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Activity Choice and Extinction Intervention for Escape Maintained Behavior

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Abstract

Problem Behaviors challenge children diagnosed with autism's progress in early childhood special education classrooms. This paper looks at a single case on a preschool aged child diagnosed with autism exhibiting problem behaviors. These problem behaviors included kicking, scratching, screaming, hitting, flopping on the floor or eloping (leaving the table or chair). One study conducted showed that activity choice intervention decreases the occurrence of problem behavior (Kern et al. 1998). Activity choice and extinction intervention were chosen based off of these findings as an effective way of decreasing problem behaviors.

Activity Choice and Extinction Intervention for Escape Maintained Behavior

Autism is a pervasive developmental disorder causing abnormal or impaired development in social interactions and communication (DSM-IV, 1994). Problem behaviors challenge the progress of children diagnosed with autism because they interfere with their learning opportunities in the classroom. Tantrums and noncompliant behaviors such as screaming, hitting, scratching, flopping on to the floor, kicking, or eloping (leaving the chair or the work area) are all examples of problem behaviors. Problem behaviors may have many different functions; one common function is escape from demand. Choice making is frequently used as an intervention for escape maintained behavior. In one study, results showed choice-making intervention decreases the occurrence of problem behavior while increasing compliance (Kern et al, 1998). This study provides evidence that choice making is an effective intervention across many circumstances and could be generalized to affect behavior of all humans. Another study conducted by Dunlap et al. on two participants showed that choice-making conditions increased task engagement and reduced disruptive behavior in both participants. A third study on a 10-year-old boy diagnosed with autism who emitted problem behavior was conducted by Dr. S. Peterson in 2001. The participant's problem behavior interfered with his daily routine and was found to be both teacher attention and escape from task demand maintained. The data collected suggested that choice making decreased the problem behavior. By offering a choice between activities, the student is more likely to engage in appropriate behavior. This current study is to examine the effects of choice-making intervention and extinction on escape-maintained behaviors of a pre-schooled aged child diagnosed with autism.

Participants

A three-year-old child diagnosed with autism spectrum disorder participated in this study. A functional analysis was conducted on the participant to evaluate the maintaining contingencies for the problem behaviors of screaming, flopping (throwing self onto the floor), hitting, scratching, kicking, throwing/swiping objects and eloping (leaving the chair or table). The problem behaviors were found to be escape maintained and the child was deemed eligible for the study (See Appendix B). These behaviors interfered with her progress in discrete trial training in an Early Childhood Special Education (ECSE) classroom at WoodsEdge Learning Center.

Method

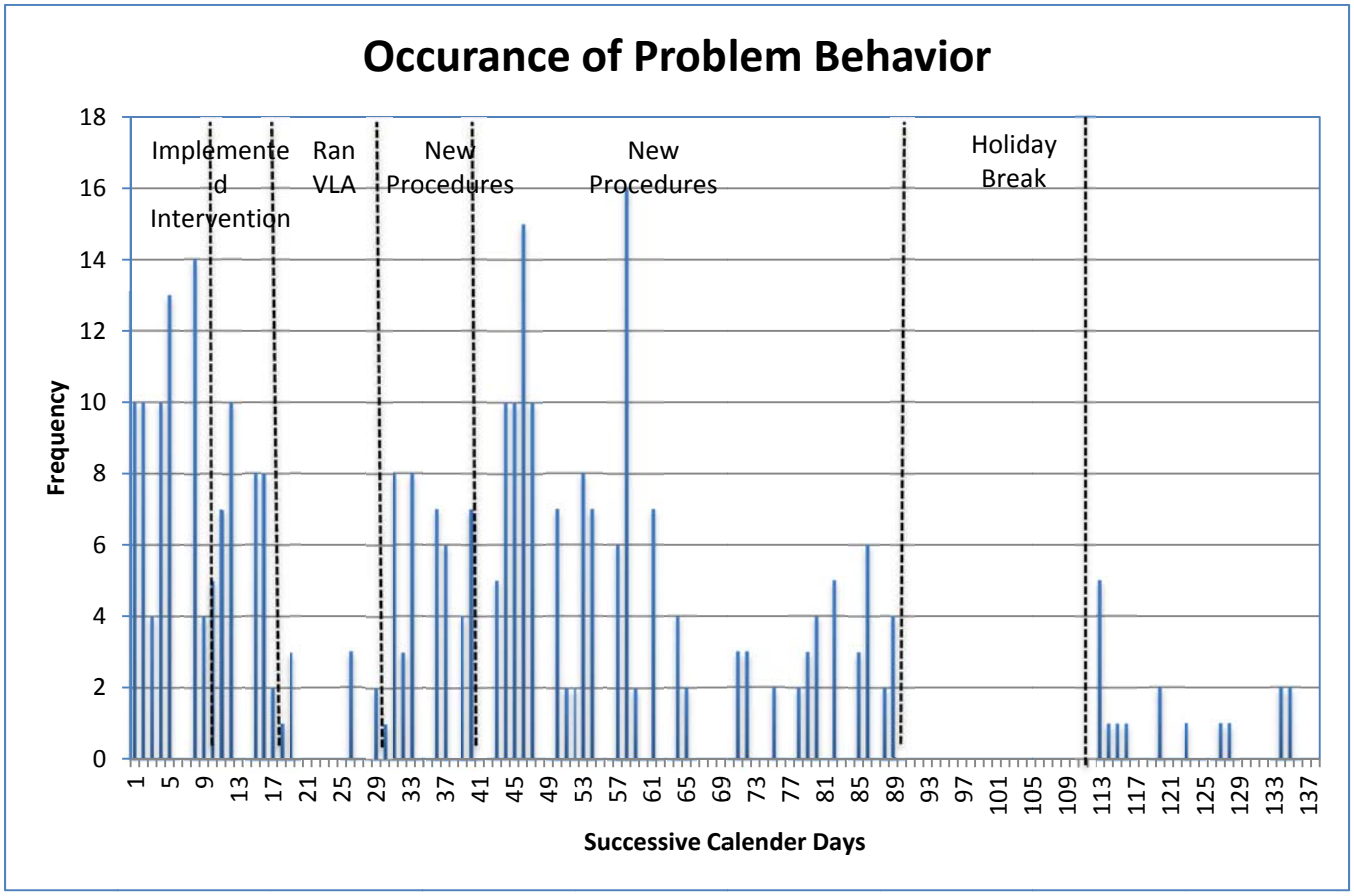
The intervention selected was a choice-making and extinction intervention. The first step was to collect baseline data on the occurrence of problem behaviors. Data was collected on the occurrence of problem behaviors using a data sheet which included the type of problem behavior, the verbal discriminative stimulus (S^D) given, as well as the time of day (see Appendix B). The baseline data were collected to determine the antecedent of the problem behavior, whether it was a verbal S^D or the presentation of materials. During the next phase, each procedure within the child's schedule was paired with a photographic icon or the procedure which was placed on a choice board. During the paring phase, the tutor places the icon of the procedure and the procedure materials on the table in front of the participant while simultaneously giving verbal prompts for that specific procedure. The mastery criterion for this phase was the participant looks at the icon and begins the procedure. The participant had to score 80% or greater for 3 consecutive sessions or 90% or greater for 2 sessions. In the final phase the child was given a verbal prompt of "pick one" referring to the icons of each procedure which were placed on the activity choice board. The date, time, problem behavior, and procedure during which the problem behavior occurred were recorded. The data was collected on

how often each procedure was selected out of all the possible pairings and then graphed to determine if there was a preference for a particular procedure; however, no preference was found. When the child met mastery criteria the next phase was introduced. The intervention was introduced in the final phase. The child was given the choice between two icons of two procedures within her schedule. The child picked one icon off the choice board and handed it to the tutor. The tutor labeled the icon and presented the material and the S^D. Problem behaviors were recorded during all phases. Extinction was used when problem behavior occurred. All problem behavior was ignored and task demands were carried through. The student was prompted through her task if she exhibited any of the problem behaviors to prevent her from escaping the demand. Inter-observer assessments (IOA) were conducted twice a week to ensure validity of the problem behavior data and were calculated. IOA had a criterion of 80%. Each IOA session was held for 30 minutes.

Results

The data was collected on the problem behavior exhibited (screaming, hitting scratching, flopping on the floor, kicking and eloping), the time of day and the produced during which it occurred. As depicted in the graph (see Figure 1) the problem behavior decreased significantly initially but at a slower rate than predicted overall.

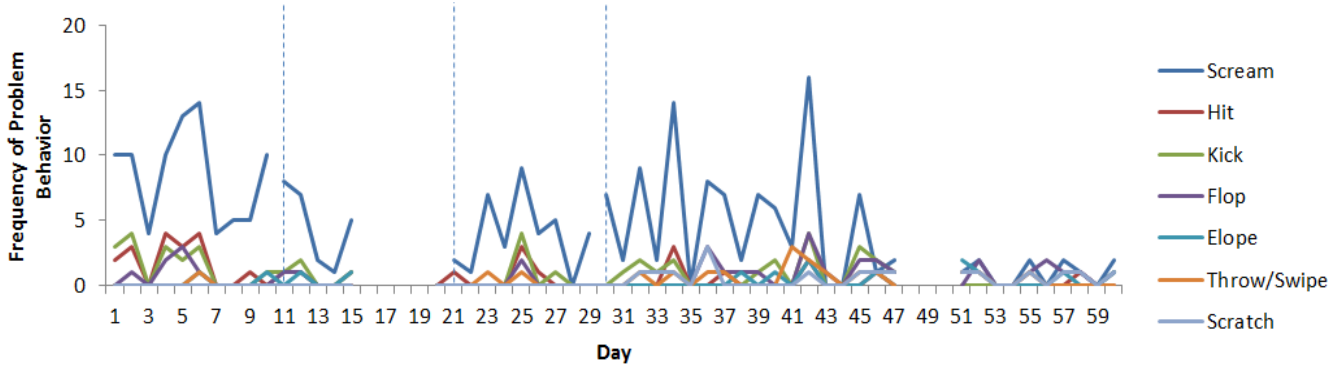
Figure 1



The behavior decreased at the end of the current data collection period and decreased significantly in frequency from functional analysis data. There was some variability in the frequency of the problem behavior, which could be the result of potential confounding variables.

The data was also graphed to show the topography of the problem behaviors. This was done to illustrate if there was a trend in aggressive behavior (i.e. kicking, hitting, etc.) versus non-aggressive behavior (i.e. flopping, eloping, etc.). The most common behavior emitted was screaming, a non-aggressive behavior (see Figure 2). The graph of the problem behavior shows that the more aggressive problem behaviors, hitting, kicking, throwing/swiping, scratching consistently occurred at a lower rate than screaming. Thus, there was not a change in the topography of the problem behaviors as was predicted.

Figure 2



Inter-observer agreement (IOA) was conducted weekly during both semesters. During the fall semester it was collected on only the second tutor while in the spring semester it was collected on both tutors working with the student. During these sessions treatment fidelity was observed as well to ensure that the intervention was being implemented consistently among tutors. To collect IOA, an observer collected data simultaneously with the tutor in 30-minute sessions. IOA criteria had to be 80% or higher. During the fall semester, IOA calculations were 100%. In the second semester, the IOA on the frequency of occurrences was 100% but IOA for intensity and duration did not meet criteria. It was noted that there was a difference the perception of the intensity from old tutors to new tutors. The newer tutors had not experienced previous problem behavior thus rating current problem behavior at a higher level than IOA assessor. As a result, the rating scale was more clearly operationally defined and the IOA scores were 100% following the clarification. Although the scores met criteria, the data could not be added due to the data sheets being lost.

Discussion

Overall the problem behavior did not decrease at the rate predicted and there was a lot of variability in the data. The variability in the problem behavior could be attributed to

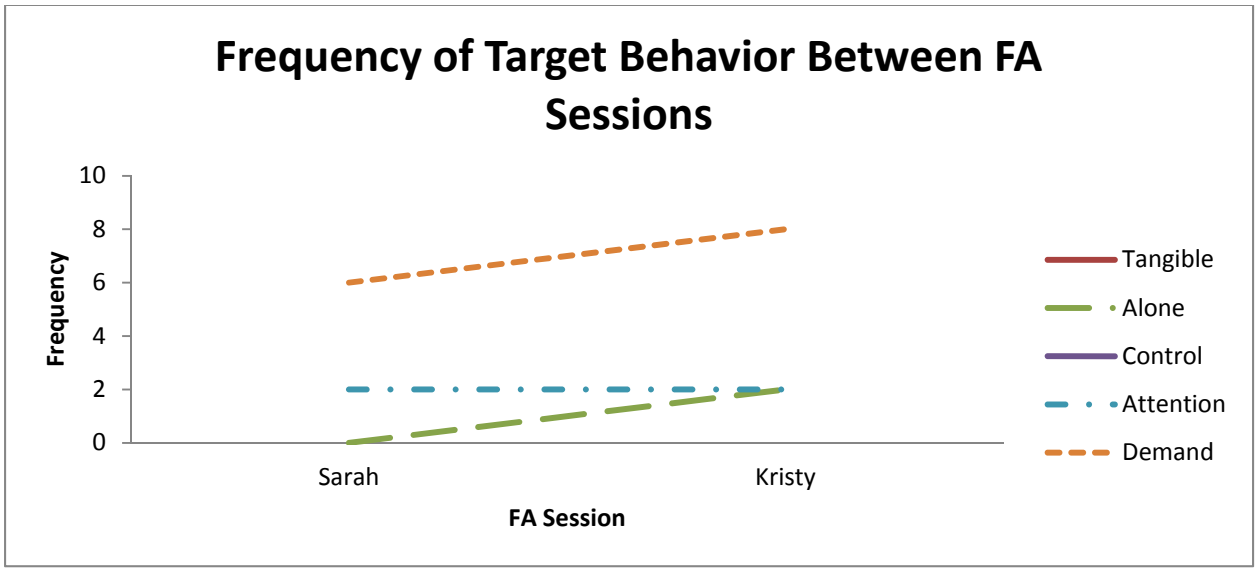
confounding variables. One confounding variable might be biological factors, the antecedent being a wet diaper or dry skin. Another confounding variable may be that the student's procedures were all changed at once to procedures with higher response efforts. One limitation was the dependent variables being measured. During the first semester of the study, data was not collected on intensity and duration of the problem behavior. The study has since been altered to take into account the duration and intensity. Another limitation was the variability in the data collection. The rating scale was not clearly defined from the beginning resulting in variations in IOA scores. Unfortunately the data was not added to the study due to the data being lost. However, social validity from tutors and classroom teacher concludes that the problem behavior decreased. A benefit of this study was that the intervention was easy to train to tutors and for tutors to follow protocol. The data collection was not demanding and was easily taken during sessions with the student.

Further research needs to be done since conclusions could not be made from the data. Intensity and duration of the problem behavior need to be looked at more closely from the beginning of study and should be included in the baseline data in order to make accurate conclusions. Another direction could be comparing the effects of activity choice on problem behavior that is escape maintained, attention maintained and both escape maintained and attention maintained. This would better illustrate the effects of activity choice on problem behaviors with different functions.

Appendix A

Activity Choice and Extinction Intervention for Escape Maintained Behavior:

Functional Analysis Data



Appendix B

Table 1

Please record every occurrence of problem behavior during a procedure (aka when you take out the procedure materials, set up the materials, or give an S^D and the antecedent. Thank you! ☺

Problem Behavior
S-Scream, H-Hit, K-Kick, F-Flop, E-Elope, O-Other
Antecedent
P-Presentation of materials, S-S^D given, O-Other

Initials/ Date	Problem Behavior (circle one)	Antecedent (circle one)	Time/ Comments
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	
	S H K F E O If O, specify:___________________	P S O If O, specify:_____________	

Table 2

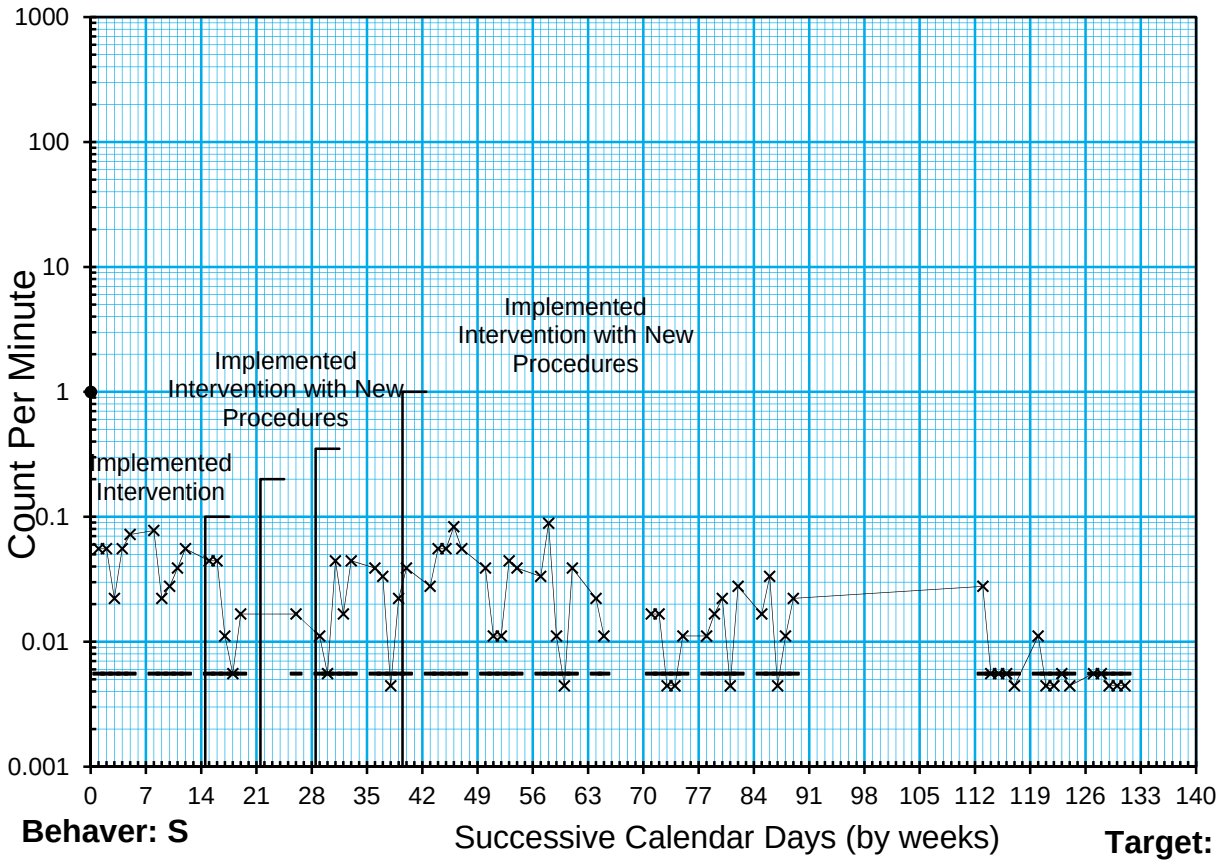
Please record every occurrence of problem behavior during a procedure (aka when you take out the procedure materials, set up the materials, or give an S^D and the antecedent. Thank you! ☺

Problem Behavior
S-Scream, H-Hit, K-Kick, F-Flop, E-Elope, O-Other
Antecedent
D-Directions, T-Tag, MI- Man Im, M-Matching, ID-ID Objects, S-Star Stacker, P-Point
Intensity
1-5; 1 meaning redirected with minimal effort, 3 meaning redirected with moderate effort, 5 meaning activity was suspended/full tantrum

Initials Date	Problem Behavior (circle one)	Procedure	Duration of Problem Behavior	Intensity of Problem Behavior
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5
	S H K F E Other, specify:_____________	D T MI M ID S P Other___________________		1 2 3 4 5

Appendix C

Figure 3



Appendix D

Procedure Pairing
PROCEDURE SHEET

Pupil:		Teacher:	CJ
		Procedure Writer:	CJ
		Date Written:	
IEPC Goal:			
Objective:	To pair the classroom procedure with the appropriate icon.		
Materials:	Icons for appropriate classroom procedures.		
Reinforcer:	See student's reinforcer list.		
Data collection:	10 trials, (+) for correct and (-) for incorrect.		

Phase	Tutor Presentation/Preparation	Correct Response		Incorrect Response		Criteria for Change
		Pupil Behavior	Tutor Behavior	Pupil Behavior	Tutor Behavior	
1	Tutor 1 sits facing the student and establishes eye contact with the student. Tutor 1 places the choice board on the table in front of the student with the icon of the procedure. The tutor says "pick one." Tutor 2 full physically prompts the student to pull the icon of the mastered procedure off the choice board and hand the icon to Tutor 1. Tutor 1 then gives the verbal prompt (as written in the procedure protocol) for that specific procedure.	Student does not resist prompts and begins procedure within 3 sec. after verbal prompt is given.	Praise paired intermittently with tangibles.	1. Student resists prompts 2. Student does not begin procedure.	1 Wait 10 sec. and repeat S^D 2.Go through the prompt hierarchy as needed.	80% or > for 3 or 90% or > for 2 consecutive sessions.

Phase	Tutor Presentation/Preparation	Correct Response		Incorrect Response		Criteria for Change
		Pupil Behavior	Tutor Behavior	Pupil Behavior	Tutor Behavior	
2	Tutor 1 sits facing the student and establishes eye contact with the student. Tutor 1 places the choice board on the table in front of the student with the icon of the procedure. The tutor says "pick one." Tutor 2 partial physically prompts the student to pull the icon of the mastered procedure off the book and hand the icon to Tutor 1. Tutor 1 then gives the verbal prompt (as written in the procedure protocol) for that specific procedure.	Student does not resist prompts and begins procedure within 3 sec. after verbal prompt is given.	Praise paired intermittently with tangibles.	1. Student resists prompts 2. Student does not begin procedure.	1. Tutor 2 full physically prompts the child to hand the icon to Tutor 1 2. Go through the prompt hierarchy as needed.	80% or > for 3 or 90% or > for 2 consecutive sessions.
3	The tutor sits facing the student and establishes eye contact with the student. The tutor places the choice board on the table in front of the student with the icon of the procedure. The tutor says "pick one" and points to the icon. After the student hands the icon to the tutor they then give the verbal prompt (as written in the procedure protocol) for that specific procedure.	Student picks up the icon and hands it to the tutor and begins procedure within 3 sec. after verbal prompt is given.	Praise paired intermittently with tangibles.	1. Student does not pick up icon and hand it to tutor. 2. Student does not begin procedure.	1. Go through the prompt hierarchy as needed. 2. Go through the prompt hierarchy as needed.	80% or > for 3 or 90% or > for 2 consecutive sessions.
4	The tutor sits facing the student and establishes eye contact with the student. The tutor places the choice board on the table in front of the student with the icon of the procedure. The tutor says "pick one". After the student hands the icon to the tutor they then give the verbal prompt (as written in the procedure protocol) for that specific procedure.	Student picks up the icon and hands it to the tutor and begins procedure within 3 sec. after verbal prompt is given.	Praise paired intermittently with tangibles.	1. Student does not pick up icon and hand it to tutor. 2. Student does not begin procedure.	1. Go through the prompt hierarchy as needed. 2. Go through the prompt hierarchy as needed.	80% or > for 3 or 90% or > for 2 consecutive sessions.

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