Dyslexia: Where Do We Begin?

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According to PBS.org, about seventeen percent of the population struggles with the diagnosis of ‘dyslexia.’ Researchers Duff, Hulme, Grainger, Hardwick, Miles, and Snowling performed a randomized controlled trial, where their results were published in *The Journal of Child Psychology and Psychiatry* in 2014. This research was performed as part of a longitudinal study in order to attempt to answer whether or not children who received interventions in reading and language as part of their formal literacy instruction in school would make progress that was considered significantly greater than children who did not receive the interventions.

Researchers screened and chose children who had a reading impairment in preschool and/or had a family risk of dyslexia to participate in their study. The researchers found 209 students and screened 171 of them to determine suitability for the intervention. The children had an average age of six years old and were given three tests (*York Assessment of Reading for Comprehension, Early Word Reading, and Single Word Reading*) to determine a standard score. The scores were then ranked from highest to lowest and the bottom 61 scores correlated to the 61 students chosen to participate. The students were randomly assigned to either the control or experimental group. In order to obtain more students for the study, each school that had a student participating in the research was given the opportunity to nominate two additional students per chosen student that fit two criteria: the teacher thought the nominated student would benefit from a reading and language intervention, and worked well with the student who was already chosen for the research. The experimental group had 77 students with completed data sets, while the control group had 68 students. The independent variable of the study is the type of intervention that was used throughout the 18 week period of study in order to ensure that across 44 different schools, the students were receiving *very* similar instruction.

At the beginning of the study, every student was given standardized tests. These tests included *Letter-Sound Knowledge, Sound Deletion, Early Word Reading, Single Word Reading, Passage Reading,* the *Graded Nonword Reading Test* and *Expressive Vocabulary.* These standardized tests were also given two more times at t2 and t3. In addition, phoneme awareness, spelling, taught vocabulary, and listening comprehension were also assessed at t1, t2, and t3.

Researchers developed a program called *Reading and Language Intervention* (RALI), which was implemented by Teaching Assistants (TAs) who already worked in the schools. Schedules alternated between individual sessions of 20 minutes, which focused on reading, and small group sessions of 30 minutes, which focused on language. Three individual and two group sessions were administered by TAs per week. These sessions followed a strict procedure, which can be found in the published study in Table 1, and individual needs of the students were met through allowing the content of the sessions to be tailored. It is important to note that fidelity was closely monitored to ensure the preciseness and accuracy of the study through requiring attendance to be submitted, as well as lesson plans. Phone calls and emails were administered to the TAs and they were also observed by the research team at some point throughout the study.

This study was completed using a randomized control trial, extracted from a longitudinal study. The researchers did a phenomenal job choosing a design for this study, as the randomization ensures that neither the experimental or control group was “stacked” with students on either extreme of the scale for reading and language intervention. After nine weeks of performing interventions with the experimental group, there was no reliable effect shown by the intervention in the category of word-level reading abilities. Phoneme awareness improvement was significantly different between the control and experimental groups; however, after statistical corrections, by using the Benjamini-Hochberg process to correct for statistical errors, the researchers did not feel as though they could claim the significances were true.

This study had both strengths and weaknesses, as any research study will have. Its strengths lie in the fact that it was a randomized control trial, the intervention specificities were outlined for the TAs almost exactly, and fidelity was kept track of in a strict manner. However, this study also has some limitations. After examining table two, which includes the reliability measure, some tests have quite low reliability. This lessens the confidence the audience has in the researchers and their study. The audience also has no way of knowing the demographics of the children that were chosen. The researchers do not report the education of the parents or the family’s socioeconomic status. Lastly, the researchers do not report the level of education of the TAs involved in administering the interventions. This information regarding how much education they have had is important to the audience of the published study. This adds to the validity and reliability of the study. It is surprising that the researchers left these important parts of their research out.

In conclusion, the study conducted by the researchers mentioned regarding the progress of children in reading and language who have a risk of dyslexia adds leaps and bounds to the world of dyslexia research. Their findings were that the 18-week intervention they conducted did not have enough of a significant effect on the students that they could claim them. This means that dyslexia could be much broader than what we have considered it to be in the past. The neurological side of dyslexia must be more extensive that what can be fixed with an 18-week intervention program.

If I were to possess the desire to build on the research that has been conducted in this study, I might replicate what these researchers did, but for 36 weeks instead of 18. My research question or hypothesis for this research would be: if an 18-week intervention program didn’t have enough of an effect on the students at risk of dyslexia, if the time implemented was doubled, would there be a significant impact? This additional research would continue to allow those interested in dyslexia to understand this learning disability better. After implementing interventions for 36 weeks, if there is still no significant difference

REFERNCE

Duff, F. J., Hulme, C., Grainger, K., Hardwick, S. J., Miles, J. N. V. & Snowling, M. J. (2014). Reading and language intervention for children at risk of dyslexia: a randomized controlled trial. *The Journal of Child Psychology and Psychiatry, 55*(11), 1234-1243.

The Facts About Dyslexia. (2016). Retrieved February 22, 2016, from <http://www.pbs.org/parents/readinglanguage/articles/dyslexia/the_facts.html>