Brief Experimental Analysis of Writing Interventions

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Introduction

- The most recent Individual with Disabilities Education Act (IDEA) allows state and local education agencies to use response to intervention models in the identification of children for special education.
- Response to intervention models seek to base decisions regarding special education eligibility and academic intervention based on data showing an individual student’s response to research-based interventions (Gresham, 2002).
- Because it may take weeks to months of progress monitoring to evaluate the effectiveness of a particular academic intervention, it seems logical to seek to implement the academic intervention that has most probability of success for an individual student.
- Brief experimental analyses (BEA) using single subject alternating treatment designs have been empirically demonstrated to be effective in identifying reading fluency interventions for individual students (Daly, Bonifiglio, Mattson, Persampieri, Foreman-Yates, 2005; Daly, Witt, Martens, & Dool, 1997).
- However, there is no research currently that demonstrates effective and efficient individualized data-driven identification of interventions to improve a student’s written expression.
- This poster presents 3 cases examining the utility of BEA using single subject alternating treatment design methods in identifying interventions to improve a student’s writing fluency.

Method

Participants and Setting

- All of the participants were referred to a clinic specializing in academic evaluation and intervention for children with disabilities. The clinic operated within an outpatient psychology clinic in a medical setting in a Midwestern urban area.
- Roger was an 11-year-old male who was home-schooled. He was working in a 4th grade curriculum for most academic subjects. He had previous diagnosis of Pervasive Developmental Disorder, and reported problems in areas of cognitive delay, visual and motor coordination deficits, and noncompliance and tantrums. He was referred to address concerns regarding written expression.
- Chris was a 9-year-old female in 4th grade in a public elementary school. She received special education services for a Learning Disability in Written Language and for Speech/Language Impairment. She also had a diagnosis of Attention Deficit Hyperactivity Disorder-Primarily Inattentive. She was referred to address concerns regarding written expression.
- Jerry was an 11-year-old male who attended 6th grade in a parochial elementary school. He had a diagnosis of Asperger’s Disorder. He was referred to address concerns regarding work completion, organization, and academic skill fluency.

Dependent Variable

- Words correct per 3 minutes (WC) was the dependent variable used with Roger and Chris. Correct is defined to be a recognizable word, even if it is misspelled.
- Correct word sequences in 3 minutes (CWS) was also used with Chris and Jerry. CWS was computed by counting the number of correct adjacent writing units, including correct spelling, punctuation, grammar and syntax (Jewel & Malecki, 2005; Shapiro, 2004).

Design

- An alternating treatments design was used with each participant. For Chris and Roger, baseline conditions and seemingly effective intervention conditions were repeated to help demonstrate experimental control.

Procedure

- Participants were each given three story starters. For each story starter, they were provided 1 minute to think about what they would write and 3 minutes to write. The median WC and/or CWS was computed and used for the initial baseline comparison.
- To rule out expressive language as an impeding variable, each participant dictated a story based on a story starter. They were given 1 minute to think about their story and 3 minutes to tell the story.
- Based on observations during writing and other assessment data, hypotheses regarding potentially effective interventions to improve writing fluency were identified for each participant.
- Interventions might generally be categorized to include motivational/performance enhancing (e.g., reward, preferred content), advance organization (e.g., word webs, word banks, sentence starters, outlines, pictures) and fluency building (e.g., repeated writing).
- Prior to writing, each child was presented with the intervention strategy. They were then presented with a story starter, instructed to use the intervention strategy and then given 3 minutes to write.

Summary of Results

- Repeated writing was determined to be an effective intervention to improve Roger’s writing fluency. An intervention using repeated writing and reinforcement for meeting fluency goals was taught to his mother. Within two weeks Roger’s writing fluency had increased to above 28 words per 3 minutes.
- Outlining and drawing pictures improved Chris’ writing fluency relative to baseline levels. These strategies were presented to her parents and recommended for use in completing writing assignments at school. Follow-up parent report indicated her work completion and school grades improved at school to As and Bs.
- Intervention using word banks paired with reward were recommended for Jerry’s classroom teacher and tutor to assist with improving writing fluency. In conjunction with interventions to improve organization and work completion, classroom academic performance was reported to improve.

Discussion

Implications

- BEA may be an effective method to identify interventions to improve a student’s writing fluency.

Limitations

- Conditions need to be repeated to demonstrate stability and experimental control.
- Need to control for instructional time prior to writing.
- Need for follow-up data.

Future Research

- Replicate with other students.
- Collect follow-up data.
- There is a need for additional research on efficacious writing interventions.