## Results

**Introduction**

As the Response to Intervention (RtI) movement has gained momentum, research in school psychology has focused more on data-based decision-making and applying these to academic interventions (Daly & McCurdy, 2002).

One area that has gained increasing focus is brief experimental analysis (BEA) of oral reading fluency.

Within BEA, instructional variables are manipulated using a sequence of intervention conditions; BEA assumes changes in instructional variables can often have a profound effect on reading performance (Daly, Witt, Martiens, & Bouli, 2017).

Since reading skills are of significant importance to students’ school success and the fact that reading remains the most common referral problem in schools, BEA can be a valuable instrument for school psychologists (Blaikie, Murphy, Johnson, Wallingford, & Hall, 2002).

Although the literature is replete with BEA research (e.g., interventions tested, types of passages used), the literature has failed to focus on the training of interventionists implementing BEA of reading (Bruns & Wagner, 2008).

Empirical studies suggest effective training (e.g., produce high treatment integrity) of interventionists to implement functional analyses typically include: verbal and/or written information, rehearsal, and performance feedback as part of the training package.

While certainly promising as training components, literature regarding the training of interventionists has been somewhat limited to individuals conducting functional analyses.

Given the growing empirical support for the BEA of reading and its positive outcomes on students’ reading abilities, it may be beneficial to determine how much training is needed for individuals to implement a BEA of reading with high integrity.

The current study extended previous research on training interventionists to conduct functional analyses to the context of BEA of reading.

In the study, three different training conditions were evaluated using interventionists to implement BEA of reading to elementary school children.

The three training conditions were determined to which one, if any, resulted in the highest procedural integrity.

**Method**

- **Participants:** Twelve undergraduate student reading interventionists
  - Each participant expressed an interest in becoming involved with a reading program conducted at two local elementary schools.
  - Participants were randomly assigned to one of the three treatment conditions.
  - Five participants were in each condition.
  - None of the participants had any previous exposure to a BEA of reading.

- **Setting:** Two local elementary schools.
  - School R1: 10 elementary students who were referred by the reading specialist as needing additional assistance in reading.
  - School R2: 5 students who were referred by the principal and classroom teacher as needing additional assistance in reading.
  - Five reading interventionists (participants) worked at each school on a given day.
  - The training program took place two days per week.
  - At each school, a quiet area (e.g., empty classroom, library) was used for the interventionist to conduct the BEA of reading with the student.

- **Measures:**
  - Dependent variable: Percentage of protocol steps accurately implemented throughout the BEA of reading.
  - Percentage correct: number of steps implemented correctly divided by the total number of steps on the protocol checklist and multiplied by 100.

**Procedures:**

- Elementary school students referred for reading problems were exposed to a protocol that included a BEA of oral reading fluency followed by an extended analysis utilizing one or more of the interventions from the BEA, based on the BEA results.

- **Condition 1: Vocal and Written Information and Modeling (Training)**
  - Participants in Condition 1 were exposed to a 1-hour initial training session conducted by the authors, which was used to provide interventionists with basic information about the BEA procedures.
  - During the training, the authors demonstrated each intervention/protocol, showed how to graph data, implement the experimental analysis, and went over the general procedure of the reading program.

- **Condition 2: Training + Rehearsal**
  - Participants in Condition 2 were exposed to the initial training session (e.g., verbal information, written information, modeling) as well as a rehearsal component.
  - For rehearsal, participants stayed after the training session and rehearsed the interventions/protocols with the authors.

- **Condition 3: Training + Rehearsal + Performance Feedback**
  - Participants in Condition 3 were exposed to Conditions 1 and 2 and in addition received performance feedback throughout the implementation of the BEA reading program.
  - Performance feedback was given immediately after each reading session by a School Psychology graduate student throughout the duration of the reading program (twice a week for one semester).

**Data Collection:**

- School Psychology graduate students recorded the number of protocol steps appropriately implemented by each interventionist from the protocol checklists.
  - Data were collected during each reading session throughout the duration of the reading program (twice a week for one semester).

**Experimental Design:**

- **Between Groups Design**
  - Comparison of percentage of protocol steps accurately implemented between three independent training conditions.

**Discussion**

- The primary purpose of the current study was to extend previous research on training interventionists to conduct functional analyses to the context of BEA of reading.

- The participants displayed high rates of treatment integrity regardless of the training condition.

- The results add to the research on training interventionists to implement functional analyses by suggesting verbal/written information, modeling, rehearsal, and/or performance feedback can also be effective in the context of accurately implementing the BEA of oral reading fluency.

- The results add to the research regarding BEA, although using a BEA of oral reading fluency has greatly been researched (e.g., interventions tested, types of passages used), the literature has not yet focused on the training of interventionists implementing BEA of reading (Bruns & Wagner, 2003).

- The present study provides preliminary evidence that training interventionists to effectively implement a BEA of reading may be as simple as a 1-hour initial training session.

- The current results also provide evidence that conducting a BEA of reading for elementary students who are identified as needing additional assistance in reading may be effective in increasing their oral reading fluency after one semester.

- The study lends additional information regarding the social acceptability of the intervention; overall individuals may have a positive view of implementing and the effectiveness of using a BEA to help increase reading fluency.

- Although the study divided participants into one of three training condition, individual differences of participants could not be completely controlled for.

- There were no reliability checks on the graduate students who were observing the interventionists.

- Participants had various background education and other experiences coming into the study (e.g., education majors, psychology majors).

- Participants were volunteer university students; therefore, it is not known whether results would generalize to other populations (e.g., paraprofessionals, peer tutors, classroom teachers, special educators).

- Future research should replicate the current findings with other populations.

- Conclusions:
  - Using a brief training of interventionists to conduct a BEA of reading holds promise for school personnel looking for effective as well as easy to implement interventions for increasing elementary students’ oral reading fluency.