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Efficacy of Differential Negative Reinforcement of Alternative Behaviors to Improve Reading Comprehension

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Efficacy of Differential Negative Reinforcement of Alternative Behaviors
to Improve Reading Comprehension

by

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A THESIS

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EFFICACY OF DIFFERENTIAL NEGATIVE REINFORCEMENT OF
ALTERNATIVE BEHAVIORS TO IMPROVE READING COMPREHENSION

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University of Nebraska, 2018

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This multiple baseline across participants design answered the question: is a differential negative reinforcement of alternative (DNRA) behaviors effective in improving reading comprehension accuracy. Students with emotional/behavioral disorders (E/BD) often display challenging behaviors during academic lessons, typically to escape tasks they perceive to be aversive or those for which they lack sufficient academic achievement. Several function-based interventions have been used to address misbehavior due to this function such as providing easier work or asking for a break. However, differential negative reinforcement of alternative behavior (DNRA) is an intervention that directly addresses escape from work for which students possess the requisite skills but find the activity unpleasant. While a few studies on DNRA interventions have addressed academic concerns during math activities, the current study extended the extant research in two important ways. First, it examined effectiveness to reading comprehension. Second, most DNRA intervention build in breaks contingent upon obtaining certain accuracy over small sections of the assignment. However, in the present study, participants were able to escape doing a second worksheet contingent upon a performance standard. This approach is more beneficial because it does not waste academic time through the use of multiple breaks. Three fourth graders participated in the study that used a multiple baseline design across participants. Results indicated

improvements for all participants across all conditions. Specifically, all participants improved their reading scores on maze tasks and earned negative reinforcement in 89.3% of their intervention sessions. Results are discussed in terms of implications for practice and areas for future research.

Table of Contents

Introduction	4
Method.....	11
Participants.....	12
Setting.....	12
Measures.....	13
Screening.....	13
Dependent Variables.....	13
General Procedures.....	14
Assessment.....	15
Baseline.....	15
DNRA.....	16
Interrater Reliability.....	17
Fidelity.....	17
Data Analysis.....	18
Results.....	18
Jack.....	19
Max.....	19
Betty.....	19
Tables.....	20
1: Results.....	20
2: Effect Sizes.....	20

Discussion.....	22
Extending the DNRA Research.....	22
Implications for practice	23
Areas for Future Research.....	24
References.....	25
Figure.....	28
1: Graph..	28
Appendix.....	29
A: Sample Daze Passage.....	29
B: Fidelity Checklist for Baseline Sessions.....	30
C: Fidelity Checklist for Intervention Sessions.....	31

Efficacy of Differential Negative Reinforcement of Alternative Behaviors to Improve Reading Comprehension

Students who display challenging behaviors often misbehave during academic tasks in order to escape them (Maag, 2018). Students with emotional/behavioral disorders (E/BD) particularly engage in challenging behaviors during academic lessons because of the achievement deficits they display. Research over the years on the achievement level of these students has found that not only is it lower than their typical same age peers but their mental ages in general are lower (Kauffman & Landrum, 2008). Kauffman and Landrum also pointed out how there is a reciprocal relation between low achievement and behavior problems. Although the exact reasons are unknown, they speculated that academic underachievement results in behavior problems to escape the task while, conversely, engaging in behavior problems results in less instruction time and opportunities to learn academic skills

There are many interventions based on principles of applied behavior analysis such as token economies, behavioral contracts, and self-monitoring which have been effective to varying degrees (Maag, 2018). However, lately there is more consensus that function-based interventions that directly address the purpose for engaging in misbehavior are most effective. For example, Ingram, Lewis-Palmer, & Sugai (2005) conducted a study with two participants whose problem behaviors functioned as escape. For the first participant the function-based and non-function-based interventions were similar in three ways: teacher pre-correcting for appropriate behavior, receiving tokens for displaying appropriate behavior, and self-monitoring on-task behaviors. The only

difference in the non-function-based intervention was that the participant did not receive breaks when requesting them. The function-based medication (for ADHD) and, if not, giving him breaks, and self-monitoring and contingently shortening tasks for engaging in appropriate behavior. The non-function-based intervention was asking him if he took his medication and, if not, calling his mother to bring it to school, pre-correcting appropriate behavior, tokens for appropriate behaviors, and self-monitoring attention but did not including giving him breaks nor shortening tasks for appropriate behavior. Intervention for the second participant included pre-correcting appropriate behavior, asking him whether he had taken his medication.

Given the challenging behaviors displayed by some students and the fact that schools place academic demands on students who may find them unpleasant, several other function-based interventions have been developed that address the function of escape. For example, Clarke, Dunlap, Foster-Johnson, Childs, Wilson, White, & Vera (1995) modified the interest level of tasks and assignments introduced to children to combat the misbehavior due to a dislike of a task. Haydon (2012) reduced the level of difficulty for the academic tasks introduced as a way to decrease participants' inappropriate behavior. Alternatively, Dunlap, White, Vera, Wilson, & Panacek (1996) modified existing assignments to make them shorter, enlarge print or offer a student choice of the worksheet. Another type of intervention, introduced by Dwyer, Rozewski, & Simonsen (2012) focused on replacement behavior training instead of modifying the academic tasks. The three participants in this study were taught to ask for help or to take

a break as an alternative to inappropriate behaviors they displayed such as talking to others and refusing to follow directions.

While these studies all addressed the function of the student's behavior by intervening in a variety of ways, there is a specific approach that directly addresses escape while encouraging students to complete academic work tasks without having to take a break which wastes instructional time and the difficult getting them back to the work activity after the break. The approach is differential negative reinforcement of alternative behavior (DNRA). In this approach, students are negatively reinforced (a perceived aversive stimulus is removed) for engaging in the desired academic task at certain levels of proficiency. There are currently four studies that have examined the effectiveness of various versions of DNRA.

Marcus and Vollmer (1995) implemented a DNRA procedure to decrease disruptive behavior and improve compliance in a 5-year-old girl with developmental disabilities. A functional analysis revealed that the student's disruptive behavior was maintained by escape from instructional demands. During baseline, the student's level of disruptive behavior was high, averaging 1.76 responses per min, and her compliance was low, averaging 12.6%. The DNRA procedure provided a 20-second break contingent on compliance to an instructional demand and, when it was applied, the student's disruptive behavior was significantly reduced, averaging 0.48 responses per minute, and her compliance increased to an average of 75%.

Golonka, Wackner, Berg, Derby, Harding, Peck (2000) focused on not only escape maintained behaviors, but the types of escape consequences and the effect each

type had on two children's behavior: escape alone versus escape to enriched environments. The study involved children with escape-maintained behaviors being negatively reinforced two alternating ways: (1) receiving a break alone (time away from the task) and (2) receiving an enriched break in which the child had access to social attention and preferred activities. Both participants earned the break to enriched more often than the break to alone (an average of 52% compared to 23%), and once in the break, both participants demonstrated their aberrant behavior an average of 12% of the time versus the 40% of the time in a break alone. This study demonstrated that while the main function may be escape from the task, participants demonstrated harder work and fewer behaviors when combining escape and preferred activities.

A study conducted by Warzak, Kewman, Steffans, & Johnson (1987) focused on a DNRA intervention with a 10-year-old boy with functional Alexia. In this study, the participant, Adam, was asked to read words from a list. For each failed attempt at the exercise, Adam would engage in a period of therapeutic exercise, which was aversive to him. Approximately three weeks after treatment began, Adam progressed to 100% correct word identification. At the end of the study, Adam had made enough improvement to return home from his previous residence in the hospital, and even resume his place in school.

The final study was conducted by Piazza, Moss, & Fisher (1996) with an 11-year-old boy with autism named Jon. Jon presented with destructive and aggressive behavior and was hospitalized for treatment. With the introduction of the intervention, researchers noted that not only did Jon's compliance improve overall, he required less frequent

physical guidance, and his destructive behaviors were reduced to levels that were near zero.

One of the problems with the current DNRA research is that participants are mostly given a break for small improvements, but then required to return to complete work which may prompt more misbehavior to continue to escape. In addition, this approach reduces instructional and practice time. These studies also focused on students with specific disabilities, such as autism and developmental disabilities, as well as specifically in the areas of math or non-academic tasks.

Another problem is the noticeable lack of DNRA research in the area of reading comprehension. Independent practice to build fluency is important for students to generalize academic skills, and that the ability to comprehend what is being read is crucial academic and life skill. However, while some students possess the skills necessary to be successful with reading comprehension fluency tasks, they find it boring or unpleasant and either engage in inappropriate behaviors to escape these tasks or simply race through to finish with no effort at accuracy (Maag, 2018). Consequently, the purpose of the present study was to address previous methodological concerns and procedures by using a novel DNRA approach in which students are asked to complete one task to a high, yet achievable accuracy rate in order to escape an entire second task. This approach targeted the function of escape for three participants who possessed the requisite skills but hurriedly finished work without regard to accuracy in the area of reading comprehension.

The method for assessing reading comprehension was the maze task developed by Shin, Deno and Espin (2000). These tasks remove words from a passage and replace them with three-item word banks. The tasks are timed, and students are asked to identify the correct word from each bank to make the sentences complete. Jenkins and Jewell (1993) determined that scores on a maze passage and a student's achievement test scores had a statistically significant correlation. For these reasons, the researcher chose to use the maze assessments in combination with a DNRA intervention in the present study.

Method

A multiple baseline design across participants was used in the present study because of several positive features. Unlike a reversal design, which can have carryover effects from the repeated introduction of intervention, multiple baseline designs do not require treatment withdrawal. Another problem with a reversal design in the present study is that once treatment was implemented and participants knew that reduced workload was again forthcoming, they may decide work harder in subsequent baseline conditions to more quickly being exposed to the DNRA contingency. Multiple-baseline designs also allow for gradual application of the treatment, as well as allowing for easier determination of experimental control by permitting application to one behavior/participant/setting at a time. With a multiple baseline design, experimental control is demonstrated when performance changes in terms of level and/or trend with the introduction of treatment and when the data points in baseline remain stable across participants.

Participants

Three elementary-school children participated in the study. Betty (female, age 9, reading one grade level below), Max (male, age 9, reading one grade level below), and Jack (male, age 9, reading two grade levels above) were recruited from a reading tutoring center. Students were recommended to the researchers based on parent and tutor comments of disliking reading and/or reading comprehension. Students were excluded if they had a diagnosis of Attention Deficit Hyperactivity Disorder so that inattention would not confound treatment results. Eligible student families were then contacted to determine interest.

Setting

All sessions were conducted in the library area of a university Reading Center. This area contained one table with three chairs. Three sides of the area were designated by shelves containing books and materials for tutoring. The fourth side opened up for a hallway, which is then followed by a fourth wall containing books. Sessions were conducted privately to avoid as many distractions as possible, but parents were able to wait outside, if desired, in provided seating. All parts of the study involving participants took place in this room. Participants had scheduled sessions at separate times from one another to limit confounds as well as to limit distractions. All participants participated in two sessions each day. These sessions were separated by various activities, including reading, homework, or reading center tutoring sessions.

Measures

Screening. This study used results of prior assessments conducted by tutors in the Reading Center that had been documented in the students' files. The information used included the child's scores in the area of reading assessment, as well as the child's instructional reading level as determined by a Developmental Reading Assessment. Because these materials were not conducted as a part of the study, they were not included.

Dependent variables. The researcher measured comprehension accuracy using a maze comprehension assessment created by the DIBELS curriculum. These assessments are formally called Daze (when created by DIBELS) and were pre-leveled to match each child's reading level. The researcher chose the Daze assessments as the measurement because they were readily available and pre-leveled to match the child's instructional level. They also are formatted to yield continuous scores to graphed versus answering either in writing or verbally comprehension questions over passages read. These assessments are also research based and tested (*Good, R. H. III, 2011; Center on Teaching and Learning 2012*). A sample Daze passage can be found in Appendix A. Each Daze assessment involves one grade level passage, either fiction or nonfiction, and certain words throughout the assessment are removed and replaced with a three-item word bank from which the child chooses. The omitted words vary in difficulty, from being vocabulary based, to the correct tense of a verb. The assessments varied in length from 44 to 69 opportunities to respond, depending on the reading level of each participant and can be accessed by creating a free account on the DIBELS Next website (dibels.org)

and downloading the materials. The researcher measured the participants score on each assessment and used the score as the dependent variable.

General Procedures

The researcher obtained IRB approval before participant recruitment. An employee of the reading center made the first contact through phone call to parent/guardians in order to notify parents of the potential study and determine interest. Tutors and reading center supervisors nominated students who possessed the requisite skills but hurried through the work without regard to accuracy as a way to escape the task as quickly as possible. The researcher then e-mailed the three families who indicated interest to set up a meeting time for consent and assent. Families gave signed consent through individual meetings with the researcher. Two participants provided assent in the family meeting. The third participant provided assent prior to the first session. One participant was attending the reading center at the time of this study, where he was given a Developmental Reading Assessment to determine his current reading level. This assessment was conducted independently of the study; however, the results were used as a guideline for the instructional level of the Daze assessment to be given in the study. Parents for the remaining two participants identified the grade level in which their child was currently reading. In order to encourage participants to remain in the study, a noncontingent reinforcer was provided. Each child would be able to pick a prize from a prize box at the start of each session as a reinforcer for coming to the sessions. By providing this reinforcer at the beginning of the session, the participant would not confound the reinforcer with his or her performance on the assessment.

Assessment. The assessment used in this study was the Daze Assessment created by DIBELS. This assessment is a pre-made pre-leveled Maze style passage. The researcher administered each assessment. During each baseline session, participants were given two new Daze assessments, and no assessment was ever repeated within a participant through the entirety of the study. The difficulty of the assessment was directly related to each child's reading level.

Baseline. During baseline, the researcher gave each participant two Daze in succession with no exceptions. Participants had unlimited time on the Daze, and the Daze was not read to them. The researcher followed a script to ensure each session was implemented consistently every time (see Appendix for the script). Prior to the assessment, the researcher gave directions on the objective. The researcher provided instructions for the assessment, indicating that they were not allowed to ask questions on the content, but on unclear instructions only. During each assessment the researcher marked correct and incorrect answers on a separate score sheet in real time. During this phase, the researcher gave students two Daze assessments. If the student needed the instructions repeated, he or she could ask, and the researcher repeated the instructions. The researcher also repeated scoring procedures for the second assessment. Once both assessments were completed the session was over. Due to the multiple baseline design, each participant had a different length baseline. The baseline was not dependent on ability level or success rate of each participant, only based on a visual assessment of stability and when a functional relation could be visually analyzed from the data.

Differential Negative Reinforcement of Alternative (DNRA) behavior. The DNRA condition in this case consisted of negative reinforcement provided to reinforce participants behavior of increasing their reading comprehension accuracy on the Daze tasks. After each participant completed baseline, the researcher calculated his or her mean score. The score was then multiplied by 1.33, and the researcher determined and recorder that total as well as the four consecutive whole numbers were for a total of five possible scores. For example, if a student had a mean score of 60%, the scores recorded would be 80, 81, 82, 83, 84. This approach is commonly used in changing criterion designs by multiplying baseline average by 1.3 to 1.5 (Maag, 2018). When participants arrived for their first session in the intervention phase, the researcher gave assessment instructions to them once again, but this time informed them that they had the ability to escape the second half (i.e., page) of the assessment if they increased their score on the first assessment. The researcher reminded each participant of their average score on baseline data as well as telling them that a higher score on the assessment would be necessary to escape the second task. The researcher presented a bowl on the table that included the five predetermined scores and explained that after completing the first assessment, they would draw a number out of the bowl, and if the score on the first assessment was that number or higher, the second task would be removed, and the session terminated. This approach was to ensure indistinguishable contingencies for performance. Participants began the assessment, and the researcher once again marked correct or incorrect answers on the data collection sheet. Immediately after a participant finished, the score was calculated (correct answers divided by total answers) and the researcher announced the

score to the participant. The participant then drew a number from the bowl and checked if his or her score was at least that number. If the score met the criteria, the participant left the session early. If not, the participant received the second assessment and the procedures repeated.

Interrater reliability

Only the researcher conducted sessions. The researcher provided a research assistant with an identical answer key, and the research assistant would score the assessment independently from the researcher. During these sessions, interobserver agreement was 100%, indicating that each assessment was scored the same. To determine this, the researcher checked the assessments once more against each other. For each response in which there was an agreement, the researcher awarded one point. For each response in which there was a disagreement, the researcher awarded 0 points. The amount of points awarded were divided by total possible points to determine IOA. There was 100% agreement on all assessments.

Fidelity

The researcher created checklists to assess implementation fidelity. Checklists for baseline sessions and intervention sessions can be found in Appendices B and C, respectively. A research assistant checked fidelity was checked in 6 of 18 lessons (lessons 1, 4, 7, 10, 14, and 18) so that both phases were observed multiple times for each participant. Fidelity for all sessions across all participants was 100%.

Data Analysis

Data was analyzed primarily by visual inspection of trends. This visual inspection was the leading determiner in when each child will move from baseline to intervention, as well as serve as the primary analysis of the treatment effectiveness. The researcher decided that a minimum of five baseline sessions must be completed before intervention was introduced. The researcher scored assessments during every session, and graphed assessments once per week. A secondary analysis was conducted by computing effect sizes. Secondary analysis was to compute effect sizes using improvement rate difference (IRD) and Tau-*U*. Improvement rate difference (IRD) was computed because it provides an effect size similar to the *risk difference* used in medical treatment research, which has a proven track record in hundreds of studies (Parker, Vannest & Brown, 2009). Tau-*U* values were computed because it controls for monotonic trend (i.e., increasing trends during baseline). The IRD and Tau-*U* effect sizes were calculated using the www.singlecaseresearch.org/calculators.

Results

Results from the comprehension accuracy data collected are displayed in Figure 1. As indicated in Figure 1, all participants improved their scores from baseline to intervention. Across all three participants, the reinforcement was earned on 25 out of 28 intervention sessions, for a total success rate of 89.3%. Mean scores with ranges for each participant in baseline and intervention can be found in Table 1. Effect sizes appear in Table 2.

Jack

As the first participant, Jack had the shortest baseline of five sessions. During baseline, Jack scored an average of 71.3% on the Daze assessments with no outliers, creating a very stable baseline. During the intervention phase Jack's score was higher than the score on the paper drawn and negative reinforcement was earned in 13 out of 13 sessions, for a total of 100% of the time. Jack increased his average comprehension scores to 97.4% and his intervention phase data showed a slight upward trend. The IRD and Tau-U effect sizes for participant comprehension data can be found in Table 2.

Max

During his 9 sessions of baseline, Max scored an average of 45.7% on his assessments with outliers of 68.8% and 28.6% in his first two sessions, respectively. The baseline data indicated a descending trend. He earned the negative reinforcement during the intervention phase for eight out of nine sessions, or 88.9% of the sessions. Max increased his average percentage to 67.1%. In Figure 1, Max's intervention phase indicates a slight upward trend.

Betty

Betty had the longest baseline and scored an average of 46.6% across her 12 sessions. She was able to escape the second assessment 66.7% of the time during her six intervention sessions. Betty also improved her overall comprehension accuracy from 46.6% to 60.3% over the entirety of the study. Betty remained relatively stable during baseline, and her two outliers occurred in consecutive sessions in intervention. During session 15, Betty was distracted by a preferred object she had brought from home. When

this item was removed, Betty became upset and displayed inappropriate behaviors, such as throwing items, ripping papers, and scribbling over the assessment, as a result of this. Session 16 took place following a break, and Betty re-escalated when work was presented to her, leading to two outlier scores in her intervention phase. Even with the two outlier scores, Betty's overall trend in the intervention phase was ascending.

While each participant showed different results, and experienced different percentages of earned reinforcement with this intervention, visual analysis across all participants showed substantial improvements, and obtained effect sizes were all in the large range. All of the data presented in this section can be found in Tables 1 and 2.

TABLE 1 - RESULTS

Participant	Baseline		Intervention	
	Mean	Range	Mean	Range
Jack	71.3	70.9 - 71.4	97.4	91.0 - 100
Max	45.7	28.6 - 68.8	67.1	59.6 - 70.9
Betty	46.6	46.9 - 55.4	60.3	28.8 - 77.5

TABLE 2 – EFFECT SIZES

Participant	IRD	Tau - U
Jack	1.00	1.02
Max	0.89	1.04
Betty	0.67	0.33

Discussion

The purpose of the present study was to determine if a relatively new approach to DNRA would increase reading comprehension accuracy? The results of the study indicated that, overall, all three participants improved their comprehension accuracy when the intervention was implemented. While there was some variability in the data, visual inspection and effect sizes still indicated large changes. This study extends previous research on DNRA to use with reading comprehension, whereas previous research focused mostly on mathematics. Current results also represent the first use of removing of half an assignment contingent upon certain levels of accuracy. Results will be discussed in terms of their relation to previous research, implications for practice, and areas for future research.

Extending the DNRA Research

Previous DNRA research focused on a different intervention approach, by offering a break part way through a task and then requiring students to return to complete the assignment (Piazza et al., 1996; Marcus et al. 1995; & Golonka et al. 2000). This approach meets the function of the behavior but requires the student returns to the aversive activity after a break, which may reintroduce inappropriate escape behaviors. The DNRA approach in this study was similar to the one used by Warzak et al. (1987). Both of these approaches offer the participant the opportunity to terminate a session by achieving certain designated level of success. However, the participants in these two studies differ greatly, as do the participants in all other DNRA studies. Participants in past studies have had functional alexia, autism, and developmental delays, which are all

academically, displayed challenging behaviors in at least one area of reading, but did not have disabilities, thus potentially extending the use of this technique as tier 2 or tier 3 interventions.

Implications for Practice

By nature, schools place demands and expectations on students. For students with behavior problems, those demands may be perceived as aversive in some way, leading to misbehavior as a way to escape the academic tasks/activities. In terms of students with disabilities, the Individual with Disabilities Education Act (IDEA) requires the Individual Education Plan (IEP) to include a behavior intervention plan (BIP) for students displaying challenging behaviors, regardless of the disability (Kauffman & Landrum, 2008). Therefore, by logical extrapolation, any students who display inappropriate behaviors severe enough to interfere with learning should have at least a tier 2, but probably tier 3 intervention based on the function those behaviors serve. The results of the Ingram et al. (2005) demonstrate the importance and effectiveness of this approach because both of their participants demonstrated decreased inappropriate behaviors during function-based interventions in comparison to non-function-based interventions. Further, variability in the amounts of behavior in their study was also low. In non-function-based intervention phases, levels and variability for both participants was similar in variability and frequency to baseline levels.

A DNRA approach, through any content area, may be successful when used with individuals who have demonstrated escape-maintained behaviors. Another key factor in any study is the level of social validity (Wolf, 1978). A study may have statistically

significant results, but if the intervention is not easy to understand, develop, and implement teachers will not likely endorse its use. In the case of the DNRA approach used in the present study, it is easy to implement, takes little time and effort, and does not require intensive levels of teacher consultation. It also increases the level of fluency for tasks for which students are already accurate.

Areas for Future Research

One area for future research would be to extend the current DNRA approach to additional academic content and lessons to improve performance. Research should also examine the effectiveness of the DNRA to reduce any socially inappropriate escape behaviors. Further, research should examine the level with which this intervention can be faded while still maintaining improved academic performance and appropriate behaviors. Perhaps adding a differential reinforcement of alternative behavior (DRA) for also positively reinforcing appropriate behaviors would help fade the DNRA component, but this suggestion requires additional research to corroborate. Finally, participants in the present study were fourth graders, all coming from a low-middle socioeconomic background and struggled in at least one area of reading (mainly fluency). Future research could focus on different populations. While reading comprehension was the content medium in which the effectiveness of the intervention was tested, a similar intervention technique could be replicated in other content or social areas.

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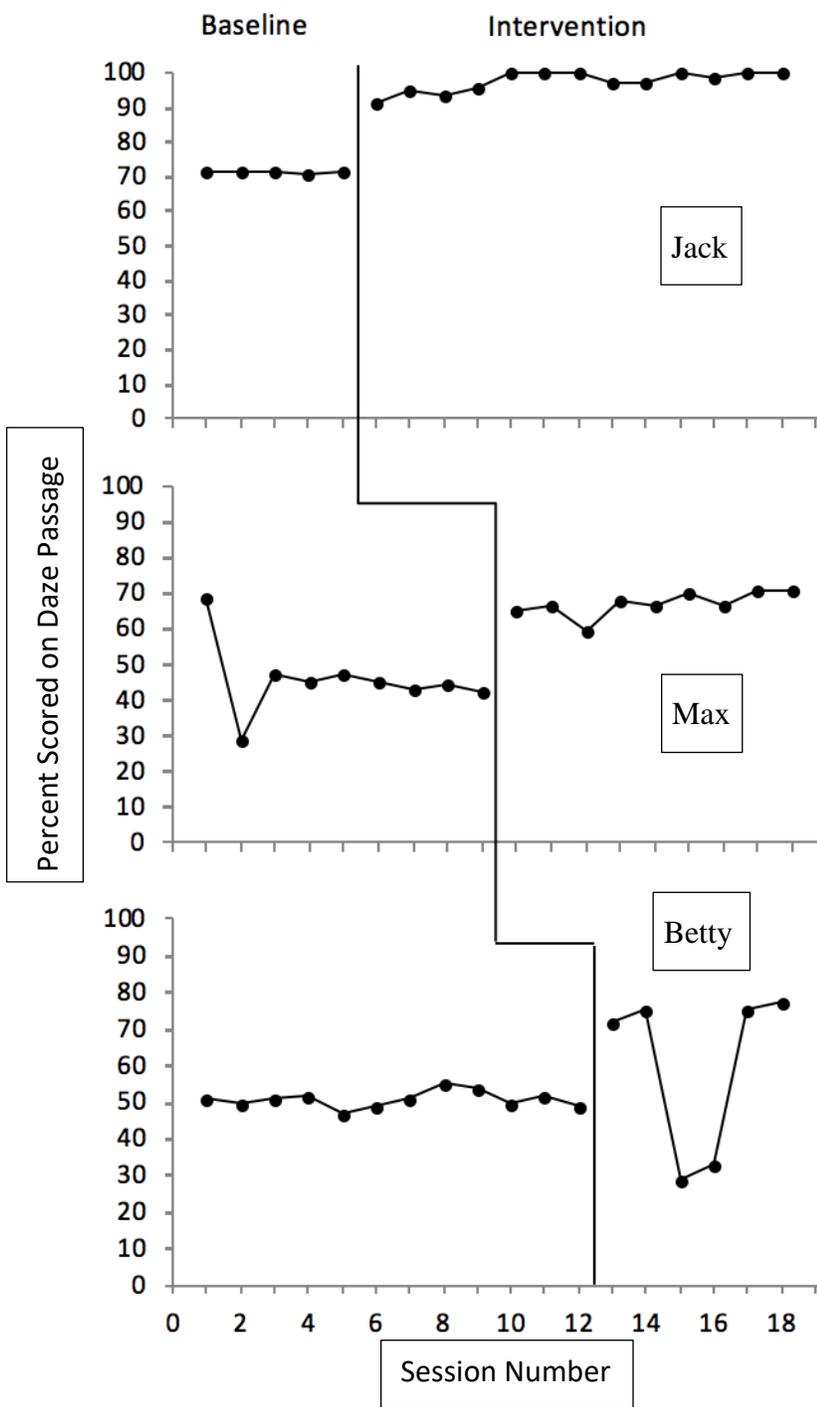
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Figures

1. Graph



Appendix

A. Sample of a Grade 3 Daze Passage

Playing by the Rules

Once in a while, a natural athlete is born. This is a person who has an angry unusual talent for a result sport. Tiger Woods mind were is one such person. He makes the fair game too of golf look so easy, and golf's people stopped love to watch him play. Another today natural next athlete was Bobby Jones. Bobby played golf country did many years ago, but many young easy golfers so still think of him as a role decision still model today.

Bobby was born over golfers one less hundred years ago. Like Tiger, Bobby penalty showed natural a talent for golf at a athlete usual young age. He was too short to rules use more a real golf club, so somebody later short sawed a club in half for him. Bobby sawed only never had a real golf lesson. Instead, he real often learned by imitating the best golfer at the very golf somebody course near his house.

By age told there fourteen, Bobby was playing in tournaments. He play think was winning them, too! However, he got tournament house angry easily. When he missed a shot, he instead would showed often yell and throw his club down. "To lost asked golf me, was just a game to beat model someone judges," Bobby said later. "I didn't know that someone many was moved me."

B. Fidelity Checklist for a Baseline Session

Steps	Yes	No	Not Applicable
IF FIRST SESSION OF THE DAY: “Thank you for coming today! Every day you come to a session with me, you can pick a prize from my prize box. You earned this prize just by coming to work with me! You can look at what you picked for one minute or we can get started.”			
IF SECOND SESSION OF THE DAY: “Thank you for coming back. I hope you liked the prize you got in your first session. Let’s get started.”			
“We are going to work on some reading passages. You will do two reading passages. Once you start, I can’t answer any questions or give you any help. When you are done we will score them and you can leave the session.”			
IF FIRST SESSION EVER: “Before we start, I want to give you a sneak peek at what you will be doing, so you if you have any questions you can ask them now. Here is the example, let’s do it together.”			
“Here is your first passage. You will circle each word you think belongs in the blank. When you are finished I will give you the second passage.”			
“Here is your second passage. When you are done we will score both of them.”			
“Let’s score the passages.”			
IF FIRST SESSION OF THE DAY: “Thank you for coming for the first session! I will see you in the second session.”			
IF SECOND SESSION OF THE DAY: “Thank you for coming today! See you on _____.”			

C. Fidelity Checklist for an Intervention Session

Steps	Yes	No	Not Applicable
IF FIRST SESSION OF THE DAY: "Thank you for coming today! Every day you come to a session with me, you can pick a prize from my prize box. You earned this prize just by coming to work with me! You can look at what you picked for one minute or we can get started."			
IF SECOND SESSION OF THE DAY: "Thank you for coming back. I hope you liked the prize you got in your first session. Let's get started."			
IF FIRST INTERVENTION SESSION EVER: "Sessions from now on are going to be a bit different. You will start the same way as always, by completing one passage. This is where it gets different. I have some scores in the bowl that are higher than you have scored on your passages so far. After you finish your first passage, you will draw a score from the bowl. If you score that number or higher, you don't have to do the second passage and you can be done early! If you score less than that score, you still have to do the second passage. Now so I know that you know the rules, can you tell me what you have to do in order to only do one passage?"			
ANY OTHER INTERVENTION SESSIONS: Remember, you are going to start by completing one passage, and then you will draw a score from the bowl. If you score that number or higher, you don't have to do the second passage. If you don't score that number, you still have to do both passages.			
"Here is your first passage. You will circle each word you think belongs in the blank. When you are finished you will draw a score and we will see how you did."			
IF SCORE REACHED: You scored higher than the number you drew! You don't have to do the second passage, and your session can be done early.			
IF SCORE WASN'T REACHED: Looks like your score wasn't the same or higher than the one on the paper. You will			

still have to do the second passage. When you are done with this passage, your session is over.			
IF FIRST SESSION OF THE DAY: "Thank you for coming for the first session! I will see you in the second session."			
IF SECOND SESSION OF THE DAY: "Thank you for coming today! See you on _____."			