### Introduction

Children with autism often display expressive language deficits. Expressive language consists of spontaneous speech, MLU, or increased language performance. There are behavioral and naturalistic approaches used to increase expressive language in children with autism. One approach stems from Applied Behavior Analysis (ABA) and is called discrete trial training (DTT). Discrete trial training breaks down skills into manageable tasks, which are then taught through repeated trials. The other approach is more naturalistic, called milieu teaching. Milieu teaching includes four strategies: model, mand-model, time delay, and incidental teaching. Milieu teaching uses the child’s natural environment to assist in language production.

### Purpose

In children with autism, (P) is milieu teaching (I) more effective at increasing expressive language (O) as measured by increased MLU or increased spontaneous speech when compared to Applied Behavioral Analysis discrete trial training (DTT)?

### Results

#### Participants

<table>
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<tr>
<th>Authors (date)</th>
<th>Research Design</th>
<th>Participants (diagnosis, gender, grade &amp; age)</th>
<th>Purpose</th>
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</table>
| Christensen-Sandfort & Whimnery, (2013). | Single-Subject Study; Multiple Baseline Design | N = 3  
• Nick: (4;11) mild/moderate autism  
• Mary: (4;5) severe autism  
• Carl: (5;6) severe autism | Examine if teacher-implemented milieu teaching strategies in typical classroom routines in an ECSE classroom positively impact communication in children with autism. | Spontaneous occurrences of communication targets | • Nick: Used the target phrase spontaneously in both circle time & on the playground. Percent overlap from baseline to treatment was 3.79%.  
• Mary: 5x times spontaneously on the playground. One of these responses was after a mand-model prompt. Percent overlap from baseline to treatment was 0%.  
• Carl: Spontaneous responses was 4.33 with a range of 0 to 8. Percent overlap from baseline to treatment was 0%. |
• 29 males,12 females  
• Between ages (3.9) – (8.9)  
• All had diagnosis of autism | To review studies that compare discrete-trial and normalized behavioral language interventions with young children with autism. | Spontaneous use of prepositions | • All of the studies reviewed reported that normalized language training was more effective than discrete trial training when teaching young children with autism to spontaneously produce prepositions. |
| Ingersoll, (2011). | Single-Subject Study, Randomized Alternating Treatment Design | N = 2  
• 2 males  
• Leon: (42 months)  
• CDI= 56 words, communicated for protesting & requesting  
• Griffon: (40 months)  
• CDI=570 words, spontaneous language consisted mainly of single words & simple phrases.  
• Both had diagnosis of autism | Compare the effect of three naturalistic language teaching approaches (responsive interaction, milieu teaching, combined intervention) on the expressive language behavior in children with autism. | Spontaneous language | • Leon: Used more spontaneous language in the milieu teaching and combined conditions that in the responsive interaction condition. There was not a significant difference in improvement between the milieu teaching condition and the combined condition.  
• Griffon: Used slightly more spontaneous language in the milieu teaching and combined teaching conditions than in the responsive interaction condition. Throughout the study, spontaneous responses in the responsive interaction condition improved to the point where there was no difference between the three conditions at the end of treatment. |
| Jennett, Harris, & Delmolino, (2008). | Single-Subject Study; Two Multiple- Probe Designs Across Participants | N = 6  
• 1 female, 5 males  
• Mand Training prior to DTT:  
• Maggie:  
• Marcus:  
• Oliver:  
• DTI followed by Mand Training:  
• Peter:  
• Christian:  
• Ryan: | Compare DTI with mand training for teaching requesting in children with autism. | Mand Training prior to DTT: | • Maggie: average of 15.3 independent requests  
• Marcus: average of 13.7 independent requests  
• Oliver: no improvement |

### Discussion

- **External evidence:** Research indicates an increase in spontaneous speech in children with autism when provided with both milieu teaching or discrete trial training (DTT).
- **Internal evidence to clinical practice:** The clients included in the studies were all young children with a diagnosis of autism, which relates to my client. Currently, my client displays temper tantrums in clinic sessions because he cannot tell me his wants and needs. When attempting to introduce structure to the session, my client prefers to play with the stimulus items. For this reason, I think slowly introducing structure would be in the best interest of my client, which would imply using milieu teaching to increase spontaneous language.

### Selected References


