be considered on-task by the previous definition. There are some behaviors that the researcher noted during sessions that may be considered on-task in a classroom but were not covered in the definition included: flipping through pages and sitting quietly looking at problems. These behaviors were not added to the definition as they did not result in the completion of additional school work. As well, sitting quietly with hands down may be incompatible with completion of school work. All of the participants were noted saying "I was thinking about the problem" when the researcher turned off the light during the FI TI condition. As it is not possible for researchers to observe thinking, it may be beneficial to instruct participants to vocalize anything that they are thinking during their work. It is important to note that while the participants reported the light being turned off while they were "thinking", these instances only occurred early in the procedure.

All of the participants were asked questions from the Student-Assisted Functional Assessment prior to experimental conditions. Questions were asked regarding different features of school work. Leroy reported that he sometimes gets the rewards that he deserves and believes that he would do better with more rewards. Leroy also indicated that there were things in his classroom that he found distracting. The current study was conducted in a room in the back of the school's library. The absence of peers in the study room may have resulted in some of the increase in on-task behavior. The initial increase in responding during phase 2 (FT) may have been initially due to the delivery of tokens. The decrease in on-task behavior in

phase 2 (FT) may have been due to the noncontingent nature of the token delivery in the FT condition. This hypothesis is furthered by the increase in responding during phase 3(FI).

Marcus responded to the Student- Assisted Functional Assessment similarly to Leroy with the exception of a few questions. When asked if work periods were too long or too short Marcus responded “never”. Marcus also reported that he was sometimes distracted in class. Marcus also had the highest durations of responding during both naturalistic observations, indicating that Marcus may have developed better strategies to stay on-task than Leroy and Nigel.

Nigel responded to the Student-Assisted Functional Assessment that his work is never “too easy” and that work period are never “too short”. Nigel also reported that he hated doing math during phase 2 and 3. While Nigel reported that he enjoyed reading more than math, his on-task durations and rates of responding were lower during the generalization conditions. Nigel may have had more difficulty with the tasks delivered during the experiment, which may indicate that the worksheets were too high of a level.

All of the participants had pre-and post-naturalistic observations. Both Leroy and Marcus were primarily off-task during the pre-observation because they were talking with peers. Nigel was also off-task during the pre-observation. Nigel was observed to be laying on his desk and playing with work materials and clothing when off-task. Some of the immediate increase in responding for all three participants may have been due to the decreased distractions in the study room. Post-observation Leroy and Marcus both were on-task for longer than their pre-treatment observations. Leroy was on-task for 382 seconds longer in the post-treatment observation than the pre-observation. Marcus was on-task for 207 seconds longer in the post-treatment observation than the pre-observation. Nigel was off-task for 223 seconds longer in the post-treatment observation than the pre-observation. Nigel was the only participant with a lower on-task duration following treatment. Nigel was also the only participant that at lower durations of on-task duration in phase 3 (FI). Nigel was also the only participant were generalization was not

demonstrated even after 7 sessions and the re-introduction of the primary researcher and the time-in light.

The way that participants completed worksheets varied. Marcus and Nigel both did problems in order during their on-task periods. Both participants completed worksheets in order, leaving very few questions blank. In contrast, Leroy flipped through worksheets and completed "easy" problems first. This decreased the overall time that he was on-task as page flipping was not included in the operational definition of on-task behavior in this study. The time that Leroy was on-task during baseline and phase 2 (FT) was reduced significantly due to the time spent flipping the pages, finding "easy" problems, and creasing the pages after turning them. It is important to note that the time Leroy spent flipping through pages decreased dramatically in phase 3 (FI). During the last phase, Leroy began completing math problems in the order that they were presented and only occasionally skipped "hard" questions. This strategy resulted in less time spent flipping through pages, and more time engaging in behaviors that were operationally defined in this study as on-task.

While Nigel completed problems in the order that they were presented, he utilized the time-in procedure differently than the other participants. Nigel reported forming a rule regarding the time-in light during phase 2 (FT). Nigel would turn on the light, complete a few problems, and then turn the light off to take deep breaths. Nigel also began utilizing a similar strategy during the free operant conditions. Nigel was noted to also use deep breaths during in-class observations and social validity interviews. During the interviews Nigel would report being "upset" and ask for time to breath. This strategy may have contributed to the increase of on-task duration during phase 2. It was also incompatible with the contingency of reinforcement in phase 3 (FI) which may have accounted for the decreasing in on-task behavior in that phase. During phase 3 (FI) the frequent turning off of the light reduced the time that the worksheets were present and decreased the probability that at the 2 min interval occurred at a time that Nigel would be on-task. It may be

that the lower duration of on-task behavior during both conditions of phase 3(FI) are due to the effects of extinction.

Data were collected on task completion during all conditions. For Leroy, rates of task completion decreased steadily in the phase 2 (FT) free operant condition. Rates of task completion were variable in the phase 3 (FI) free operant condition. Rates of responding were steady during time-in during phase 2 and 3. This may indicate that one reason that the time-in procedure was effective was that it functioned as a signaled condition that gained some stimulus control over Leroy's task completion.

For rate of responding with Marcus, rates were consistent across conditions with the exception of the first time-in condition in phase 2 (FT). One contributing factor to the higher rate of responding during the first FT TI condition is that session also has the lowest duration of on-task behavior. Marcus was noted to be setting goals related to the minimum number of worksheets he would complete during each session. It may be that the session had the lowest on task behavior because of the novelty of the condition, it may also be that that Marcus increased the rate of problem completion to still meet the goal he stated.

While there was an increase in on-task duration during both conditions in phase 2 (FT) there is also a decrease in the rate of problems completed with Nigel. Nigel spent more time on-task it may be that the additional on-task time was spent counting on his fingers instead of writing answers. It is interesting to note that while the on-task duration during the phase 3 (FI) time-in procedure is the lowest, excluding generalization, it also had the highest rate of problem completion. One factor that may have contributed to this is that once Nigel had signaled that he was "ready to work" he stayed on-task during that period, although the period was short.

The participants and teacher were asked social validity questions regarding the FT and FI time-in procedures. The Behavior Intervention Rating Scale (BIRS) that was completed by the teacher with a 1-5 scale with 1 being "strongly disagree" and 5 being "agree". The teacher

completed the BIRS for both treatments for each participant. The teacher reported “agree” for all of the questions in all of the assessments. The teacher indicated that she was very interested in trying the procedure and believed that all of her students would benefit from the procedure. The participants were also asked questions from the Treatment Acceptance Scale for both time-in procedures. All of the participants responded that they liked the procedure, believed that it would help them and that their teacher should use it. The only exception was Leroy when asked if his teacher should use the FI TI procedure he responded “no”.

Limitations/ Future research

There are a few limitations to the current study that should be noted. The first is that tasks were identified based on the recommendation of the participants’ teacher and their grade level. The current study did not further evaluate the difficultly of the tasks. Variability in the difficultly of tasks may have affected the utility of the time-in procedure. Leroy reported that some worksheets were “hard” and some were “easy”. All worksheets were determined based on teacher report and grade level; however, the verbal report of Leroy may indicate that difficultly was variable from the perspective of the participants. Future research should further assess task difficultly and evaluate the effectiveness of a time-in procedure when utilized with tasks that are categorized as “easy”, “moderate”, and “difficult”. Further studies may use a task which participants perform at a 75% level as to avoid a ceiling effect that may be due to tasks being too easy. The evaluation of task difficultly would allow researchers to ensure a consistent level of task difficultly for each condition and allow for the systematic evaluation of the effects of task difficultly.

A limitation of the current study is that sessions occurred in an empty room at the school. The procedure occurred in a setting with minimal distractions. A typical classroom has significantly more distractions. Sessions occurred in a setting removed from the participant’s typical classroom and peers. It should be noted that the typical classroom was arranged with students facing each other in groups of 5, with students all facing in. According to teacher report

the classroom arrangement was used to allow for "teams" in the class, as well as to promote group work. However, the table arrangement put students face to face with peers and appeared to contribute to high levels of student distraction. The current study occurred in a back room of the library and reduced distraction on multiple levels including: noise, peer presence, peer discussion, and decorations. The different levels of distraction may account for the low level of responding that occurred in the naturalistic observation. Future research should evaluate the use of a time-in procedure in relation to different levels of distraction, including use of the procedure in a student's typical classroom.

No functional analysis (FA) (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994) was conducted on the participant's off-task behavior. While none of the participants engaged in problem behavior that would typically warrant a FA, it may have been useful to know the function of their off task behavior. Previous research on time-in procedures (Williams, 1977; Brown, 2012) found time-in procedures to be more effective in the treatment of escape-maintained behaviors. Future research should identify behaviors that are incompatible with on-task behavior and evaluate the functions of those behaviors. A time-in procedure may be found to be more effective as a treatment for escape-maintained behaviors instead of behaviors maintained by attention, access to tangible, or self-stimulation.

The order of phases may have resulted in lower on-task duration in phase 3. Phase 2 used a FT 2 min schedule, with the delivery of tokens noncontingent on the participants' behavior. There were improved levels of on-task behavior noted for Leroy and Marcus. The change from FT to FI resulted in lower levels of responding for Nigel. It may be that the order of conditions made Nigel's on-task behavior more sensitive to extinction during the FI conditions. It may have been useful during the current study to run additional phases of the FT and FI conditions. The current study ran one of each; future studies should run additional sessions of each condition to account for possible sequencing effects. Future research should evaluate the use of other schedules of reinforcement. A denser FI condition may have been more effective for further increasing and maintaining Nigel's on-task behavior.

Further studies should evaluate the use of a time-in procedure in the classroom as run by teachers and aids. The training of the teachers and aids should be evaluated to identify the

relevant factors in the successful implementation of a time-in procedure. The factors needed for high teacher treatment integrity should be identified. Future research may utilized BST for teaching teacher and aids to effectively implement time-in procedures with high integrity.

Future studies should also evaluate different methods to increase on-task duration through shaping once the time-in light has been established. One procedure that may be effective in shaping on-task duration and rate may be percentile schedules (Galbicka, 1994). Future research should evaluate the use of a percentile schedule in increasing on-task duration. In the current study a time-in procedure was found to be effective in increasing how long participants were able to stay on-task. These results should be compared to a more systematic approach to increasing on-task duration.

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Figures

Figure 1

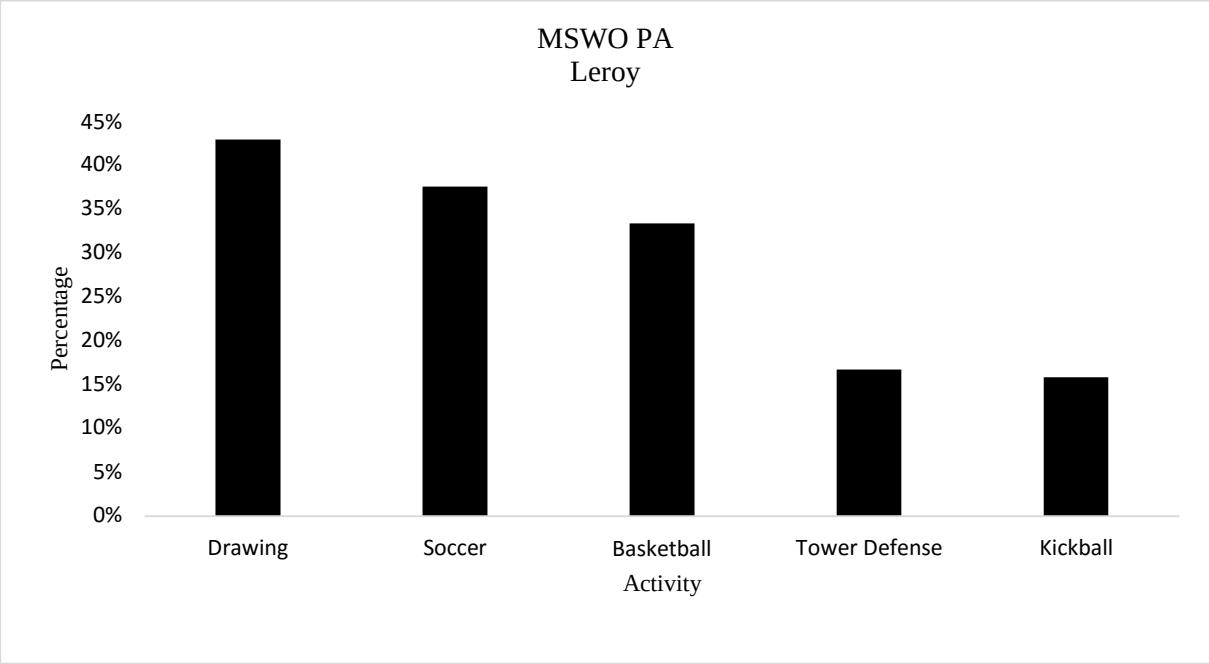

Figure 2

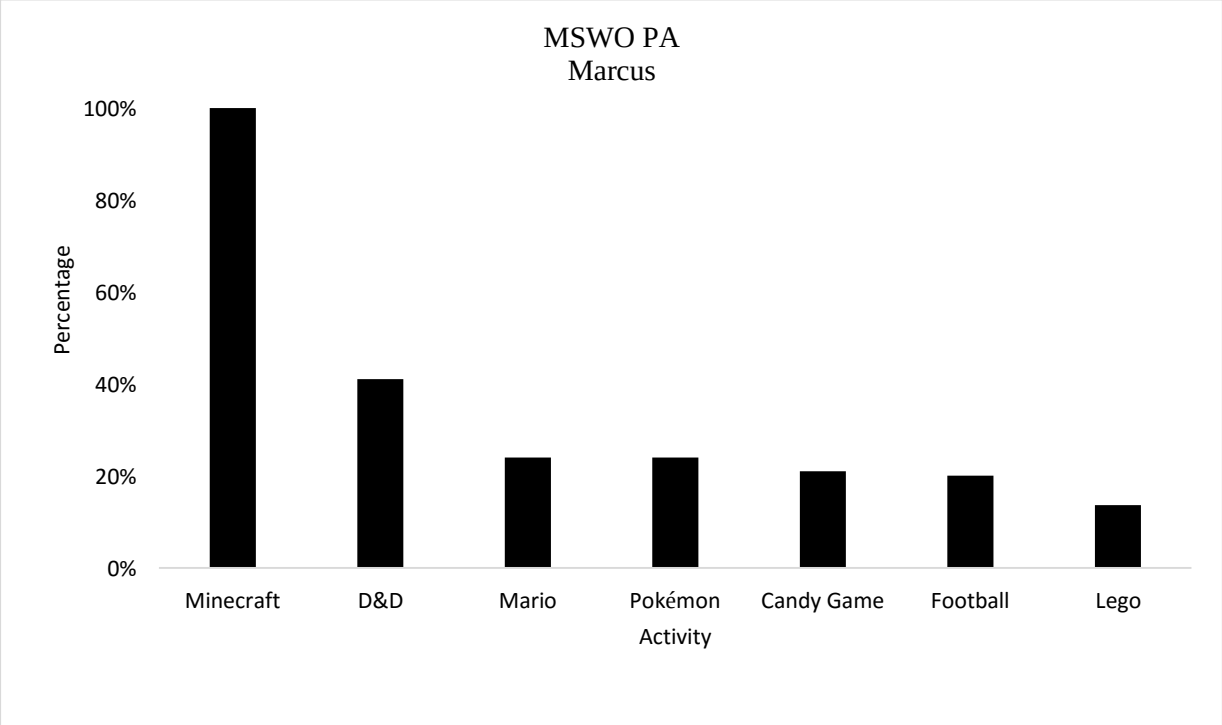

Figure 3

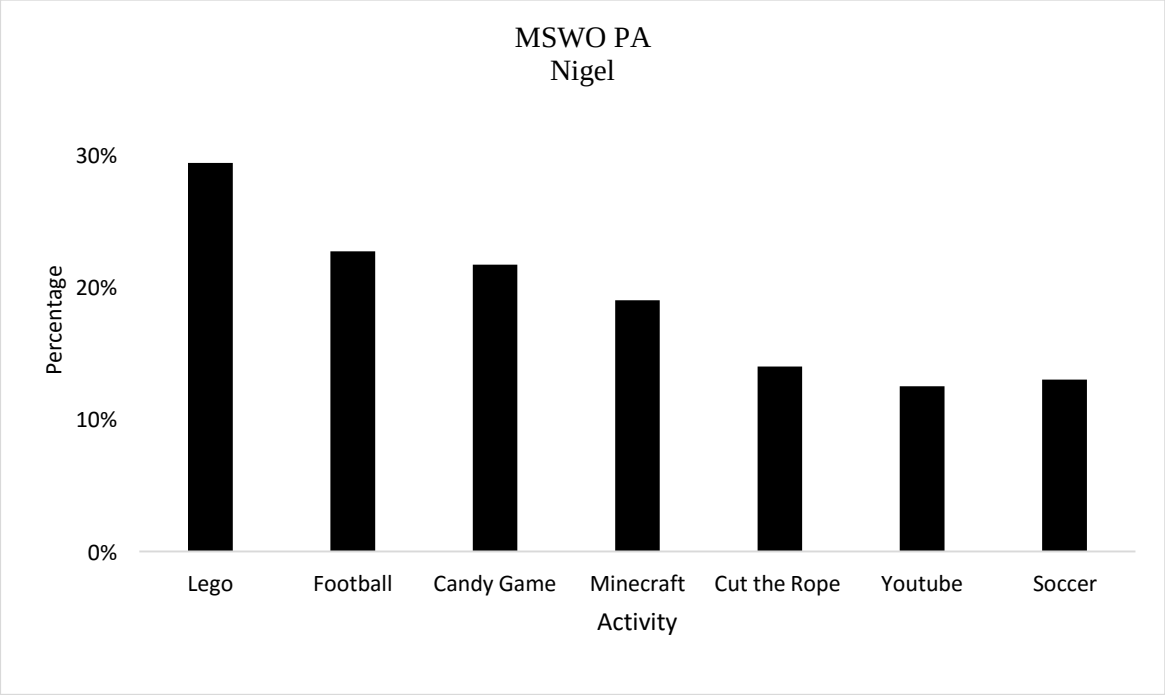

Figure 4

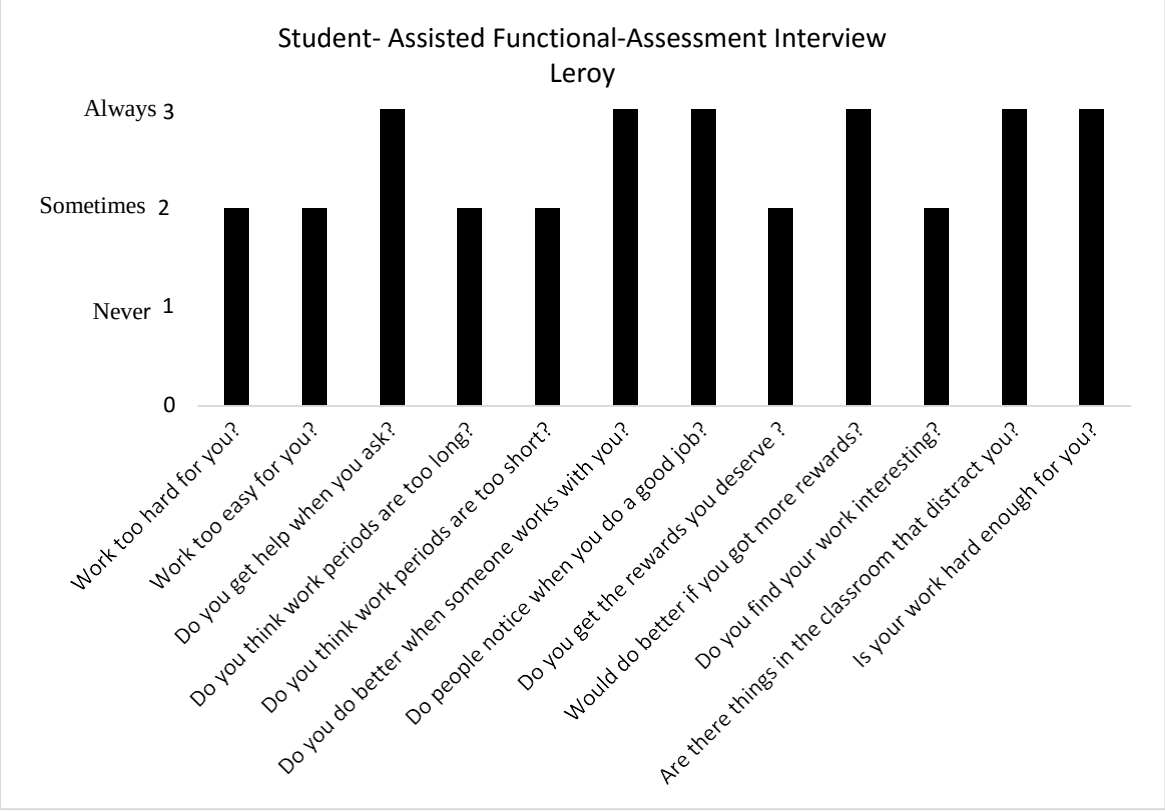

Figure 5

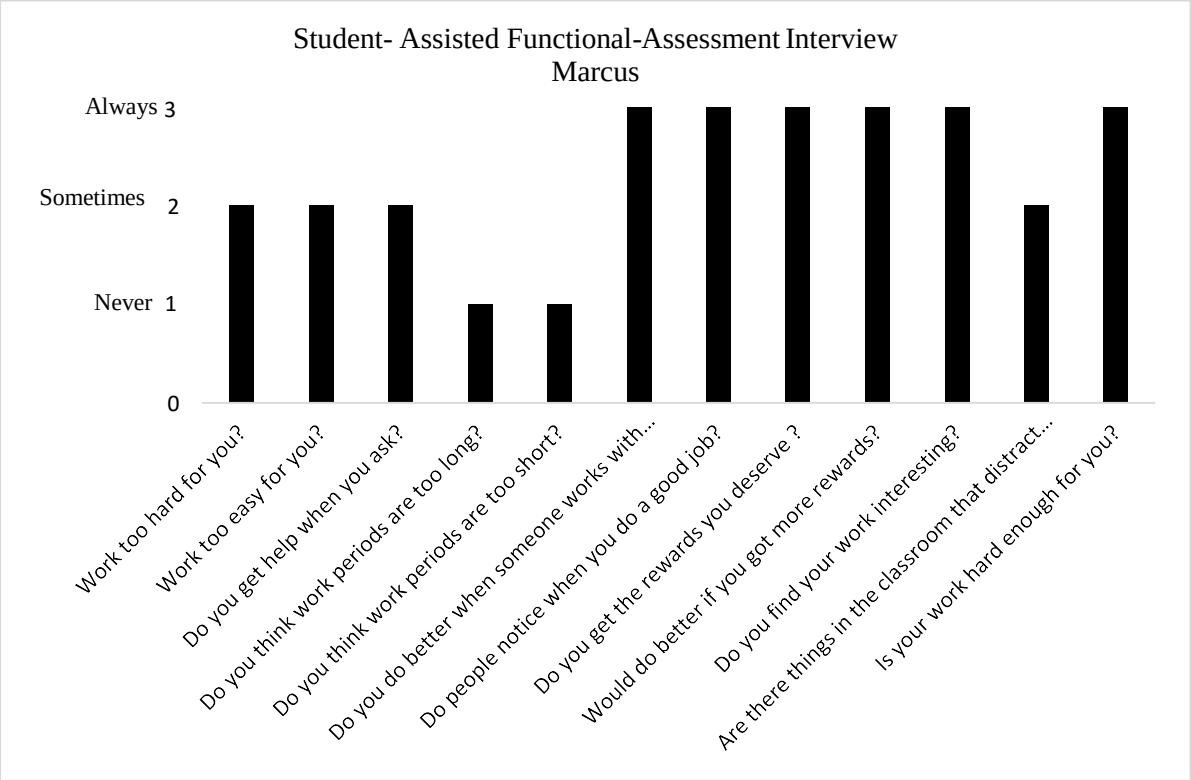
Student- Assisted Functional-Assessment Interview
Marcus
Always 3
Sometimes 2
Never 1
0
Work too hard for you?
Work too easy for you?
Do you get help when you ask?
Do you think work periods are too long?
Do you think work periods are too short?
Do you do better when someone works with...
Do people notice when you do a good job?
Do you get the rewards you deserve ?
Would do better if you got more rewards?
Do you find your work interesting?
Are there things in the classroom that distract...
Is your work hard enough for you?

Figure 6

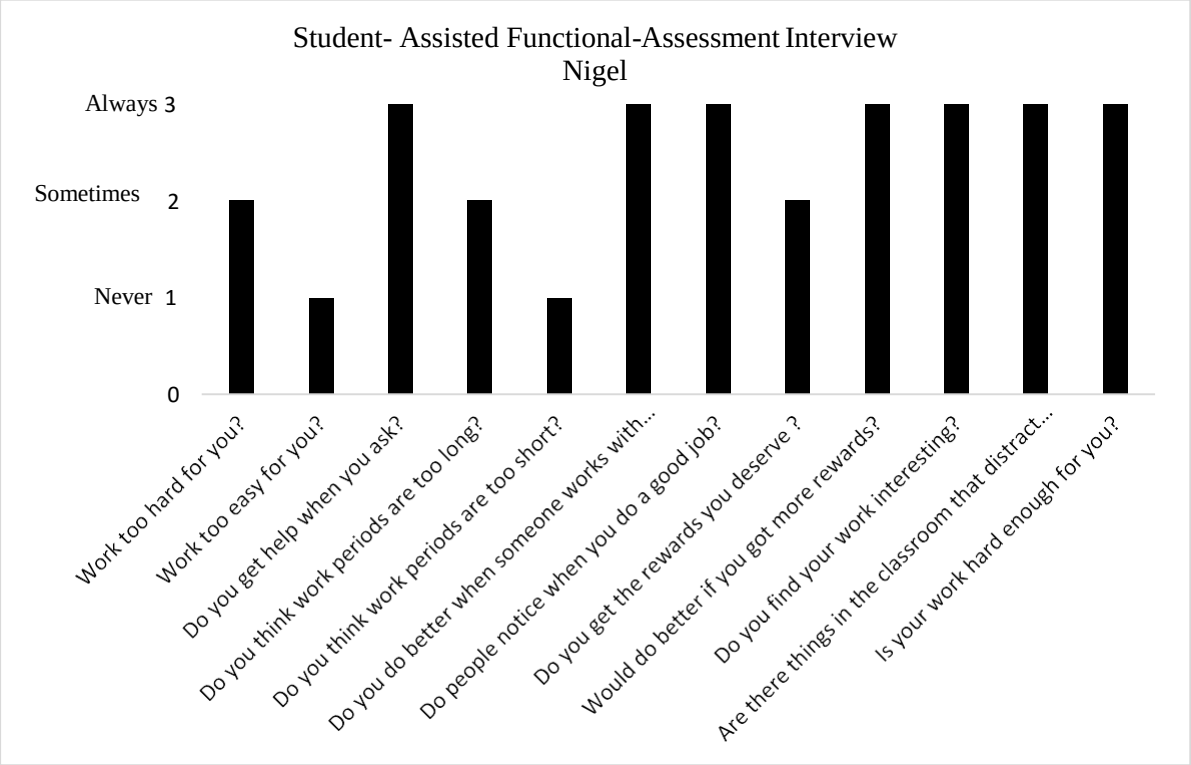
Student- Assisted Functional-Assessment Interview
Nigel
Always 3
Sometimes 2
Never 1
0
Work too hard for you?
Work too easy for you?
Do you get help when you ask?
Do you think work periods are too long?
Do you think work periods are too short?
Do you do better when someone works with...
Do people notice when you do a good job?
Do you get the rewards you deserve ?
Would do better if you got more rewards?
Do you find your work interesting?
Are there things in the classroom that distract...
Is your work hard enough for you?

Figure 7

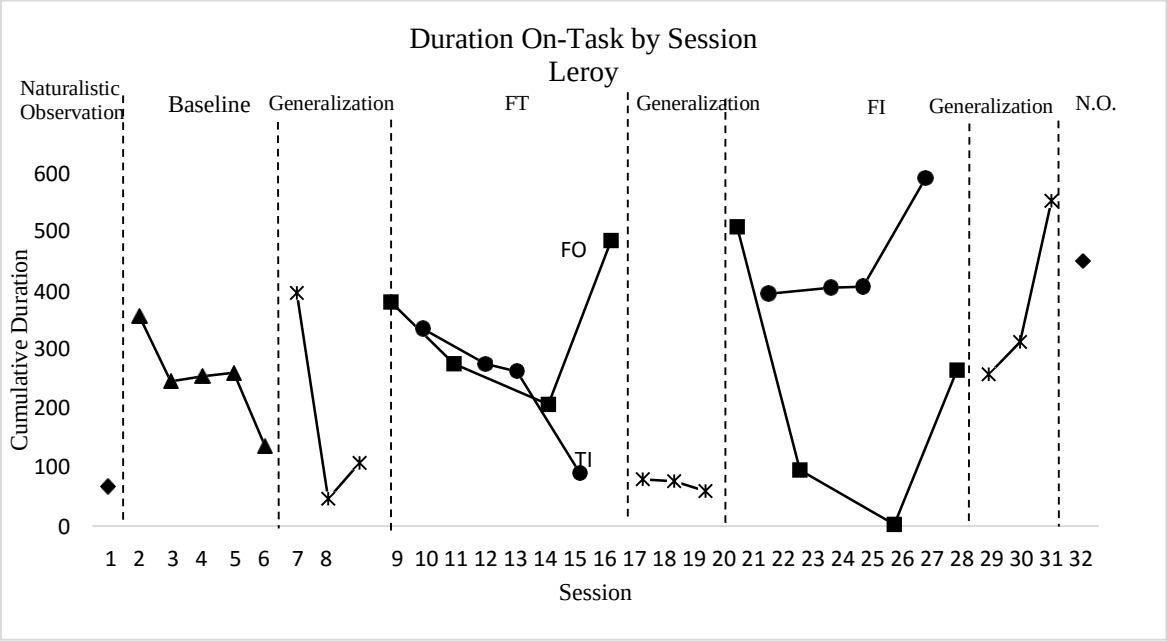

Figure 8

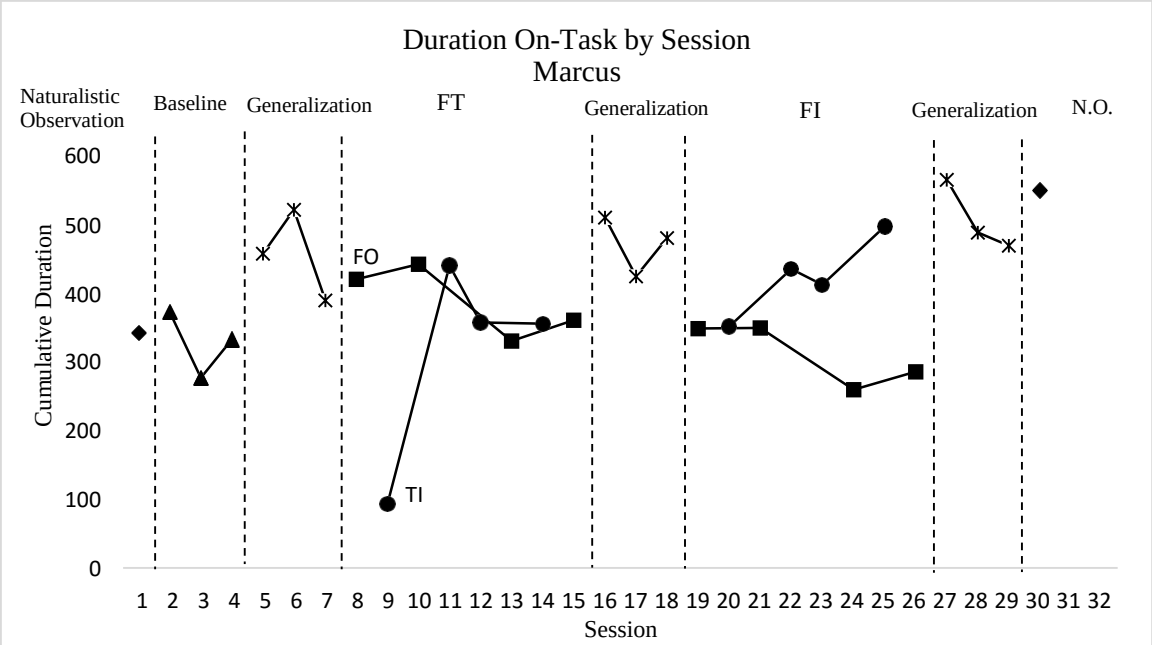

Figure 9

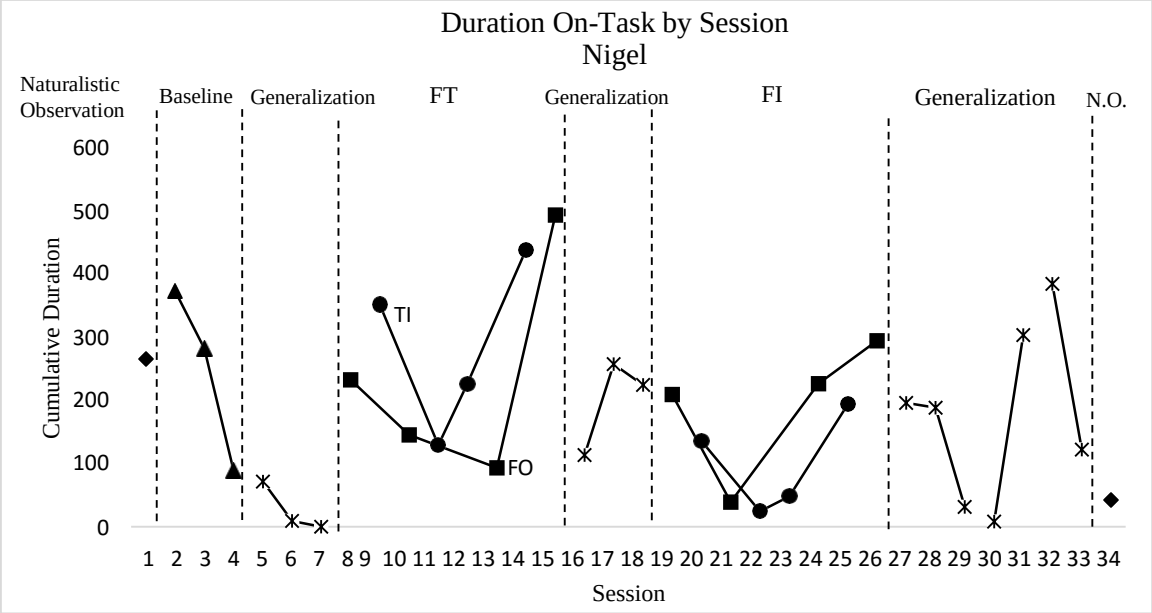

Figure 10

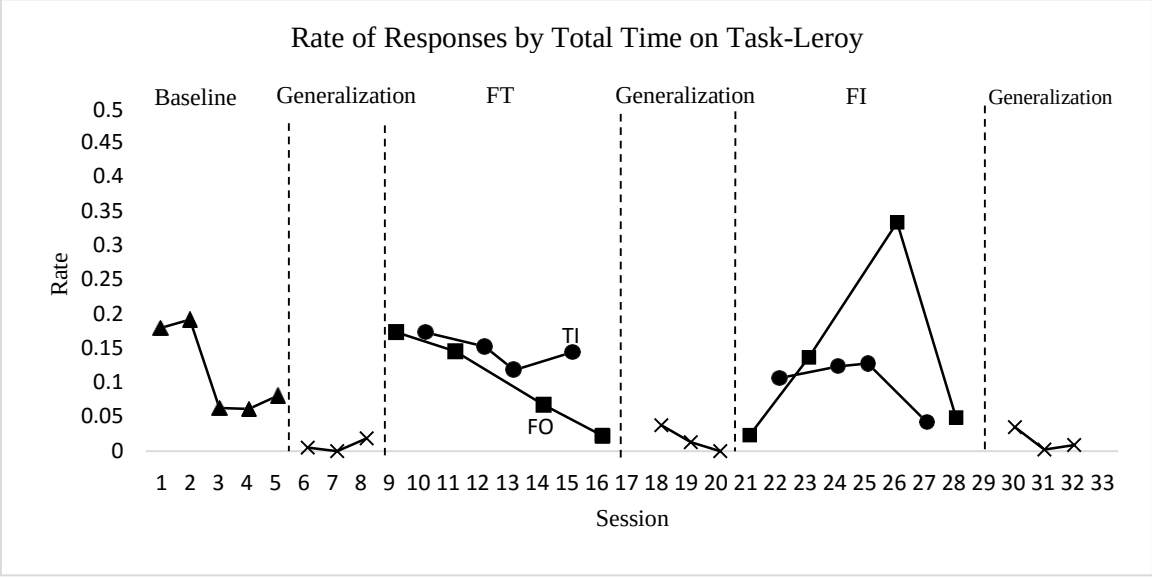

Figure 11

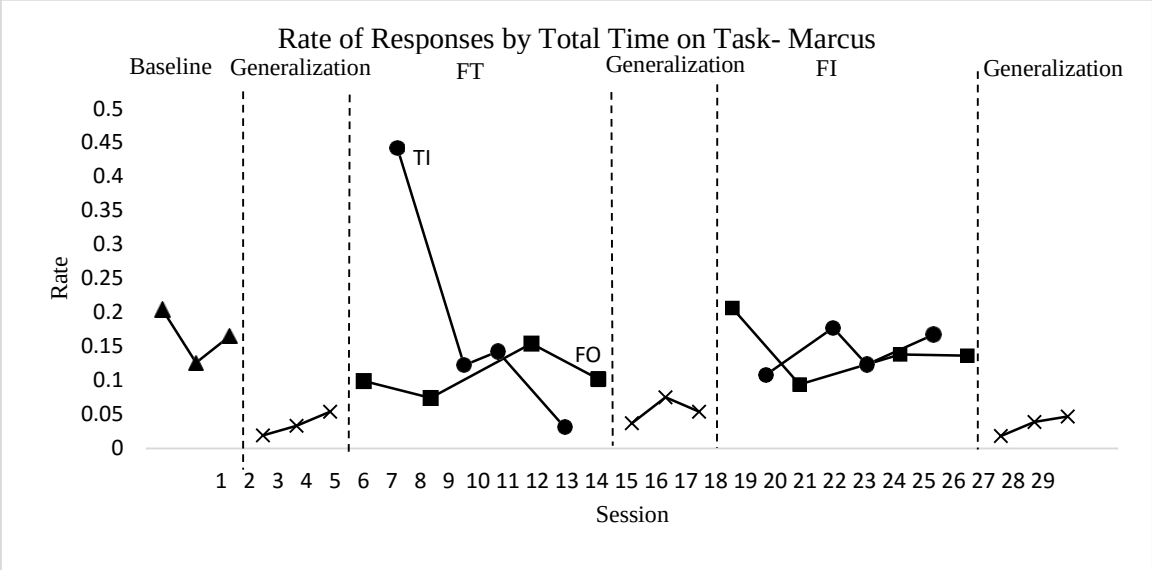

Figure 12

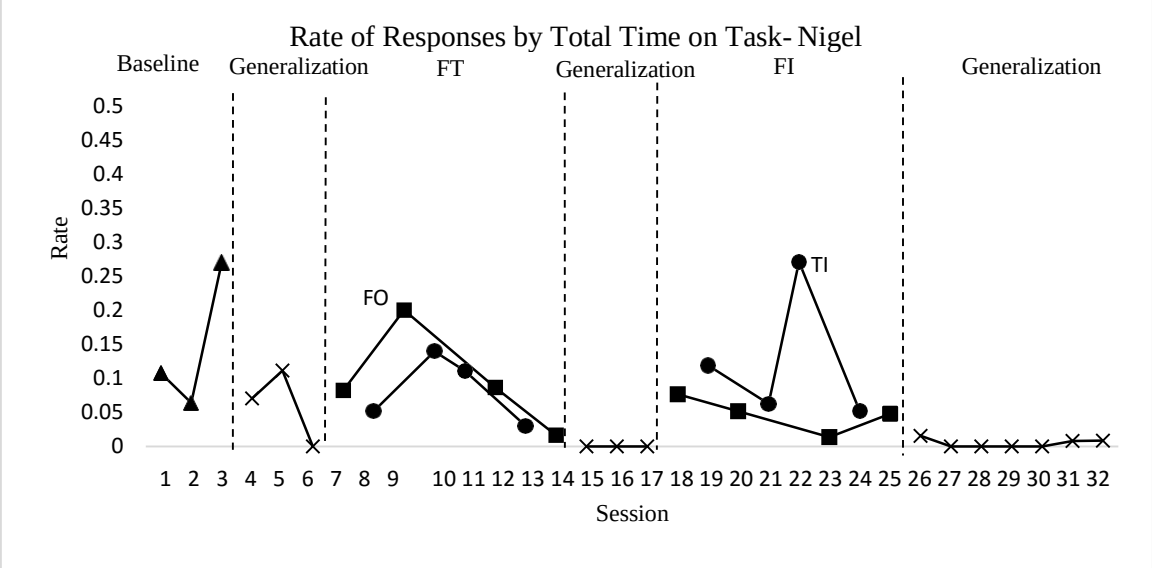

Figure 13

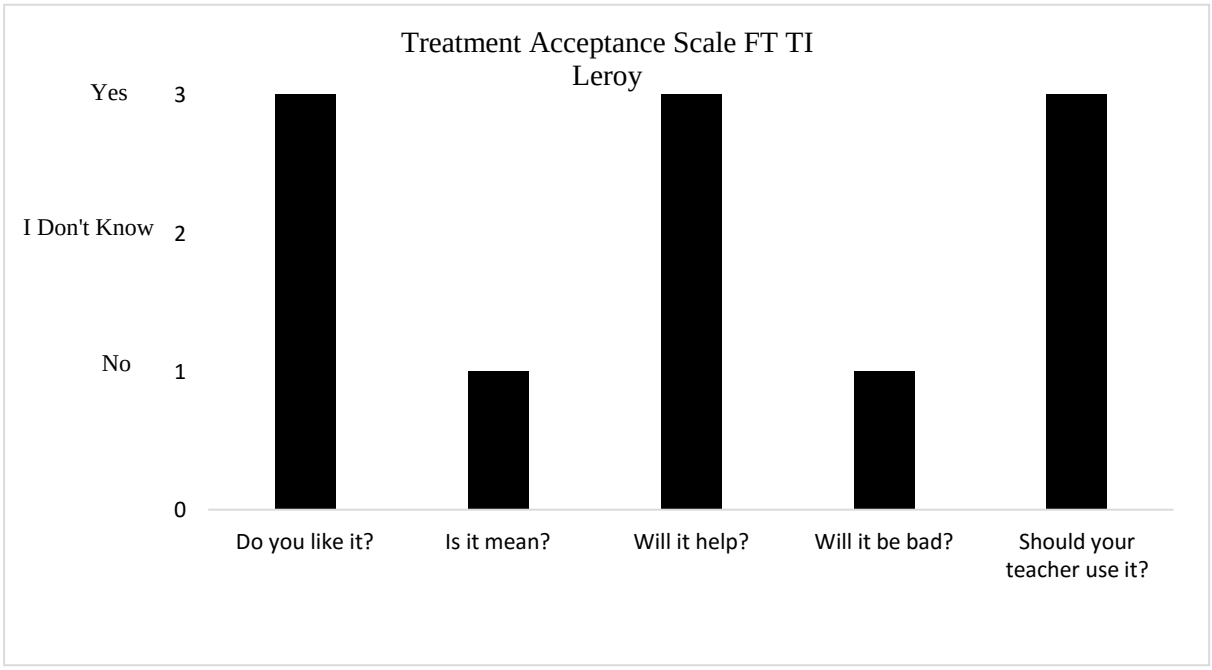

Figure 14

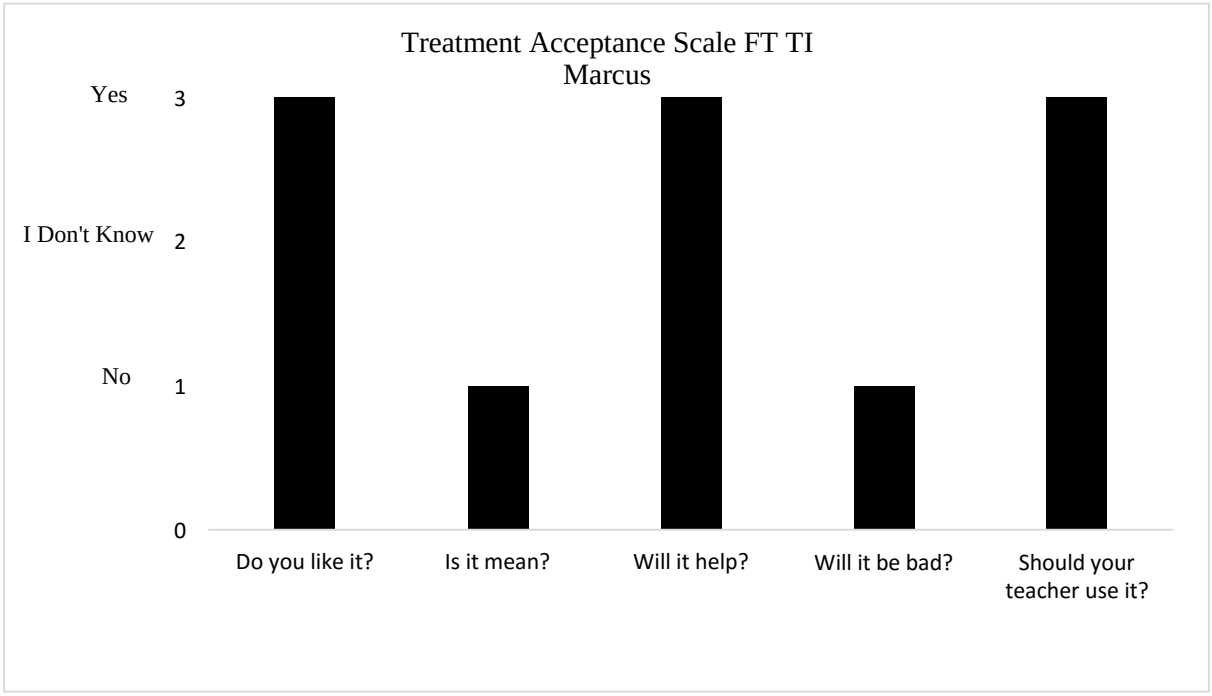

Figure 15

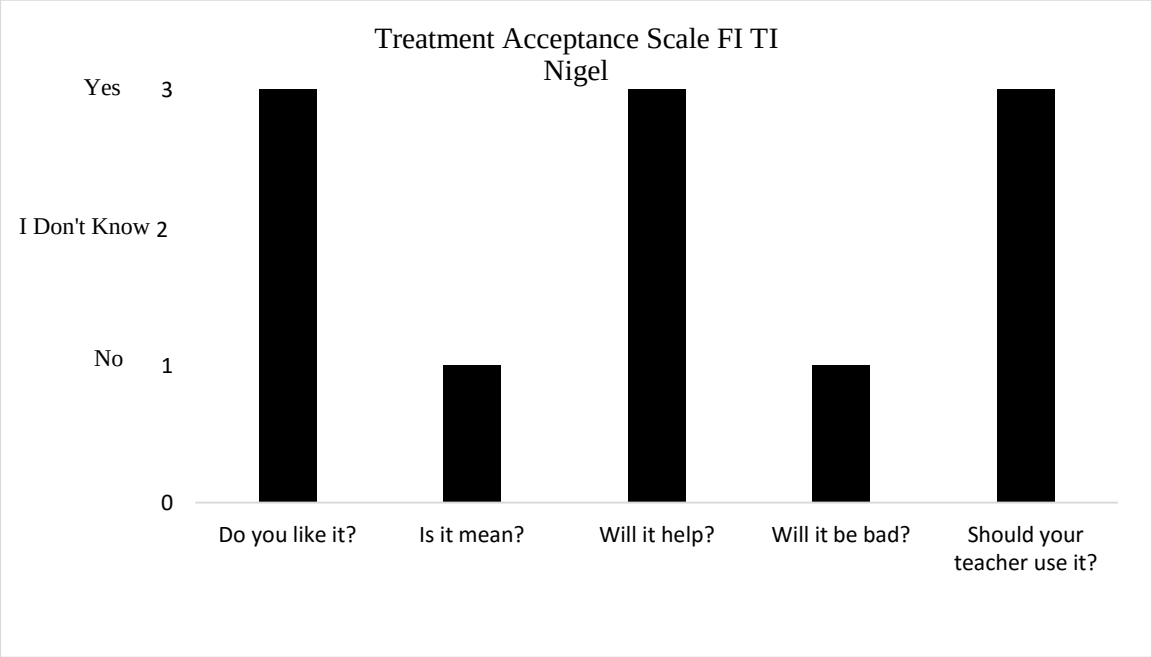

Figure 16

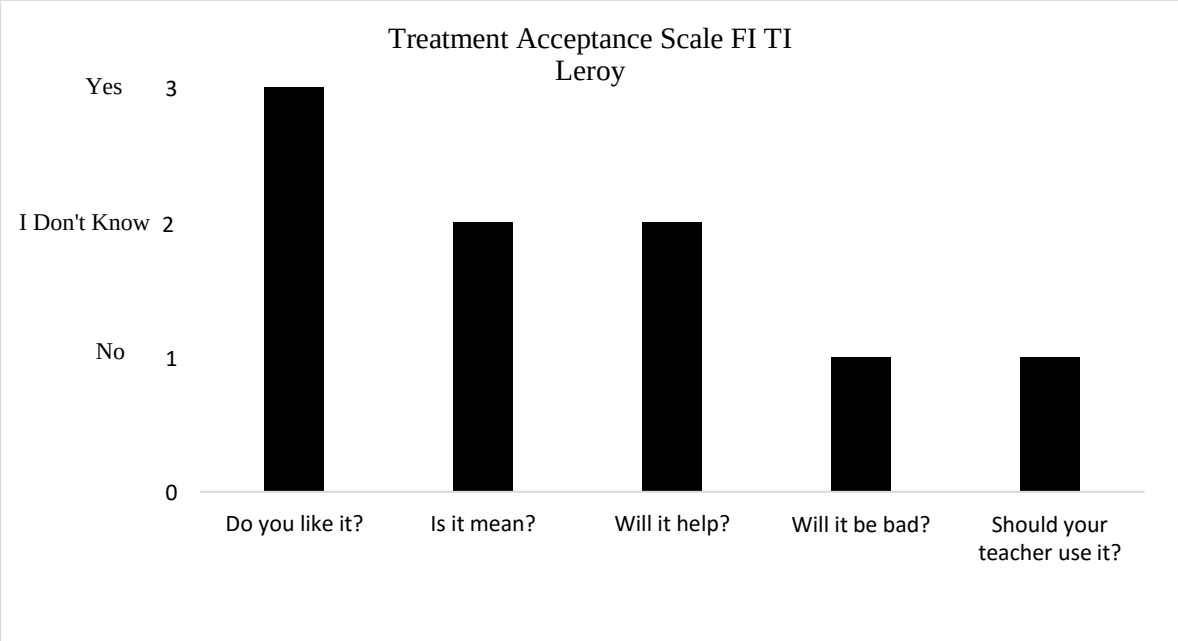

Figure 17

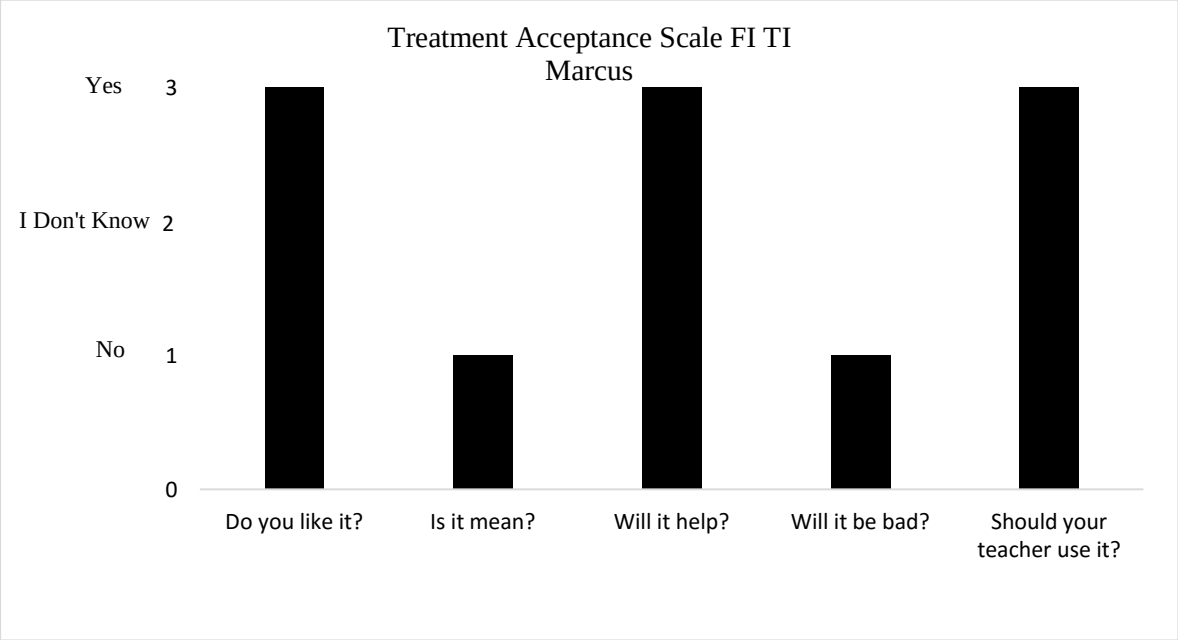

Figure 18

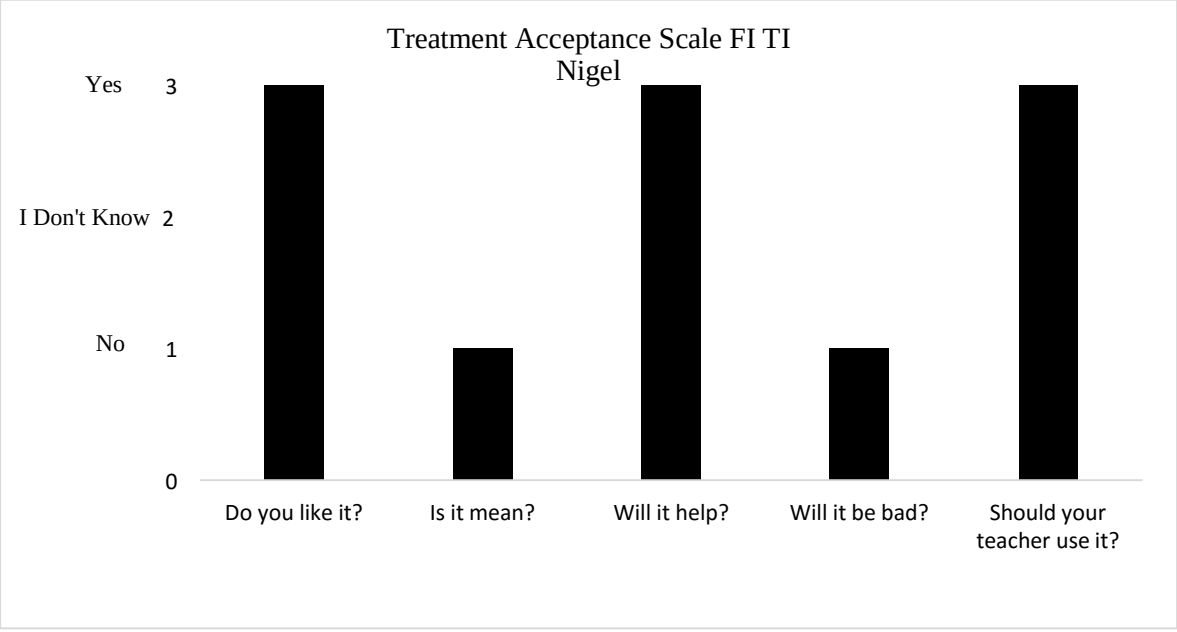

Figure 19

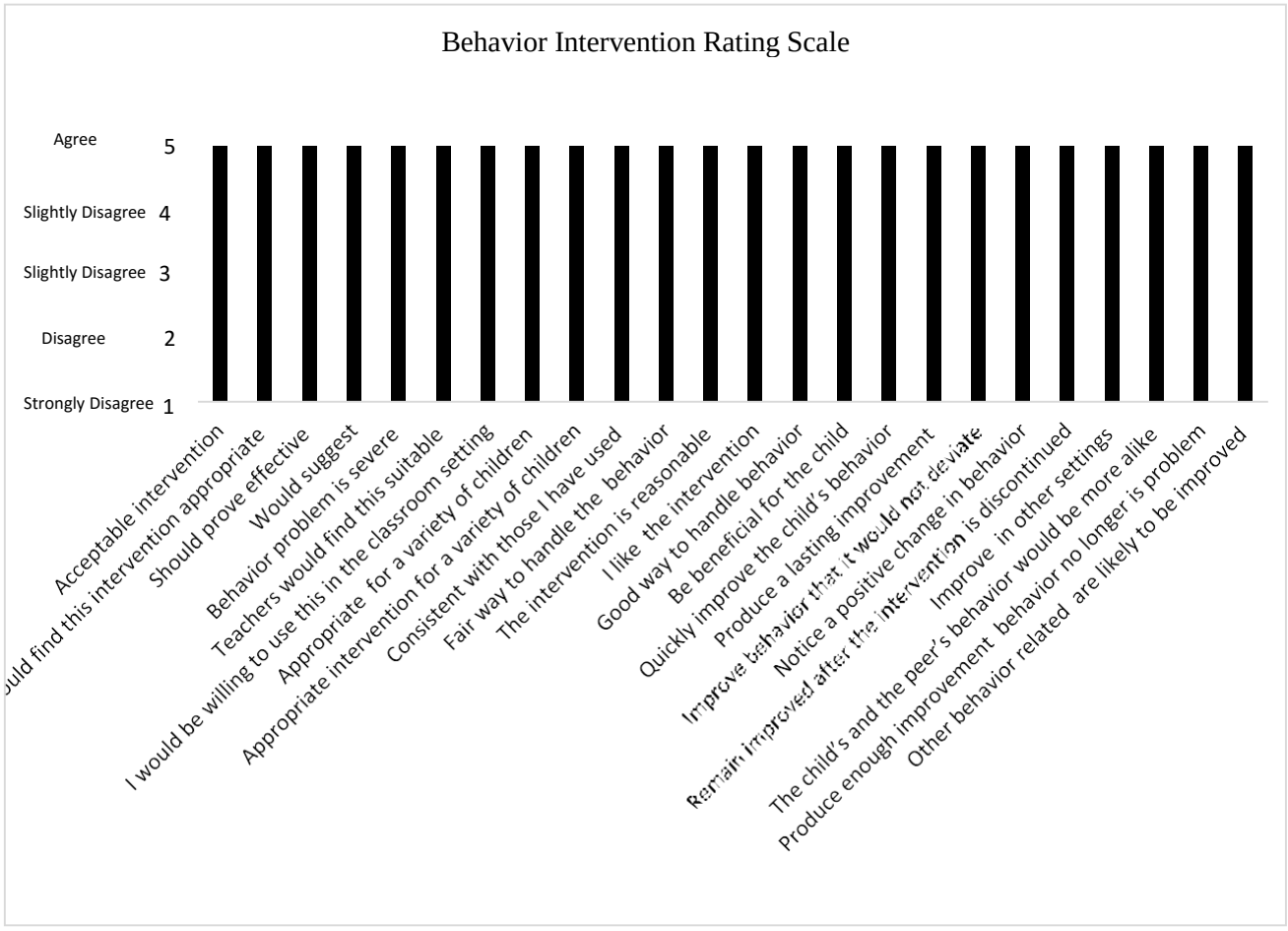
Behavior Intervention Rating Scale
Agree
Slightly Disagree
Slightly Disagree
Disagree
Strongly Disagree
5
4
3
2
1
uld find this intervention appropriate
Acceptable intervention
Should prove effective
Would suggest
Behavior problem is severe
Teachers would find this suitable
I would be willing to use this in the classroom setting
Appropriate for a variety of children
Appropriate intervention for a variety of children
Consistent with those I have used
Fair way to handle the behavior
The intervention is reasonable
I like the intervention
Good way to handle behavior
Be beneficial for the child
Quickly improve the child's behavior
Produce a lasting improvement
Improve behavior that would not deviate
Remain improved after the intervention is discontinued
Notice a positive change in behavior
The child's and the peer's behavior in other settings
Improve in other settings
Produce enough improvement behavior would be more alike
Other behavior related behavior no longer is problem
are likely to be improved

Table 1

Behavior Intervention Rating Scale

You have just read about an intervention for improving the problem. Please evaluate the intervention by circling the number which best describes *your* agreement or disagreement with each statement. You *must* answer each question

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree
This would be an acceptable intervention for the child's problem behavior	1	2	3	4	5
Most teachers would find this intervention appropriate for behavior problems in addition the child's problem behavior	1	2	3	4	5
The intervention should prove effective in changing the child's problem behavior	1	2	3	4	5
I would suggest the use of this intervention to other teachers	1	2	3	4	5
The child's behavior problem is severe enough to warrant the use of this intervention	1	2	3	4	5
Most teachers would find this intervention suitable for the behavior problem described	1	2	3	4	5
I would be willing to use this in the classroom setting	1	2	3	4	5
The intervention would be an appropriate intervention for a variety of children	1	2	3	4	5
The intervention would be an appropriate intervention for a variety of children	1	2	3	4	5
The intervention is consistent with those I have used in classroom settings	1	2	3	4	5
The intervention is a fair way to handle the child's problem behavior	1	2	3	4	5
The intervention is reasonable for the problem behavior	1	2	3	4	5
I like the procedures used in the intervention	1	2	3	4	5
This intervention is a good way to handle this child's behavior problem	1	2	3	4	5
Overall, the intervention would be beneficial for the child	1	2	3	4	5
The intervention would quickly improve the child's behavior	1	2	3	4	5
The intervention would produce a lasting improvement in the child's behavior	1	2	3	4	5
The intervention would improve the child's behavior to the point that it would not noticeable deviate from the other classmate's behavior	1	2	3	4	5
Soon after using the intervention, the teacher would notice a positive change in the problem behavior	1	2	3	4	5
The child's behavior will remain at an improved level even after the intervention is discontinued	1	2	3	4	5
Using the intervention should not only improve the child's behavior in the classroom, but also in other settings (e.g., other classrooms, home)	1	2	3	4	5
When comparing this child with a well-behaved peer's behavior after the use of the intervention, the child's and the peer's behavior would be more alike after using the intervention	1	2	3	4	5
The intervention should produce enough improvement in the child's behavior no longer is a problem in the classroom	1	2	3	4	5
Other behavior related to the problem behavior also are likely to be improved by the intervention	1	2	3	4	5

Adapted from Von Brock & Elliot 1987

Table 2

Student-Assisted Functional-Assessment Interview

In general, is your work too hard for you?	Always	Sometimes	Never
In general, is your work too easy for you?	Always	Sometimes	Never
When you ask for help nicely so you get it?	Always	Sometimes	Never
Do you think work periods are too long?	Always	Sometimes	Never
Do you think work periods are too short?	Always	Sometimes	Never
When you do seatwork, do you do better when someone works with you?	Always	Sometimes	Never
Do you think people notice when you do a good job?	Always	Sometimes	Never
Do you think you get the points or rewards you deserve when you do good work?	Always	Sometimes	Never
Do you think you would do better in school if you got more rewards?	Always	Sometimes	Never
In general, do you find your work interesting?	Always	Sometimes	Never
Are there things in the classroom that distract you?	Always	Sometimes	Never
Is your work hard enough for you?	Always	Sometimes	Never

Adapted from Kern, Dunlap, Clark, & Childs, 1995

Table 3

Treatment Acceptance Scale

Do you like this procedure?	Yes	I don't know	No
Do you think it is mean for staff to use this procedure?	Yes	I don't know	No
Do you think this procedure with help you?	Yes	I don't know	No
Do you think this procedure will be bad for you?	Yes	I don't know	No
Do you think the staff should use this procedure?	Yes	I don't know	No

Adapted from Miltenberger, Suda, Lennox, & Lindeman 1991