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THE EFFECTS OF PICTURE MODELING FOR REDUCING THE NUMBER OF REDIRECTIONS WHEN TEACHING 2-STEP DIRECTIONS FOR A PRESCHOOL STUDENT WITH DEVELOPMENTAL DELAYS: A BRIEF REPORT

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Abstract: *The purpose of this study was to improve the ability to follow a two-step direction of one preschool student diagnosed with developmental delays. In order to improve the participant's skill in this area the we examined the effects of picture prompting. The outcomes indicated that our participant improved his skills at following two step directions. We also reduced the number of redirections needed by our participant to complete his tasks. This study extended the previous research on the topic by testing a self-monitoring picture prompting intervention in a way that can be used in a naturalistic classroom setting.*

Key Words: *two step directions, re-direction, developmental disabilities, preschool student, special education classroom setting, picture modeling*

Introduction

Children with an unclassified developmental delays experience difficulties in many areas of life (Howard, Williams, & Lepper, 2010). Specifically, school tends to be more challenging for students diagnosed with developmental delays than it is for their typically developing peers. Hsieh, Hsueh, Huang, Lin, Tseng, and Lee (2013) found that children with these diagnoses have a significantly lower quality of life than children without the diagnosis The components of the diagnosis were found to affect the parents as well, and many family members also had a lower quality of life.

Review of Literature

In order to increase the quality of life for children diagnosed with developmental disabilities, several studies have been done to test ways to increase the skills of children diagnosed with developmental delays. Bialas and Boon (2010) tested the effects of self-monitoring with three male kindergarteners diagnosed with developmental disabilities. Self-monitoring increased the classroom preparedness and on-task behavior of all three students. Duttlinger and colleagues

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(2013) employed middle school students with developmental disabilities and found that the use of pictures activity schedules increased each student's ability to complete 3 or 5 sequence tasks.

Speech and language delays have been found to be the most common type of developmental delay (Developmental Delays). Turan and Yasemin (2012) determined that special education preschool teachers prefer to implement naturalistic versus therapeutic techniques to teach language to their students. Clearly, research is needed to assist preschool students with developmental delays in natural settings such as the preschool classroom.

The purpose of this study was to improve the ability to follow a two-step direction of one preschool student diagnosed with developmental delays. In order to improve the participant's skill in this area the first author planed to test the effects of picture prompting. This study will extend previous research on the topic (Bialas & Boon, 2010; Duttlinger et al., 2013;Turan & Yasemin, 2012) by testing a self-monitoring picture prompting intervention in a way that can be used in a naturalistic preschool classroom setting. A second purpose was to improve the participant's independence by reducing the number of redirections required for him to complete a task.

Methodology

Participant and Settings

The participant was a five-year-old male, with a diagnosis of developmental delays. At the beginning of the study the first author completed the *Battelle Developmental Inventory-2* (Newborg 2012) to obtain the participant's present level of performance across domains. In the adaptive domain the participant scored in the 75th percentile in the self-care subdomain, and below the 1st percentile in personal responsibility. The participant's scores under the personal social domain were the 37th percentile for adult interactions, 63rd percentile for peer interaction, and 9th percentile for self-concept and social role. Under the communication domain the participant scored in the 1st percentile for receptive communication, and below the first percentile for expressive communication. His motor results were the 63rd percentile for gross motor, 2nd percentile for fine motor, and below the 1st percentile for perceptual motor. The participant scored below the 1st percentile in all three subdomains (attention and memory, reasoning and academic skills, and perception and concepts) of the cognitive domain.

The study took place in a special education preschool located in a large urban school district in the Pacific Northwest. The classroom predominantly served children with hearing and speech impairments, and was integrated with a regular education preschool classroom. The participant attended morning preschool, which was in session from 9:00 to 11:30 am Monday through Wednesday and 9:30-11:45 on Thursday. The study took place during the classroom literacy center, which usually occurred between 9:30 and 10:00 am. Each day the classroom had approximately 15 students, two full time teachers, three instructional aids, an American Sign

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Language interpreter, and the student teacher (the first author of this study). On occasion there would also be a Speech Language Pathologist, two physical therapists, an occupational therapist, and up to five university students in the classroom. The first author took the participant into a small office attached to the main classroom to complete the study.

Materials

During baseline and intervention the participant was given all materials needed to complete each step of the 2-step direction. These materials varied from day to day as the instructions varied. For example if the 2-step direction given was to copy the alphabet and complete a matching activity, the participant would be given a work sheet with the alphabet printed on it and room to copy each letter, a work sheet with pictures that needed to be matched, and a pencil.

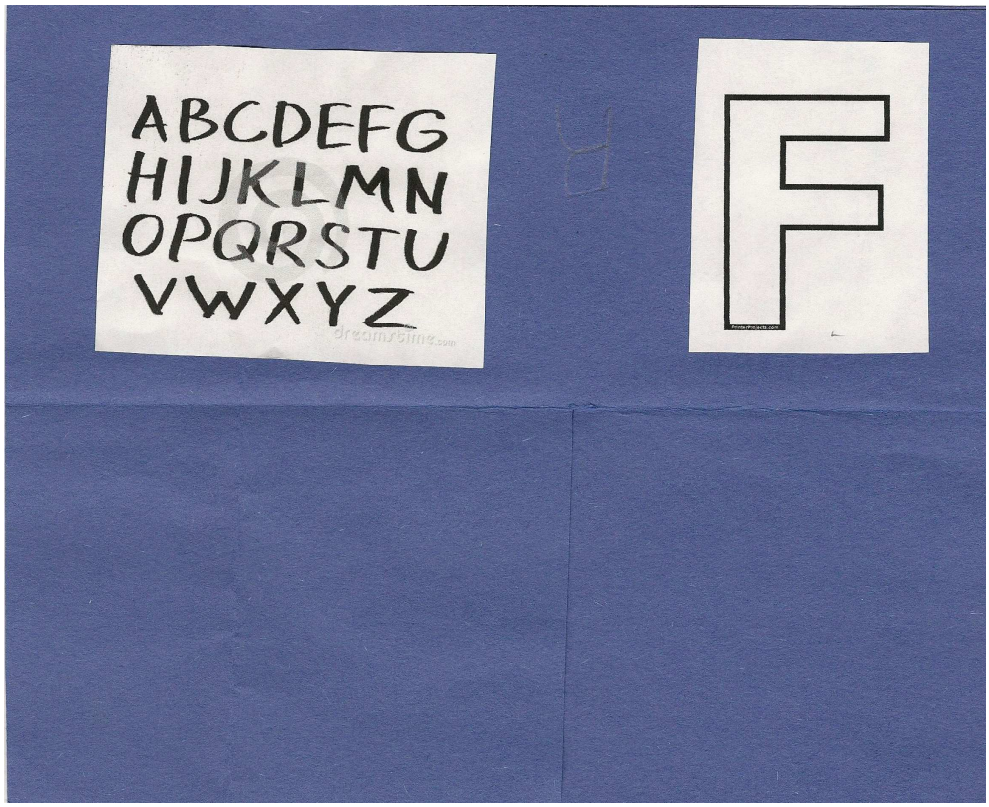


Figure 1. The picture card as shown when each 2-step direction was given, and before any step of the direction was completed.

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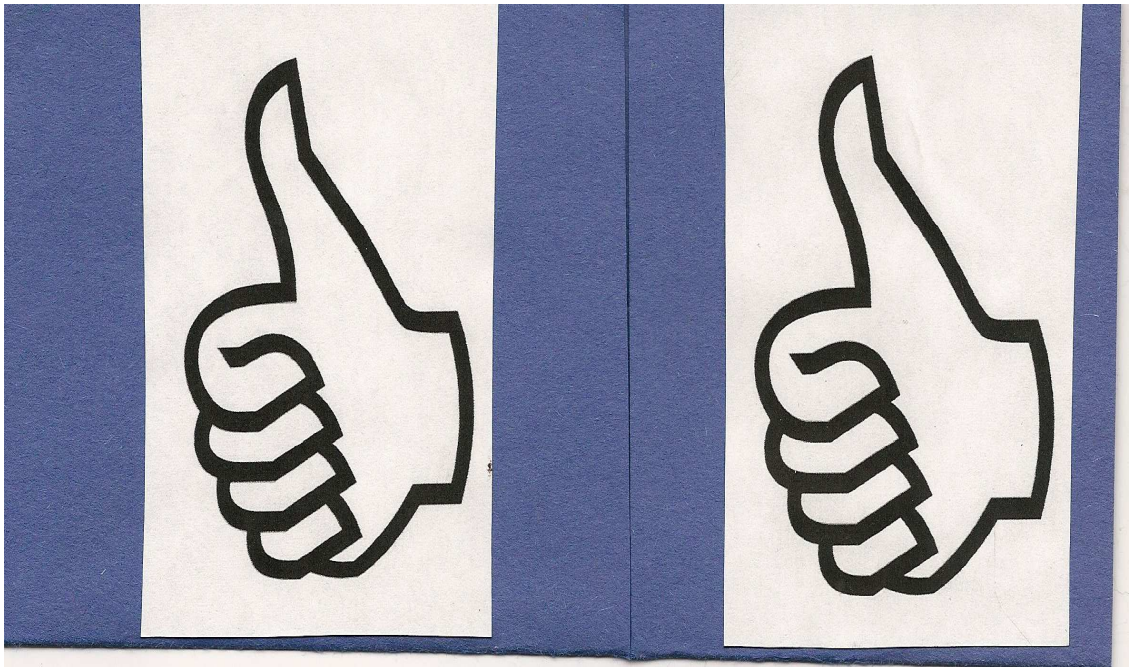


Figure 2. The picture card as shown when both steps of the direction had been completed, and both task pictures were covered with flaps depicting pictures of thumbs up.

During intervention the participant was also given a picture card to help him remember the 2-step direction (see Figures 1 and 2). The picture card had two pictures on the top of it. Each of these pictures showed one step that the participant was to complete. Below each picture was a flap. When each of these flaps was flipped up they showed a picture of a thumb up. The picture of the thumb up would cover the picture of the task. The participant also had a sticker chart. This chart was a green piece of paper with the participant's name on the top. Every time the participant completed both steps of a 2-step direction he could turn the picture card into the first author for a sticker to place on his chart.

Dependent Variable

The dependent variable was the total number of times that the participant required redirections to complete the 2-step direction. Each time the participant was off task for 10 seconds the first author redirected the participant to the task. During baseline the first author redirected the participant by reiterating the direction. During intervention the first author would redirect the participant by reiterating the direction, reminding the participant of the function of the picture card.

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Experimental Design and Conditions

An ABAB single subject reversal design was employed (Kazdin, 2011; McLaughlin, 1983). A description of the various conditions follows.

Baseline. During baseline the participant was given a 2-step direction, and the materials to complete each step of the direction. If the participant was off-task for 10- seconds the first author would restate the 2-step direction. Baseline was in effect for two days.

Picture modeling. During intervention the instructor gave the 2-step direction, and explained how it related to the picture card. The participant was shown that each picture on the top of the picture card correlated with one step of the direction. He was then shown that there was a flap under each picture. He was told to flip up the flap below each picture as he completed the corresponding task. When each flap was turned up it revealed a picture of a thumb up, which covered the picture of the task. He was told that when he completed both steps he could turn the picture card in for a sticker. If the participant got off-task for ten seconds during intervention he reminded of the 2-step direction, the function of the picture card, and the sticker he could receive upon completion. This was tallied as a redirection. This condition was in effect for six sessions.

Baseline 2. After the participant completed three sessions with out any redirections, baseline was reinstated. The same baseline procedures were followed.

Picture modeling 2. This was a replication of the first intervention phase. It lasted for four sessions.

Reliability of Measurement

The data sheet (Appendix A) allowed the first author to tally each time a redirection was given to the participant. If the participant did not require a redirection a 0 was marked. Sessions were videotaped in order to take inter-observer reliability. A third-party observer reviewed the videos and completed the second data form that was the same the one the first author completed. The first author then calculated the inter-observer agreement. Interobserver agreement for 5 of 15 sessions was 100%.

Findings

The number of redirections needed during each session is shown in Figure 1. During baseline the participant required a mean of 20 redirections across two days of baseline (range: 10-30). During picture modeling, only an average of 2.5 redirections were required (range:0-8). When baseline was again in effect, a mean of 5 redirections took place (range:3-7). During the second application of picture modeling, the mean redirections needed decreased to 1.25 (range: 0-4).

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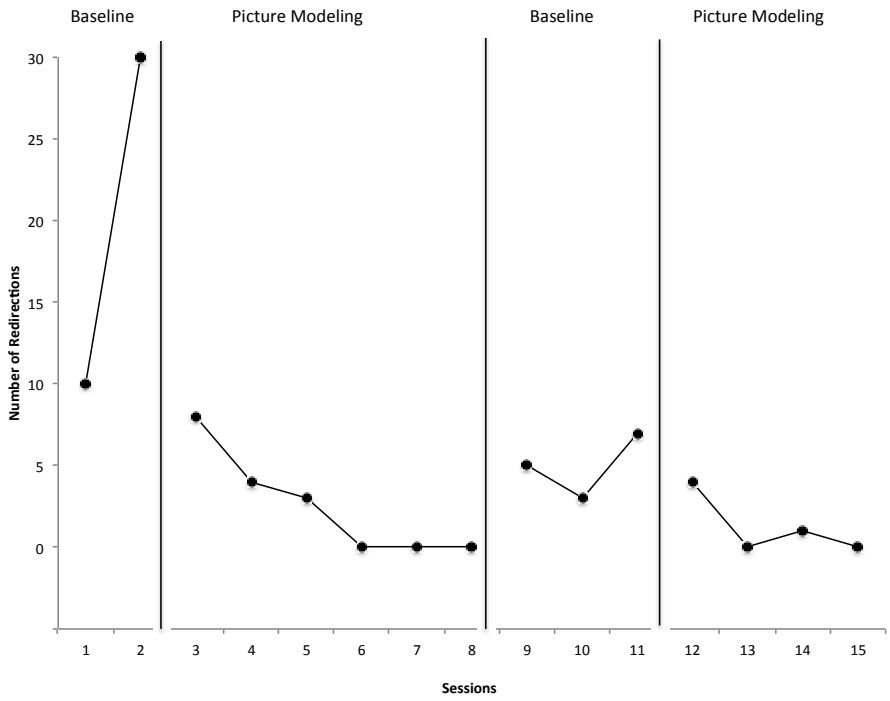


Figure 3. The number of redirects needed for our participant to complete a 2-step direction during baseline, picture modeling, baseline, and picture modeling.

Conclusion

Using picture modeling was effective in teaching the participant to independently follow a 2-step direction. The participant showed a large decrease in the amount of redirections required to complete a 2-step direction. Upon the completion of the intervention he did not require redirections to complete the 2-step direction. Because of the direct correlation of the amount of redirection needed and the implementation, removal, and reimplementation of the intervention the results can be directly attributed to the intervention.

The participant's attitude toward the task also changed throughout the intervention. During the initial baseline the participant would complain that he did not know how to complete the tasks, did not want to complete tasks, or should not have to complete tasks. He would frequently put his head down and quit working or begin to tell the first author a long story in an attempt to avoid the task. After intervention began the participant's off-task behavior decreased. On occasion he would tell the first author how good he was good at the task. He would say "I can do it now!" His attitude greatly improved when the intervention was in place.

A key strength of this study was the ease of implementation. The first author designed the picture card out of classroom supplies. The picture card was small and easy for the first author

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to keep available to the participant. If a teacher or instructional assistant were to continue this intervention it would not require much extra time or any extra supplies.

The brief period of data collection and the use of only a single participant were weaknesses of the study. Further research should be done to determine if the intervention would be effective across many participants with a range of disabilities. The participant was frequently absent during the intervention, which limited the amount of time the first author could spend with the participant. The small number of intervention days due to illness likely affected on the participant's ability to benefit from the intervention.

If the first author were to continue this study, directions would increase in difficulty to teach the participant to follow 3 and 4 step directions. The same picture modeling would be used, but with a picture card that allowed room from more pictures to match multi-step instruction. The first author would begin implementing the intervention with more participants to test the effectiveness.

These results were important because they increased the receptive language skills and ability to follow a two-step direction for one child diagnosed with developmental disabilities. As shown by Bialas and Boon this is likely to increase the participant's preparedness and on-task behavior. This increase in ability will be beneficial in increasing the participant's quality of life. Finally, we were able to replicate and extend the findings of Bialas and Boon, (2010), Duttlinger et al. (2013), and Turan and Yasemin, (2012). In addition it adds additional evidence that special education teacher training programs can improve the lives of children with disabilities employing data-based and behavioral methods (McLaughlin, B. Williams, R. Williams, Peck, Derby, Bjordahl, & Weber, 1999).

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References

Bialas, J., & Boon, R. (2010). Effects of self-monitoring on the classroom preparedness skills of kindergarten students at-risk for developmental disabilities. Australasian *Journal of Early Childhood*, *35*(4), 40-52.

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Developmental Delays in 3, 4, & 5-Year Olds: Speech, Social, and More. (n.d.). *WebMD - Better information. Better health.*. Retrieved May 10, 2013, from http://www.webmd.com/parenting/guide/recognizing-developmental-delays-your-child-ages-3-5

Duttlinger, C., Ayres, K. M., Bevill-Davis, A., & Douglas, K. H. (2013). The effects of a picture activity schedule for students with intellectual disability to complete a sequence of tasks following verbal directions. *Focus On Autism & Other Developmental Disabilities, 28*, 32-43.

Howard, V. F., Williams, B. F., & Leeper, C. (2009). *Very very young children with special needs: Foundations for parents, educators, and service providers*. Upper Saddle River, NJ: Prentice-Hall/Pearson Education.

Hsieh, R. L., Hsueh, Y., Huang, H., Lin, M., Tseng, W., & Lee, W. C. (2013). Quality of life and impact of children with unclassified developmental delays. *Journal of Pediatrics & Child Health, 49*(2), E116-E121.

Kazdin, A. E. (2011*). Single case research designs: Methods for clinical and applied settings* (2nd ed.). New York, NY: Oxford University Press.

McLaughlin, T. F. (1983). An examination and evaluation of single subject designs used in behavior analysis research in school settings. *Educational Research Quarterly, 7*, 35-42.

McLaughlin, T. F., Williams, B. F., Williams, R. L., Peck, S. M., Derby, K. M., Bjordahl, J. M., & Weber, K. M. (1999). Behavioral training for teachers in special education: The Gonzaga University program. *Behavioral Interventions, 14*, 83-134.

Newborg, J. (2012). *Battelle Developmental Inventory – 2. (BDI-2).* Rolling Meadows, IL: Riverside Publishing.

Turan, Y. (2012). Acceptability ratings of language interventions and reasoning as described by early childhood special education teachers. *Early Child Development & Care, 182*(10), 1371-1382.