Question Answering & Asking for Individuals with ASD & CCN

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Question Seed

• Light & Kelford Smith (1993)
  – Explored literacy experiences, in the homes, of preschoolers with and without CCN
  – Children with CCN participated in much of the same ways during literacy experiences:
    • Listens quietly, looks at pictures, turns pages, points to pictures, labels pictures, answers questions, and guesses what will happen next
  – However, children with CCN participated significantly less than their peers in:
    • Asking questions

Comprehension Instruction Methods (National Reading Panel)

Is there evidence that individuals with ASD & CCN can answer wh-questions?

QUESTION ANSWERING
Comprehension for Individuals with Severe Disabilities

- Addressed by:
  - Use of sight word in functional activity
  - Word-to-picture matching
- “Strategies will be needed for students to apply both to passage reading and when accessing literature through read alouds. For example, students need to be able to answer wh- questions” (Browder et al., 2009)
  - Select from picture array for students who are nonverbal

Comprehension for Individuals with Severe Disabilities

- “There is extensive research on literacy instruction for typically developing students as well as students with mild disabilities but minimal research extending practices to children with severe disabilities” (Mucchetti, 2013)
- “While minimally verbal students with autism are sometimes included within studies of children with severe disabilities, there is extremely limited research addressing that population specifically” (Mucchetti, 2013)

Is there evidence that individuals with ASD & CCN can ask questions?

QUESTION GENERATION/ASKING

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Why is asking questions important? (literacy)

- Question generation is one of 8 National Reading Panel recommended practices (Browder et al., 2006; Whalon et al., 2009)
- “Question generating is the single most effective reading comprehension strategy” (Whalon et al., 2009)

What is known about ASD and asking questions? (literacy)

- “Difficulties children with ASD experience with language can potentially impact the reading process” (Whalon & Hanline, 2008)
- Browder et al. (2009) found 23 studies that targeted comprehension for individuals with moderate/severe cognitive disabilities concluding, “they fit into only one of the eight effective strategies… That is, they rely on question answering”
- Question generation improves students’ ability to:
  - Make connections, respond to comprehension questions, produce quality retells, identify main ideas (Whalon & Hart, 2011)

Why is asking questions important? (communication)

- “Generating questions places students in the active role of initiator… increasing initiations is an important instructional goal for children with ASD” (Whalon & Hart, 2011)
- “Both asking and answering wh-questions are important skills to become a competent communicator because they help individuals learn about, and understand, their environments” (Ostry & Wolfe, 2011)
- “Learning to ask questions is paramount for academic success, social interaction, adaptive functioning, and many forms of employment” (Raulston et al., 2013)

What is known about ASD and question asking? (communication)

- Recent systematic literature review (Raulston et al., 2013)
  - Included 21 studies focused on teaching individuals with ASD to ask questions verbally or by using some form of AAC
  - Age: 2y 9m to 25y
  - Forms of questions:
    - What, 10 (48%)
    - Where, 6 (29%)
    - Multiple, 7 (38%)
Intervention procedures from Raulston et al. (2013)

- Hiding a toy/opaque bag
  - Telling participant to get it: “Where X?”
  - Telling participant to get it: “Who has X?”
  - Prompted to ask: “What’s that?”
  - Prompted to ask: “Can I see it?” then “Can I have it?”

- Video modeling to teach scripted conversation about preferred toys

- Shown known and unknown items/pictures
  - Prompted to ask: “What is this?” for unknown
  - Prompted to say: “I don’t know, please tell me”

- Pop-up books to teach “what happened” or “what is happening?”

- Activity interruptions for needed items: “Where X” or “who has X?”

- Told there was a surprise/something brought for participant: “what is it?”

- Contrived activities [e.g., locked gate to swing]: “How?”

Consistent intervention components (Raulston et al., 2013)

- Capturing student motivation by identifying preferred items and/or activities and strategically arranging instructional environment

- Using information and access to preferred items or activities as positive reinforcement for question asking

- Using systematic prompting and prompt fading (e.g., time delay)

Other takeaways (Raulston et al., 2013)

- Although AAC was permitted as part of intervention inclusion criteria, participant communication status was not reported

- Only one study directly mentions use of AAC (Ostryn & Wolfe, 2011)
  - Pictures based on Lund et al. (1998)

- Only one study used literacy experiences to teach question asking (Koegel et al., 2003)
Question Asking

• Story and question cards with PCS symbols (e.g., Whalon & Hanline, 2008)

Question Asking

• Picture based on Lund et al., 1998 (e.g., Ostryn & Wolfe, 2011)

Another possible representation

• Visual Scene Displays (VSDs, e.g., Snap Scene)

DISCUSSION QUESTIONS
Question Answering

- Is there reason to believe that interventions that have been shown to be successful for typically developing individuals and other disability populations would not be effective in teaching individuals with ASD & CCN to answer wh- questions?
  - Graphic organizers, direct instruction, cooperative learning (Finnegan & Mazin, 2016)
  - What considerations are necessary for adapting these instructional methods?

Question Generation/Asking

- Do literacy activities posses the same motivational effects as those contrived in reviewed studies?
  - If not, how could this be arranged?
- How can questions be embedded within the VSD rather than a separate system?
  - Representation?
  - Positioning?
  - Differentiate from other expressive “hotspots”?

Question Answering

- What wh- question target(s)?
  - Developmental sequence: what/where, who, how, why, which/whose/when (Bloom et al., 1982)
  - Multiple targets simultaneously (benefits/limitations)
- Targeting answering oral or written questions?
References


References