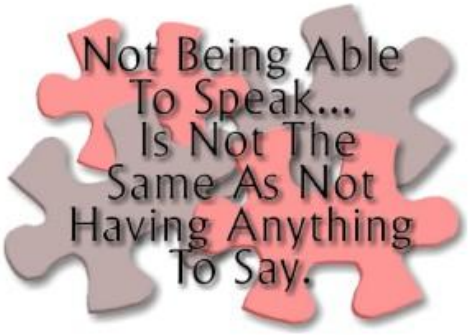
Language Research Presentation

Relationship Between Language Development and Behavior In Children with ASD



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Article 1:
"Loss of language in early development of autism and specific language impairment"

- Background Information:
  - study compares the frequency of language loss and language progression of children with autism and SLI (specific language impairment)
  - sets out to find answers in the relationship between language loss in individuals with autism, ASD, and SLI
  - participants were chosen using many different levels of intervention, to determine the most accurate amount of participants that would be relevant to this study
  - total number of participants in the study was 368; consisting of 305 males and 63 females between the ages of 9 and 14
  - they were assessed late in childhood for autism, history of language loss, epilepsy, language abilities, and nonverbal IQ

Article 3: Research Purpose

- Authors want to know what the incidence is of reports of language loss in autism versus SLI
- What is the relationship between language loss and language development? When is the language loss noticeable? Is there a relationship between language loss and timing of language attainment? Is there a relationship between language loss and language performance in late childhood?
- to find out whether language loss marked a neuro-developmental abnormality of a minority of children with autism or could that abnormality be more widespread but hidden behind a language delay? Could a language delay explain differences in reported rates of language loss in autism and SLI?

Article 1: Intervention Used

- Authors compared data from two complementary studies including the Special Needs and Autism Project (SNAP) and the Manchester Language Study (MLS) that involves children with SLI
- The SNAP and MLS samples combined together produced a final sample of 313 children.
- All children were assessed in late childhood by trained psychologists using the ADI-R, an interview with the main caregiver, and the ADOS-G.
  - The ADI-R gives the children a score based on three domains including verbal and nonverbal communication, social interaction and repetitive and stereotyped behaviors. It places emphasis on behavior reported in the 4-5 year old period.
  - The ADOS-G includes four modules that are each appropriate to different levels of speech and language ability. Its score established cutoffs between childhood autism and ASD. It places emphasis on simultaneous behavior.
- Total language scores (including receptive and expressive language) were obtained using the Clinical Evaluation of Language Fundamentals – Revised (CELF-R). IQ was measured using the Wechsler Intelligence Scale for Children and the Raven's Standard Progressive Matrices or Colored Progressive Matrices (depending on child ability).
- SLI was defined by the absence of autism or ASD, performance IQ of 80 or more, and one of CELF expressive, receptive or total standard scores less than 77.5.

Article 1: Finding/Results of Study

- confirms that loss of language is common among children with ASD and is rare among children with SLI only; language loss is indeed specific to autism
  - among children with ASD, language loss is less common among those with an early language acquisition delay. The language delay may mask the presence of a documented amount of language loss but it doesn't explain the rarity of language loss in children with SLI
- early language development in children with ASD is not a reliable indicator of a language loss outcome. Further assessments and evaluations later on in the child's life are necessary
  - Loss of language was reported between the 12th and 33rd month of age in all but one case
- show that language loss is specifically associated with the autism spectrum, and more concentrated among those with autism. It confirms previous findings and clarifies that language loss is not a feature of SLI
- results suggest that "there is a need to question the assumption that the developmental anomaly that is indexed by language loss is a feature of a minority of children with autism" (Pickles et al, 2009, p. 850)
- there needs to be another study with a younger sample of students so it is closer to the time of the symptoms of autism; it needs to add imaging and neurocognitive measures to help identify the nature of the developmental anomaly

Article 2:
"Behavior predictors of language development over 2 years in children with autism spectrum disorders"

Background Information:

- explores the relationship of five types of behaviors and language development of young children with autism over 2 years
  - These include acting out, repetitive and restricted behaviors, insistence on sameness, social unresponsiveness, and inattentiveness.
- participants included 69 children with autism in British Columbia, Canada
  - 55 of those children were diagnosed with autism and 14 were diagnosed with pervasive developmental disorder, not otherwise specified
  - 58 were males; 11 were females and were from different ethnic backgrounds (majority were European-Canadian and Asian
  - All received 15-20 hours per week of year-round early intervention services for 2 years.

Article 1: Research Purpose

- to examine the degree to which these five problem behaviors predicted changes in language and vocabulary development in young children with ASD over 2 years
- most interested in whether these behaviors, prior to intervention, were related to changes in the child's development
- thought this study could help improve the effectiveness in treatment by helping therapists focus on information gathered from research rather than trial and error (Bopp, Mirenda, & Zumbo, 2009, p. 1109)

Article 2: Intervention Used

- Participants received around 15 to 20 hours per week of year-round early intervention services for 2 years
  - interventions were very diverse and included one on one instruction as well as services from the speech and language pathologist, occupational therapist, and other professionals
  - 87% of the children also went to preschool while receiving the intervention services.

- Data were collected prior to early intervention (T1), at 6 months (T2), 12 months (T3), and 24 months (T4).
  - Collected within the child's home or early intervention center and by a team that included a psychologist, speech and language pathologist, and trained graduate students who interviewed the families

- dependent variables were the child's initial scores on the standardized measures of vocabulary and language at all four times, including vocabulary skills (measured by the Peabody Picture Vocabulary Test and the Expressive One-Word Picture Vocabulary Test) and language skills (measured with the Preschool Language Scale).

- Independent variables were the five problem behaviors explored through a seven step process including indentifying relevant predictor variables, identifying relevant item indicators, choosing item indicators, converting items to dichotomous responses (yes/no), eliminating item overrepresentation, calculating coefficient alphas, and calculating composite scores (Bopp, Mirenda, & Zumbo, 2009, p. 1110-1111)

Article 2: Findings/Results of Study

- There is a relationship between two of the five behaviors; inattentiveness (behaviors that indicate high distractibility or decreases awareness of objects, activities, or the environment) and social unresponsiveness (decreased ability to initiate or respond to social interactions from others)
  - inattentiveness definitely hinders language development and that poor attention skills cause major setbacks in a child's ability to learn from their environment
    - also supports the importance of focusing instruction on improving attention early in the treatment process for these children
  - unresponsive behaviors consist of rarely smiling, not looking at peoples' faces, little to no eye contact, and not responding to their own name
    - results imply that children with more socially unresponsive behaviors made much less progress in vocabulary and language comprehension over a 2 year time period

- concluded that the remaining three behaviors (acting out, insistence on sameness, and repetitive behaviors) do not have a significant relationship with vocabulary and language development in children with autism

Article 3:
"Increasing verbal greeting initiations for a student with autism via a social story intervention"

- Background Information:
  - study was completed with an 11 year old boy named George who had been diagnosed with high functioning autism
  - Social stories were used as the main intervention
  - They examined the number of acceptable verbal greeting initiations during five minute observation periods
  - implemented a withdrawal design which consisted of a baseline condition and then withdrawal of the intervention (the social story)
  - this concluded no results; so a second baseline condition was completed
  - when the second baseline condition concluded no results, a visual cue fading procedure was implemented
    - A visual cue card saying "George, don't forget to say hello to your teachers and your classmates before school begins" with a color picture of a stick person waving his right hand was introduced in addition to the social story

Article 3: Research Purpose

- to investigate whether a social story could in fact be used to increase appropriate verbal greeting initiations in a student with autism within the school setting
  - to examine the effectiveness of using a social story to improve the interpersonal language of George when initiating greetings to peers and teachers

- **An "appropriate" verbal greeting to an adult → a verbal greeting (such as hi, hello, good morning) initiated by George to the adult

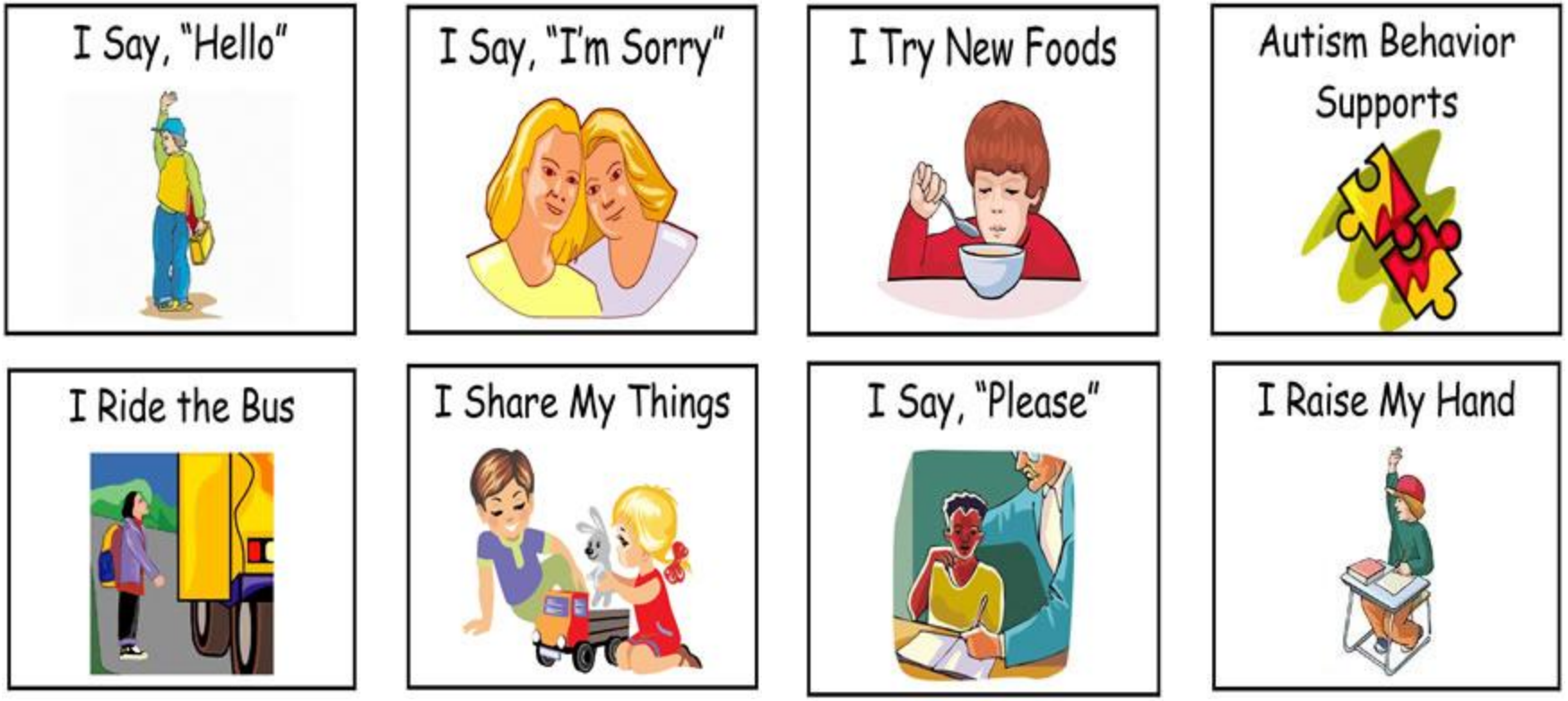
- **An appropriate verbal greeting to a student → a verbal greeting (such as hi, hello, good morning, hey, what's up, morning) initiated by George to another student

- **Nonverbal greetings (such as waving or nodding) and George simply just responding to another's initial greeting, were not considered acceptable verbal greeting initiations

Article 3: Intervention Used

- social story used in this study included a cover page and four instructional pages
  - Each page contained two to six sentences and one picture centered above the text, representing the narrative
  - introduced and taught verbal greetings including when to greet someone, why we use greetings, appropriate words to use in verbal greetings to adults and peers, how to initiate verbal greetings, and possible expected outcomes of these greetings.
- initial baseline condition added the use of the social story; which immediately increased verbal greetings. Then, they used the withdrawal design to take away the social story to see if the verbal greetings continued. They did not.
- a second baseline condition was completed; with the implementation of the social story
  - two environmental changes occurred: addition of a written instruction on George's daily schedule (which is something he picked up every morning from the resource room) instructing him to read the social story in the resource room. The other was George independently reading the social story while in the resource room.
- visual cue fading procedure was implemented during failure of the second baseline condition withdrawal procedure; used to determine if the behavioral change shown during the first two intervention conditions could be maintained with a less obtrusive procedure

Examples of Social Stories:



- Click here to go to the website with free downloadable and printable examples of social stories for different situations

Examples of Social Stories:

- Click here for an example of a social story on "Personal Space"
- Click here for an example of social story on "Getting Along With Others"
- Click here for a video on making a social story with an app called "Stories2Learn" on the Ipad! So cool!
- Click here for an example of a social story on "Getting Rid of Mad Feelings"
- Click here for an example of a personalized social story on eating lunch at school for a child transitioning to school

Article 3: Finding/Results of Study

- Results showed an increased number of verbal greeting initiations during each of the intervention conditions (when social study was introduced); which were then maintained through using the visual cue card.
- Concluded that using a social story was an effective method for increasing social initiations with George
- This study demonstrates the utility of social stories when used as a sole treatment variable.
- Challenges and limitations of the study:
  - discuss the need for further examination of the withdrawal design; because this study led to questions as to whether it was a proper match to this intervention. If the target behavior (verbal greeting initiations) was actually learned during the intervention condition, it shouldn't be so easily reversible.
  - "raises questions as to whether social stories can be used as the sole intervention component in all applications of the technique" (p. 1742)
  - In addition, no data were collected after the final phase using the visual cues without the social story. Could the visual cue card produce the target behavior when used alone? Could prompts occurring naturally in George's environment been enough to achieve the same results?
  - Study only used one participant who was only taught one skill. The social study intervention was also not compared to any other proven intervention for comparability.
  - Research using multiple participants across many behaviors using a variety of interventions is needed. They also suggest future research on methods of pairing social stories (antecedent interventions) with consequences for the desired behavioral changes. This may lead to increased maintenance of target behavior.

Similarities/Connections of Articles

- all three articles discuss language development in individuals with autism
  - Article one confirms the fact that language loss is specific to autism spectrum disorder and not SLI; thus confirming the importance of teaching language development skills as early as possible
  - Article two discusses inappropriate behaviors that children might demonstrate before being taught how to appropriately communicate with others; which supports the importance of focusing instruction on improving attention and increasing communication abilities early in the treatment process for these children with ASD
  - Article three discusses the use of social stories and visual cues to increase appropriate verbal greetings in students with ASD; thus supporting the need for early intervention in language development with individuals with ASD

Differences of Articles

- Each article had a different purpose that focused on a variety of different questions
- Types of intervention used
- The number of participants
  - Article 1 (313 participants); Article 2 (69 participants); Article 3 (1 participant
- Results
  - Not all of the articles had conclusive results; there were a lot of pending questions and limitations to each of the studies that were very different from one another

Impact of Research on the Field

- Impact at research level → supports the notion that language development in students with ASD is definitely a concern and important for individuals involved with designing interventions for these students to consider
  - can help researchers to understand that there are certain behaviors to look for to help identify a language development delay in students with ASD
  - also helps to rule out certain behaviors of concluding a language development delay; such as insistence on sameness, repetitive or restricted behaviors and acting out
    - Just because students with ASD display these behaviors, doesn't mean it's related to a language development delay. Social inattentiveness and poor attention skills have a much more important relationship to language development.

- At the practical level, Article 3 suggests that using social stories can definitely help to increase verbal greetings, possibly helping to decrease the behaviors of social inattentiveness and poor attention skills
  - It confirms that social stories can help teach certain communication barriers and allow children with ASD to eventually be socially accepted in their everyday environment.

Impact of Articles on My Professional Career

- Research has allowed me to understand the important connection between language development and autism
- helped me to understand some of the behaviors associated with students with ASD and showed me the relationship of those behaviors to language development; helped me to know what to look for in further students that I see in my classroom
- gave me a lot of great information to share with my colleagues who have even less experience with ASD than I do. I plan to share my research with them to hopefully inspire them to complete their own research and report back to me the new and exciting things that I may not have learned yet
- A major impact of this research was my introduction into understanding social stories; encouraged me to look for different examples of social stories and different ways to use them in the classroom and at home
  - has inspired me to begin making my own social stories for certain students in my classroom
  - this research was very helpful for me to learn more about ASD and what I can do to assist individuals with ASD that might enter my classroom in the future.

References:

- Bopp, K., Mirenda, P., & Zumbo, B. (2009). Behavior predictors of language development over 2 years in children with autism spectrum disorders. *Journal of Speech, Language, and Hearing Research, 52 (5),* 1106-1120.
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- Reichow, B., & Sabornie, E. J. (2009). Increasing verbal greeting initiations for a student with autism via a social story intervention. *The Journal of Autism and Developmental Disorders, 39,* 1740-1743.

Thanks for watching!!!