COMPREHENSION LITERACY INTERVENTION FOR ELEMENTARY STUDENTS
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Background
- More likely to have access to the general education curriculum when in a general education classroom (e.g., Washington, Duck, Deaf, Angora, 2008; Johnson & Jobe, 2003).
- About half of students with Intellectual Disability (ID) and multiple disabilities have access to a general education classroom more than 40% of the day (Office of Special Education Programs [OSEP], 2015).
- Students with significant disabilities who have access to the general curriculum display:
  - Greater academic and socioemotional outcomes (Story et al., 2016).
  - Less challenging behavior (Polloway & Hull, 2007).
- Less than 25% of students with an ID will acquire “minimal literacy” skills (Kaminski, 2001).

Previous work
- Ask Yourself strategy (Kupper, Knight, McQueston, & Rapp, under review).
- Positive academic and social impact.
- 4 high school students with significant disabilities.

Answers:
1. WHO - Mr. Ford, Mrs. Mertweiter, the Queen
2. HOW - Ellen walking, a spell, the door swinging open, and the shadow of a person
3. WHEN - September, Holloway, May 5th
4. WHAT - Princess, Ham, food
5. WHERE - lots of people died, Arthur isn’t going, she’s tired

What costume does Scout wear in the pageant?

What is the capital of Germany?

What is the play about?
Literacy Strategies

Adapted Texts
- Texts at adjusted levels
- Summaries of book chapters
- Texts with eliminated pages
- Key words paired with pictures
- Repeated lines to emphasize main points
- Texts with embedded pictures or objects

Shared Reading
- Interactive reading experience that occurs when students share the reading of a text while guided and supported by a teacher
- May utilize adapted texts
- Improves text comprehension of students with significant disabilities
- Increase comprehension scores

Literacy

- Answering comprehension questions is **not** a reading strategy
- Proficient readers stop and ask questions while they are reading

Self-questioning
- Increased comprehension of text for all students (Kwan, Aber, Morgan, Colio, & Wiley, 2014) students with learning disabilities (Masters & Struggs, 1979), and students with significant disabilities (Wood et al., 2014)
- Wood et al. (2005) was the only study with elementary students

Research Questions

1: Is there a functional relationship between the use of the Ask Yourself strategy and correctly asking wh- questions?

2: Is there a functional relationship between the use of the Ask Yourself strategy and correctly answering wh- questions?

Research Design

- Multiple baseline across behaviors
- Inclusion criterion:
  - Diagnosis of autism, intellectual disability, or developmental disability
  - Literacy instruction in an elementary school general education class
  - Eligibility for the alternate assessment
Jared

- 2nd grader
- Diagnosis of autism
- Hindi and English at home
- Included with general education peers for more than 80% of his day
- Communication
  - One-to-two-word phrases
  - Proloquo2go
  - PECS
  - Limited amount of basic sign language

- Behavior
  - Needed redirection every few seconds during an academic task
  - Utilized sensory breaks after 2-3 tasks
  - 1:1 paraprofessional
  - Tote materials especially books

- Academics
  - Engaged in parallel tasks
  - Read level 3-6 tasks (beginning to middle kindergarten level) for one week
  - Answered who and what questions
  - 1:1 instruction from the special education teacher
  - Able to answer questions with two choices

Setting

- General education classroom (18 sessions)
  - 19 students
  - Special education teacher in the classroom
  - Literacy intervention block
  - Other students were engaged with literacy tasks
  - Some times not literacy tasks e.g., Word or very loud
- Special education classroom (6 sessions)

Materials

- Tests - Level D (end of kindergarten to beginning first-grade reading level)
  - 20 of 24 from Reading A to Z

- Rags
  - Color coded
  - Embedded within the text

- Worksheets (Questions and Answers)
  - Color coded
  - Used pictures from text but not the same page
  - Who, what, and where questions

- Where is the watermelon?
- Where did Polly fly?
- Out the door
- Into the ocean

Polly got out of her cage.
She flew out the door.
Results

Procedural fidelity
- Collected for 37.5% of sessions (9 of the 24 sessions)
- 99.4%

IOA
- Collected for 37.5% of sessions (9 of the 24 sessions)
- 100% agreement

Social Validity

- Special education teacher
  - "Blew away" with Jared's success with the increased academic demands.
  - Tried different question stems, such as when and why
  - Combined intervention (decrease in numbers per week)
  - Increased difficulty of annual RIPE goal
  - Developed a plan to have Jared walk in parallel

- Parents
  - Nervous with the increased demands, bit agreed to continue
  - Could not believe teacher report
  - Watched video of Jared reading

- Jared
  - Increased engagement
  - Fewer signs of aggression towards text (i.e., attending to text pages)
  - Less redirects
  - Read higher-level tasks
  - Shows his true comprehension abilities

- Communication
  - Verbally said "stop" on several occasions
  - Answered the question before being presented the answer pictures at times
  - Increased level of independence
  - Turner the pages, following the text in his finger, and maintaining focus on the task
  - Generalized to other settings and tasks

<table>
<thead>
<tr>
<th>Questions</th>
<th>Participant 1</th>
<th>Participant 2</th>
<th>Participant 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that increasing engagement in reading</td>
<td>5</td>
<td>4</td>
<td>5</td>
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<tr>
<td>I think that asking why questions during reading was an important goal for</td>
<td>4</td>
<td>4</td>
<td>5</td>
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<tr>
<td>my child/student</td>
<td>4</td>
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<tr>
<td>I think that answering why questions during reading is an important goal</td>
<td>5</td>
<td>5</td>
<td>4</td>
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<tr>
<td>for my child/student</td>
<td>5</td>
<td>4</td>
<td>4</td>
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<tr>
<td>I think that the closed reading strategy is an important way to engage</td>
<td>4</td>
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<td>4</td>
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<td>4</td>
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Next steps

- Multiple probe design
- 4 Students
  - Inclusive Setting
  - Students with extensive support needs/significant disabilities
  - Culturally and linguistically diverse backgrounds
- Adding probes to measure participation during discussion groups
- Reading groups versus 1:1

Discussion

How do you measure and/or define participation in discussion groups for students who use AAC?

Discussion

How do you find and recruit participants who are in inclusive settings?

Discussion

If time: How do you balance pre-determined messages, answers, and comments versus independent responses in a discussion group where the topic can be unpredictable?