The University of Delaware
Winging It! Improvisation Workshop:
Impact on Conversational Turn-Taking with Adolescents with Autism Spectrum Disorder

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Capstone Project 2020
Winging It! Workshop at UD

INTRODUCTION
Autism Spectrum Disorder (ASD)

- Range, or spectrum, of neurodevelopmental disorders (American Psychiatric Association, 2013)

- Difficulty with social interactions and social communication skills, including:
  - Conversational turn taking
  - Theory of Mind
  - Understanding/expressing emotions

(Wilson, et. al., 2019)
Current Evidence

- Limited research on effective interventions for adolescents with ASD

- WHY is this important?
  - Transition to adulthood
  - Decreased participation in recreational/social activities → less social interactions → poor social outcomes (unemployment, increased stress)

(Howlin, et. al. 2004), (Orsmond, Krauss, Rutter, 2004)
Theatre-Based Interventions

- Theatre encourages targeting and practice of skills:
  - Expressing and understanding emotions
  - Body movement/awareness
  - Individual expression
  - Use of gesture and eye contact
  - Listening to others
  - Taking the perspective of another
- Use of role-playing, improvisation, and dancing

(Dubie, 2009)
Evidence for Theatre-Based Interventions

- Corbett et. al. (2011; 2014; 2014) results demonstrated
  - Improved:
    - Theory of Mind skills
    - Social awareness
    - Social cognition
    - Increased self-confidence
    - Responsiveness to others
    - Cooperation with others
    - Comfort when speaking
  - Reduced cortisol levels
Essential Question

Will a theatre-based intervention affect the number of initiations and conversational turns taken with communication partners?
Language Environment Analysis (LENA)

- LENA devices – recorded and analyzed reciprocal conversation
- Recordings obtained on the following days:
  - Day 2 and Day 3 = Week 1
  - Days 7 and Day 8 = Week 2
**Language Sample Transcriptions**

- 12 hours of audio recordings were transcribed to obtain language samples
- Coded and analyzed using Systematic Analysis of Language Transcripts (SALT)
- Codes were broken up into two sets:
  - Utterances produced during *spontaneous conversation*
  - Utterances produced during *structured activities*
## Coding for Language Samples

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>INU</td>
<td>Initiation of conversation with an unknown person or the group as a whole</td>
</tr>
<tr>
<td>INP</td>
<td>Initiation of conversation with a peer</td>
</tr>
<tr>
<td>INA</td>
<td>Initiation of conversation with a facilitator, graduate student, or clinician</td>
</tr>
<tr>
<td>CTU</td>
<td>Conversational turn taken with an unknown communication partner/group conversation</td>
</tr>
<tr>
<td>CTP</td>
<td>Conversational turn taken with a peer</td>
</tr>
<tr>
<td>CTA</td>
<td>Conversational turn taken with a facilitator, graduate student, or clinician</td>
</tr>
<tr>
<td>C</td>
<td>General comment made with no interpreted initiation or known conversation taking place (often included comments to self)</td>
</tr>
</tbody>
</table>

Table 1. Spontaneous utterance codes used in analysis of language samples.
## Coding for Language Samples

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| STIM-INU | Initiation with an unknown communication partner or the group as a whole, which may include:  
- Volunteering new ideas to the group  
- Offering an insightful comment  
- Adding novel thoughts to a group discussion/conversation |
| STIM-INP | Initiation of a conversation with a peer during a structured activity |
| STIM-INA | Initiation of a conversation with a facilitator, graduate student, or clinician during a structured activity, including:  
- Asking facilitators questions regarding the structure/rules of an activity |
| STIM-CTU | Conversational turn taken with an unknown communication partner or the group as a whole during a structured activity |
| STIM-CTP | Conversational turn taken with a peer during a structured activity |
| STIM-CTA | Conversational turn taken with a facilitator, graduate student, or clinician during a structured activity |
| STIM-G | Response from the entire group to demonstrate participation with the activity |

Table 2. Codes used for language sample analysis during structured improvisation and theatre-based activities.
# Results

<table>
<thead>
<tr>
<th></th>
<th>Week 1</th>
<th>Week 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>01/07</td>
<td>01/09</td>
</tr>
<tr>
<td># conversational turns</td>
<td>150</td>
<td>286</td>
</tr>
<tr>
<td># conversational turns with adults</td>
<td>71</td>
<td>111</td>
</tr>
<tr>
<td># of conversational turns with peers</td>
<td>50</td>
<td>129</td>
</tr>
<tr>
<td># of initiations</td>
<td>74</td>
<td>83</td>
</tr>
<tr>
<td># of initiations with adults</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td># of initiations with peers</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td># of words total</td>
<td>2457</td>
<td>3414</td>
</tr>
<tr>
<td># of utterances in sample</td>
<td>382</td>
<td>533</td>
</tr>
<tr>
<td># of spontaneous utterances made</td>
<td>217</td>
<td>295</td>
</tr>
<tr>
<td># of utterances during structured activities</td>
<td>107</td>
<td>172</td>
</tr>
</tbody>
</table>
Results

- Increased percentage of initiated utterances (overall)
- Increased # of initiated utterances with peers
- Increased # of initiated utterances with clinicians
- Maintained conversational turns taken (overall)
Results Discussion

- Environmental factors:
  - Age-related
  - Mid-term week
  - Participant refusal to participant

- Limitations:
  - Limited research on LENA and adult-to-adult interactions
  - Transcription errors
  - Structure of workshop – Free time vs structured
  - Sample size

- Benefit of Improvisation
References


Kasthuriratne, R., Alana, L., & Ansaldo, J. (2018). Improvising Social Skills For Teens With ASD: Through improv, teens can tap into their inner comedian while building social-communication skills. See how an Indiana University camp does it. The ASHA Leader, 23(5), 38-41.

