Abstract

Simple and conditional visual and auditory discrimination repertoires are critical components of many skills necessary for daily functioning, including communication, academic, and daily-living skills (Green, 2001). When auditory discrimination is not under instructional stimulus control, it can result in delayed acquisition of new skills and limit academic progress. The purpose of this study was to teach auditory discrimination to children with autism who had little to no progress on classroom procedures that required auditory discrimination, such as selecting an object from an array when given the name of the object as the direction. Auditory discrimination was taught starting with teaching a particular motor response in the presence of an environmental sound, then slowly introducing other sound and response pairings. We used a variety of teaching methods based on the learner’s progress (e.g., trial-and-error, shaping, and physical prompts). This set of interventions was implemented with three children enrolled in an early elementary special education classroom and were not demonstrating auditory discrimination under instructional stimulus control. Two children mastered the discrimination between a sound \( S^D \) and no sound \( S^\Delta \) and the discrimination between a sound \( S^D \) and sound \( S^A \). One child discriminated between three auditory \( S^P \)s, but did not maintain over time.

Method

- Based on Green (2014) recommendations
- Start with simple discrimination between sound discriminative stimulus \( S^P \) and no sound delta stimulus \( S^\Delta \)
- Teach motor response with each sound
- Goal was to introduce words for simple direction following
- Used physical prompting faded within session

Step 1: Sound \( S^D \) and No-Sound \( S^\Delta \)
- Sound presented for 10 s and tapping the table reinforced
- No sound presented for 10 s; timer restarted if child tapped table

Step 2: Sound \( S^D \) and Sound \( S^A \)
- Piano-sound \( S^D \) presented for 10 s and tapping table reinforced
- Drum-sound \( S^D \) presented for 10 s

Step 3: Two Sound \( S^P \)s
- Piano-sound \( S^D \) same as in Step 1
- Drum-sound \( S^D \) presented for 10 s and waving reinforced

Step 4: Four Sound \( S^P \)s
- Introduced two more sounds and two corresponding motor responses
- Maintained previously mastered sounds

Results

<table>
<thead>
<tr>
<th></th>
<th>Total Sessions</th>
<th>Sound ( S^D ) and No Sound ( S^\Delta )</th>
<th>Sound ( S^D ) and Sound ( S^A )</th>
<th>Sound ( S^D ) and Sound ( S^\Delta )</th>
<th>Sound ( S^D ) and Sound ( S^\Delta )</th>
<th>Sound ( S^D ) and Sound ( S^\Delta )</th>
<th>Discontinued after 10 sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eric</td>
<td>165 sessions</td>
<td>25 sessions</td>
<td>5 sessions</td>
<td>40 sessions</td>
<td>35 sessions</td>
<td>Discontinued after 28 sessions</td>
<td>Discontinued after 35 sessions</td>
</tr>
<tr>
<td>Wendy</td>
<td>160 sessions</td>
<td>57 sessions</td>
<td>23 sessions</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ariel</td>
<td>96 sessions</td>
<td>Discontinued after 45 sessions</td>
<td>N/A</td>
<td>Discontinued after 37 sessions</td>
<td>N/A</td>
<td></td>
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</tr>
</tbody>
</table>

Discussion

- Children engaged in behaviors demonstrating discrimination, though they were not engaging in the target behavior
- Observed some prompt dependency
- Difficulty moving from Step 2 to Step 3
- It is important to start simple auditory discrimination earlier in curriculum
- Might be inadvertently extinguishing attending to auditory stimuli
- If children are not progressing through curriculum, it could take up to 2-3 years before any formal auditory discrimination training
- Currently researching two other methods for teaching this skill in our classroom
- Important to continue to research methods for teaching children with extensive skill deficits