Teaching Conversation Skills Using the “Lunch Buddies” Program:
Brief Report on Overall 2011-12 Program Effectiveness

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PART 1: INTRODUCTION

This document summarizes findings from Ivymount’s full-length report describing the effects of the 2011-12 Lunch Buddies program on improving conversation skills for students with social cognition challenges.

PART 2: OVERVIEW OF “LUNCH BUDDIES” PROGRAM

Prior to starting the Lunch Buddies program, teachers and therapists reported that students were making minimal or no progress in their ability to converse with one another. Students displayed little awareness of or regard for others in their environment, rarely initiated conversations and required significant adult prompting to select a topic, engage in conversation with one another and maintain interest in the conversation. Based on knowledge of students, however, teachers and therapists felt confident that students did in fact want to engage with one another but lacked the skills to do so successfully.

Following targeted observations of students interacting throughout the day, the teacher, therapists and social learning coordinator for MLN Lower School identified key deficit areas and determined the skill areas to target using the Lunch Buddies program. Conversation skill objectives of the Lunch Buddies curriculum included instruction and practice opportunities to improve students’ ability to:

- select a topic for conversation
- use information from on-topic questions or comments to formulate follow-up questions and comments
- use questioning strategies to elicit additional information and keep the conversation going
- make more meaningful and complete contributions to the conversation
- use attention gaining strategies to ensure that partners are listening
- use active listening and expected conversation behaviors (e.g., by orienting body and gaze toward partner, excusing themselves when leaving the group, and asking clarifying questions)
- use information known about a peer to select a conversation topic
- recall what peers shared during a conversation to inform conversation and future conversations
- articulate why it is important to select topics your partner is interested in, use expected conversation behaviors and remember what one’s partner said
- think about one’s partner and give him/her “good thoughts” during conversation

To encourage student buy-in and present skills in an engaging and meaningful way, the Lunch Buddies team created comic book characters that linked to each of the curriculum objectives. Throughout the program the characters served as a reminder of the skills and how to use them in conversation. Examples of characters included:

- **Friendly Freddy**: helps you select a conversation both people will enjoy, and wants you to use his favorite words (who, what, where, when) to keep the conversation going;
- **Listening Larry**: helps you identify key words from what your partner said and use those words to keep the conversation going;
- **Good Memory Marge**: helps you visualize what your partner is saying, and remember what they say so you can use it in future conversations; and
- **Polly Parrot**: Freddy’s best friend who helps you share information using all of Freddy’s favorite words.

Individual lessons were structured using the evidence-based Teaching Interactions Procedure. At the beginning of each lesson teachers labeled and identified the conversation skill for the students. In an effort to increase intrinsic motivation, teachers provided a rationale to students as to why learning these skills would benefit them. During lunch, teachers described and modeled the target skill and provided structured practice opportunities. Students were provided specific feedback, both positive and corrective, during the course of the lunch session and specific reinforcement systems were put in place to reinforce demonstration of target skills.

The intervention took place over the course of the 2011-12 academic year. Students received explicit instruction three times a week during their half hour lunch period. Fridays during lunch, team members faded verbal prompts and direct instruction but continued to provide non-verbal reinforcement (tally marks). Friday sessions provided students an opportunity to practice their skills without relying on teacher facilitation and offered teachers an opportunity to see if the skills were generalizing and identify key areas to target during future instruction.

**PART 3: METHODOLOGY**

Participants were four students from the Multiple Learning Needs (MLN) Lower School and ranged from 7.5 to 9.11 years of age at the beginning of the study. Two were diagnosed with autism spectrum disorders (ASD), and two with learning disabilities including significant challenges relating to social cognition. All had intelligence quotients (IQs) within the near average range (i.e., 70-85). The speech language therapist conducted a battery of language tests for each participant. Although profiles varied considerably, scores indicated that all participants experienced significant challenges relating to expressive and/or receptive language.

Data were collected using the following three methods:

- Pairs of students (referred to as S1 & S2, and S3 & S4) were videotaped once at baseline, and three times at end-of-year (two measuring generalization with reinforcement, and the third measuring generalization without reinforcement) engaging in approximately 20 minute lunches.
- Baseline and end-of-year interviews were conducted with participants’ speech language therapist regarding their conversation skill levels across a range of domains.
- Program overview interviews were conducted with each of the Lunch Buddies team members to identify key lessons learned by students, as well as ongoing conversational challenges.

**PART 4: INDIVIDUAL AND GROUP OUTCOMES**

**BASELINE AND END-OF-YEAR LUNCH TRANSCRIPTS**

The following section briefly summarizes findings from baseline and end-of-year lunch transcripts. Tables identify students as S1, S2, S3 and S4.
Peer-Directed Comments/Questions

At baseline, students were directing almost no comments/questions to peers – an average of 2.0 per student. By the end of the year, this number had increased dramatically, with students directing an average of 44.5 comments to peers during generalization with reinforcement, and an average of 37.8 during generalization without reinforcement.

Table 1 - Peer-Directed Comments/Questions

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Gen1 w Reinforce</td>
<td>20</td>
<td>30</td>
<td>35</td>
<td>40</td>
</tr>
<tr>
<td>Gen2 w Reinforce</td>
<td>40</td>
<td>50</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>Gen3 w/o Reinforce</td>
<td>30</td>
<td>35</td>
<td>30</td>
<td>25</td>
</tr>
</tbody>
</table>

Topic Introduction

At baseline, introduction of new topics averaged 0.5 per student, with only one student attempting to introduce new conversation topics. By the end of the year, students were able to introduce new topics using strategies learned during the year – primarily the use of “wh” words to ask questions related to topics from peers’ friendship files and/or generic questions such as “What are you doing this weekend?” or “What are you doing this summer?” Students introduced an average of 3.4 new topics during generalizations with reinforcement, and an average of 1.8 topics during generalization without reinforcement. Significantly, because students were able to maintain topics for extended periods of time by the end of the year (see section on Topic Maintenance below) there was less need to introduce multiple new topics in a given 20 minute lunch period than there was at the beginning of the year when single topic exchanges lasted only a few turns.

Table 2 - Topic Introduction

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Gen1 w Reinforce</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Gen2 w Reinforce</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Gen3 w/o Reinforce</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
**Topic Maintenance**

At baseline, students generated an average of 1.0 on-topic comment/question per 20 minute lunch period. By the end of the year, students had dramatically increased the number of on-topic comments/questions they generated to an average of 33.5 during generalizations with reinforcement, and an average of 31.5 during generalizations without reinforcement.

![Table 3 - Topic Maintenance](image)

Related to this, students’ ability to expand on a single topic of conversation increased significantly. At baseline, length of conversation exchanges averaged 2.5 turns per topic. Students 3 and 4 did not maintain topics at all, and Students 1 and 2 maintained two very brief conversational exchanges. By the end of the year, students were able to remain on topic for much longer. For example, during generalization with reinforcement, Student 3 and 4’s exchanges averaged 9.4 turns per topic, and Student 1 and 2’s exchanges averaged 13.7 turns per topic. During generalization without reinforcement, Student 3 & 4’s exchanges averaged 11 turns per topic, and Student 1 & 2’s exchanges averaged 27.8 turns per topic.

**On-Topic Comments**

At baseline, on-topic comments (defined as comments that were relevant to the current topic, but did not necessarily include new information) averaged 1.0 per student. By the end of the year, students made significant strides in this area, with on-topic comments averaging 26.4 per student during generalization with reinforcement, and 23.5 per student during generalization without reinforcement.

![Table 3 - On-Topic Comments](image)
On-Topic Questions

At baseline, none of the participating students asked on-topic questions as a strategy for maintaining conversation. By the end of the year, students demonstrated significant growth in this area, with on-topic questions averaging 7.1 per student during generalization with reinforcement, and 8.0 per student during generalization without reinforcement. Students 2 and 3 used on-topic questions most frequently as a way of maintaining conversations. Students 1 and 4, who struggled with initiation, were less likely to ask questions without prompting, relying instead on contingent comments or simply replying to peers’ questions.

Use of “Wh” Questions

Students’ growth in topic maintenance skills were also measured in terms of their use of “wh” questions. At baseline, use of “wh” questions averaged 0.25 per student, with only one student asking a “wh” question. By the end of the year, students were much more likely to use “wh” questions as a means of either introducing a new topic, or extending conversation on an existing topic. Use of “wh” questions averaged 5.4 per student during generalization with reinforcement, and 3 per student during generalization without reinforcement.
Gaining Attention Strategies

At baseline, gaining attention strategies were used an average of 0.5 times per student. Two students used gaining attention strategies once each during their 20 minute lunch session (e.g., using peer’s name or the phrase “guess what”). The other two students did not use any gaining attention strategies at baseline. By the end of the year, students had made modest progress in using gaining attention strategies to ensure that their partners were attending to their comments/questions. Students used an average of 6.3 gaining attention strategies during generalization with reinforcement, and an average of 3.3 gaining attention strategies during generalization without reinforcement.

Listening Behaviors

At baseline, students demonstrated no listening behaviors (i.e., acknowledging others’ contributions by nodding, saying “mmm hmm,” “yeah,” or “cool”). By the end of the year Students 1 & 2 made moderate progress in this area, and Student 3 made minimal progress. Use of listening behaviors averaged 4.6 times per student during generalization with reinforcement, and 2.0 times per student during generalization without reinforcement.
Conversation Repair

At baseline, students did not use any strategies to repair conversation breakdowns, in spite of the fact that their conversational initiations were sometimes ignored by peers. By the end of the year, all students made moderate to significant progress in this area, and were able to repair simple conversation breakdowns by requesting (and providing) clarification, or repeating themselves if their peer did not respond to their comment/question. Students were not able to repair more significant conversation breakdowns without adult intervention, and these breakdowns usually resulted in long pauses, followed by the introduction of entirely new topics. Use of conversation repair strategies averaged 4.5 times per student during generalization with reinforcement, and 3.3 times per student during generalization without reinforcement.

Table 8 - Conversation Repair

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Gen1 w Reinforce</th>
<th>Gen2 w Reinforce</th>
<th>Gen3 w/o Reinforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
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<td>S2</td>
<td></td>
<td></td>
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<td>S3</td>
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<tr>
<td>S4</td>
<td></td>
<td></td>
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</tbody>
</table>

“Unexpected” Comments/Questions

At the beginning of the year, three out of the four participating students had significant issues with making “unexpected” comments/questions (i.e., comments or questions that were random or undirected). At baseline, students made an average of 4.5 unexpected comments/questions. By the end of the year, Students 3 & 4 made significant progress in this area, but Student 1 continued to have difficulties. Unexpected comments/questions averaged .25 times per student during generalization with reinforcement, and 2.0 times per student during generalization without reinforcement.

Table 9 - "Unexpected" Comments/Questions

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Gen1 w Reinforce</th>
<th>Gen2 w Reinforce</th>
<th>Gen3 w/o Reinforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>S2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>S3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary

Quantitative findings from the baseline and end-of-year lunch transcripts indicate significant growth in a number of key areas of conversational skill, and modest to moderate growth in other areas.

Perhaps most significantly, students made enormous strides in independent peer-directed comments, which meant that the program met its key goal of teaching students to spend more time conversing with one another. Also extremely significant was students’ growth in topic maintenance skills, especially their use of on-topic comments and on-topic questions. Topic maintenance was a central goal of the program, and by the end of the year, students were able to use a variety of tools to maintain topics, including key words and contingent comments. The average length of exchanges on a single topic also grew exponentially for both pairs of students.

Although less dramatic, students demonstrated growth in their ability to select and introduce topics based on prior knowledge of peer’s interests and/or using conventional conversation-starters such as “What are you doing after school today?” Students also showed growth in their ability to ask “wh” questions, use gaining attention strategies and listening behaviors, and repair simple breakdowns in conversations.

Growth was uneven in terms of students’ reducing their “unexpected” comments and questions. This was identified as a goal for three students participating in the program, and although one student continued to have problems with unexpected comments/questions throughout the year, the other two students made significant strides in this area, eliminating their unexpected comments and questions entirely.

Finally, results indicated that by the end of the year, students were able to demonstrate all of these skills independent of adult prompting and the structured support provided by the Lunch Buddies lessons themselves. This ability to generalize skills was quite remarkable. Even without reinforcement, students’ ability to demonstrate conversation skill gains remained high. Although significant challenges remained for all participating students, and conversational contributions were frequently “odd” in spite of meeting the criteria for peer-directed contributions and on-topic comments and questions, all four students demonstrated measurable progress.

BASELINE AND END-OF-YEAR INTERVIEWS WITH SPEECH LANGUAGE THERAPIST

The following section briefly summarizes findings from baseline and end-of-year interviews with the participants’ speech language therapist:

Table 12 summarizes growth across participants in terms of nine specific conversation skills, including generalization of these skills beyond structured Lunch Buddies lessons. The speech language therapist used the following scale to assess progress:

- Very Significant Progress = 3
- Moderate Progress = 2
- Minimal Progress = 1
- No Progress = 0
- N/A = Not a Problem Area

In summary, participants made gains in all skill areas, though more gains in some areas than in others. Skill areas within which the most significant growth took place across students included need for prompting and support, listening behaviors, attending to peers, and thinking about
conversation partners. Students demonstrated moderate growth in topic gaining attention strategies, topic maintenance, and reduction in “unexpected” comments/questions. Students made minimal/moderate progress in terms of conversation initiation/topic selection and conversation breakdown and repair.

Table 12 – Growth Across Students in Terms of Key Conversation Skills

<table>
<thead>
<tr>
<th>Skill</th>
<th>Student 1</th>
<th>Student 2</th>
<th>Student 3</th>
<th>Student 4</th>
<th>Average Across Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversation Initiation and Topic Selection</td>
<td>1.5</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Topic Maintenance</td>
<td>2</td>
<td>2.5</td>
<td>2</td>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>Gaining Attention Strategies</td>
<td>1.5</td>
<td>3</td>
<td>2</td>
<td>2.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Listening Behaviors</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Conversation Breakdown and Repair</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1.3</td>
</tr>
<tr>
<td>Attending to Peers</td>
<td>2</td>
<td>3</td>
<td>1.5</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Thinking About Conversation Partners</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>“Unexpected” Comments/Questions</td>
<td>2</td>
<td>N/A</td>
<td>2</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Need for Prompting/Support</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Average Across Skills =</td>
<td><strong>1.8</strong></td>
<td><strong>2.9</strong></td>
<td><strong>2.1</strong></td>
<td><strong>1.7</strong></td>
<td><strong>2.1</strong></td>
</tr>
</tbody>
</table>

In summary, one student made significant progress across skill areas, and the remaining three students made moderate progress across skill areas. All students demonstrated very significant growth in one or more skill areas, although areas of growth and ongoing challenge varied considerably across students. Most significantly, all students required much less prompting by the end of the program year in order to converse successfully with peers.

PROGRAM OVERVIEW INTERVIEWS WITH LUNCH BUDDIES TEAM

The following section summarizes interview responses from Lunch Buddies team members regarding perception of program effectiveness in meeting students’ needs:

Student Outcomes

Generalization Across Contexts

All five team members observed at least some generalization of Lunch Buddies skills across contexts. Most noted that areas of generalization and degree of generalization varied significantly across students. Examples of generalization most commonly mentioned included the following:

- improved ability to ask and answer “wh” questions
- more spontaneous conversation across contexts
- ability to select topics
Key Areas of Student Growth

Team members most commonly identified the following as key areas of student growth resulting from the Lunch Buddies program:

- increased perspective taking skills and rudimentary ability to “think about” peers' interests
- improved ability to listen to what peers are saying and to respond accordingly
- increased engagement with peers
- expanded length of exchanges on a single topic, as well as increased stamina for conversation
- more purposeful interactions with peers (e.g., exchanging information as opposed to simply commenting on one another's scripts)

Key Areas of Ongoing Conversational Challenge

Team members most commonly identified the following as key areas of ongoing conversational challenge:

- lack of deeper comprehension of why conversation is important, as well as intrinsic motivation for engaging in conversations with peers (e.g., based on notion that conversation aids friendship)
- getting “stuck” on preferred topics

Other examples mentioned no more than once included: limited language and cognition skills, rigid conformity of some students to question/answer conversation structure, uneven flow and rhythm of conversation, lack of ability to generate new and motivating topics, need for greater funds of knowledge/expanded repertoire of what they are able to talk about, and gaining the attention of non-responsive peers.

PART 5: CONCLUDING REMARKS

In summary, both quantitative and qualitative analysis of baseline and end-of-year data indicate growth at individual and group levels in response to the Lunch Buddies program. Considering the fact that participants were able to demonstrate skills in the absence of prompting, and – in most cases – even in the absence of reinforcement, these findings are highly promising. Team members were unanimous in their assessment of the Lunch Buddies program as a highly effective curriculum for improving students’ conversation skills, increasing independence, and motivating students to engage more frequently and successfully in conversation with their peers.

ACKNOWLEDGEMENTS

The authors wish to thank all members of the Lunch Buddies team, including Lynn Cannon, Katherine Driggs, Courtney Goldstein, Jonna Clark, and Michal Powers, for their amazing work in developing and implementing the Lunch Buddies program this year. We are also grateful to the students who participated in this study for their hard work and commitment to learning how to be better conversation partners, as well as for their patience with our frequent data collection efforts.