

Critical Review:
The Effects of Multi-Tiered Oral Narrative Intervention on Grade One Students' Writing Abilities

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Abstract

This study reports a critical review and a pilot study exploring if oral narrative interventions can improve written outcomes in typically developing children ages 5-8. The critical review includes one multiple baseline study, one between-group study, one longitudinal study, and one single group pre-post study. The pilot study involved analysis of pre-existing data of typically developing grade 1 children's writing samples who were from the same school and divided into two classrooms. The participants were provided the same intervention during either phase 1 or phase 2. A baseline writing sample was obtained followed by samples during each phase, between the phases, and a maintenance period. Findings from the critical review suggest that oral narrative interventions improve broad narrative writing skills including story grammar and narrative features in typically developing children ages 5-8. Findings from the pilot study suggest oral narrative interventions are only effective for improving the number of words spelled correctly but not for improving total words, total words at 5 minutes, and total number of letters in the 5 longest words.

Introduction

Neurologically, all functional systems including writing, listening, speaking, and reading rely on related mechanisms to understand narrative input. Additionally, language across multiple modalities have numerous similarities in how the systems interact to accomplish output representations (Berninger et al., 2006). Interactions between the two functional systems, listening and writing, have positive connections but need more research to determine how they interact and what the ideal listening input is for optimal writing output.

In typically developing elementary school students, extensive research has shown that oral narrative instruction has a positive impact on oral language development (Griffin, Hemphill, Camp, & Wolf, 2004). Factors contributing to this success of narrative instruction include: macrostructure, lexical, syntax, and discourse forms (Mason, Stewart, Peterman & Dunning, 1992; Snow, 1983; Walker, Greenwood, Hart & Carta, 1994). Children best learn macrostructure, lexical, syntax, and discourse forms through face-to-face instruction and a step-by-step breakdown of oral narrative discourse stories (Minami, 1996; Peterson & McCabe, 1994). With increased exposure,

practice with oral narratives and explicit breakdown of the narratives discourse, children begin to independently and orally narrate stories with appropriate features (Donaldson, 1978; Snow & Dickinson, 1991; Wells, 1985). Considering the impact of the teaching strategies above on oral stories, these strategies have the potential to impact written narrative skills (Griffin, T. M., Hemphill, L., Camp, L., & Wolf, D. P. 2004). An oral narrative intervention program called Story Champs aims to improve written narration skills through oral instruction. In two studies, the intervention program has shown positive results for transfer to written skills (Spencer & Peterson, 2018, Scadden Nelson, 2019).

Currently in elementary schools, 75% of children are not meeting the written grade level expectation (National Center for Education Statistics, 2012; Schleicher & Belfali, 2016). This is not a new statistic as the numbers for writing success have been consistent for 20 years with minimal push to make changes to this problem. Teachers report they spend less than 30 min a day on writing techniques and writing concepts (Cutler & Graham, 2008; Gilbert & Graham, 2010). With both kindergarten and first grade classrooms having the expectation of oral and written narration, instructional changes need to be made to help students meet these expectations.

Based on the positive impact that oral narrative intervention has on children's oral language abilities and the neurological link between the functional systems, there is reason to believe it may be an effective form of intervention to improve children's writing (Griffin, T. M., Hemphill, L., Camp, L., & Wolf, D. P. (2004)). There is currently limited research investigating the impact that oral narrative intervention has on writing outcomes. By investigating the effectiveness of oral narrative language for writing, this review may inform clinical practice and support future writing skills.

Objectives

The objective of study 1 was to critically review existing literature examining the impact of oral language discourse instruction on written language abilities. The objective of study 2 was to evaluate a quasi-experimental study investigating if oral language narrative intervention in children ages 6 to 8 leads to better writing outcomes.

Methods

Search Strategy

Online databases SAGE publications, UKLA publications, American Speech-Language Associations (ASHA), and BYU ScholarsArchive were searched using the following terms: [(oral narrative intervention) AND (written outcomes) AND (ages 5-8) OR (grades 1-3) AND (narrative writing) OR (narrative measures)]. Reference lists of selected articles were also used to select relevant articles.

Selection Criteria

Due to the limited number of studies assessing the effects oral narrative language intervention to children ages 5-8 that

Data Collection

The literature search resulted in the selection of 4 articles to be used for critical analysis. These articles consisted of a multiple baselines study, a between-group study, a longitudinal study, and a single group pre-post study.

Results

Spencer and Peterson (2018) conducted a multiple baseline study investigating the impact of an oral narrative intervention ('Story Champs') on written language skills. Three groups of grade-one students (n=7) completed six intervention sessions over two weeks delivered by the classroom teacher who had been trained. The outcome measure was a written unprompted story of the student's choice completed during baseline (4-9), intervention (4-6), and maintenance phases (2-3). Stories were analyzed for story grammar and language complexity by two unfamiliar scorers using an established scoring system.

Appropriate statistical analyses revealed inclusion of more story grammar elements and increased story length related to instruction. Further improvements were observed in the maintenance phase. Strengths of this study include clear descriptions of inclusion criteria and methods, blinding of raters, and acceptable inter-rater reliability. A limitation of the study was the limited number of participants and some loss of follow-up data.

Scadden Nelson (2019) completed a between-groups study examining the impact of a multi-tiered oral narrative intervention ('Story Champs') on oral language comprehension, reading comprehension, and writing, of which only the latter is of interest here. Narrative writing was examined and is defined as a style of writing that is like storytelling, compared to expository writing which is more descriptive and factual in style. Students in grades 2 and 3 (n=121) were randomly assigned either a treatment (Story Champs) (n=34), alternate treatment (Shared Storybook Intervention) (n=31), or control group (n=56). Intervention groups received daily treatment delivered by teachers over 8 weeks. Personal narrative writing samples completed before and after intervention were used as outcomes and were analyzed by undergraduate research assistants using established scoring criteria related to story grammar, and language complexity.

Appropriate statistical analyses revealed significantly higher narrative writing skills for the oral narrative compared to the other groups. Groups did not differ with respect to expository writing abilities. Strengths

of the study included a large participant pool, well-defined methods, inclusion criteria, and protocol making the study highly replicable.

Overall, this study provides compelling evidence that oral narrative interventions have a positive effect on narrative writing abilities specifically.

Griffin, Hemphill, Camp, and Wolf (2004) conducted a longitudinal single group study assessing the effects discourse production has on later literacy skills in typically developing 5-8-year-olds (n=32). The initial discourse assessment at 5 consisted of a play narration with animals using an appropriate standardized measure for child language and a picture description task using a standardized syntax measure. The 100-word sample for language assessment was gathered through a conversation between the child and parent. At age 8 the two literacy skills assessed using a standardized reading comprehension tool with supportive written narration photo prompts. Aspects of language assessed included: syntactically defined clauses, morphosyntactic complexity, text comprehension, reading fluency, and written competence.

Appropriate analysis of the information gathered revealed strong correlations between greater elaboration and ability to pull significant information in the play narration at age 5 and reading comprehension but a weak association to written narration at age 8. Plot structure, expository structure, and plot elaboration demonstrated in stories at age 5 had large correlations to higher scores in written narration at age 8 and no correlation to reading comprehension. Methods were appropriate for their purpose and were guided by previous research. All data were analyzed using appropriate measures except for the written narration task which was analyzed holistically by three literacy experts.

These findings provide suggestive evidence that specific oral discourse skills are related, can predict, and support certain literacy skills.

Brady and Millard (2012) conducted a single group pre-post study on typically developing 7-9-year-olds (n=319) from 20 different schools assessing the impact of a 6-week DVD narration program on written narration. The DVD program used was The NATE

Story Spinners Project which included a number of stories of interest to the children's age told by a professional storyteller in hopes of increasing student engagement and improving narrative writing. Both quantitative and textual data were considered when analyzing the language used in the narrative samples.

Appropriate analysis revealed reading aloud, drama, and role play increased these story features: narrative structure, character development, clear delineation of sequence, temporal connectives, and literary language in 18 out of the 20 schools participating in the study. With the lack of control in the context of teaching and time allotted for the exercises results may be misrepresentative. As well, there was no specific narrative goal of the study leaving analysis to be unguided. Considering lack of structure in the methods, researchers did the best they could with the data provided from all schools to answer their proposed questions.

These findings provide equivocal evidence that the DVD project provided increased interest in stories, language used in stories, or improved writing skills.

Discussion

The current research provides suggestive evidence that oral narrative language interventions does impact children's writing abilities as it relates to length of writing, story grammar elements, and overall written narration skills.

Study 2: Pilot Study

Rationale

To date, only four studies with a primary focus on oral narrative intervention have examined written language outcomes in young school age children. As well, none of these studies had a primary focus on the impact oral narrative intervention has on writing outcomes. The purpose of Study 2 was to directly examine written language outcomes following implementation of a well-established oral language narrative intervention program, Story Champs.

Methods

Participants

The current study uses a set of data from a pre-conducted between groups study analyzing the individual results of 20 of the original 60 participants. All participants were from the same school, divided into two classrooms, and in the first grade. No information regarding learning profiles were available for the participants.

Procedures

The study had a crossover design with classrooms randomly assigned to receive intervention during either phase 1 (Intervention 1) or phase 2 (Intervention 2). The intervention included 12 days of 20-30-minute whole class instruction over a 2-week period completed by a speech-language pathologist who was a member of the research team. Writing samples in response to a picture prompt were collected 1-2 times per week during the 2 weeks prior to phase 1 (baseline), phase 1, 4 weeks between phase 1 and 2, phase 2, and the 4 weeks following phase 2 (maintenance). Additional outcome measures were completed that are not relevant to the current study and are not reported here.

Data Analysis

For the purpose of this study, the following data was analyzed for each story written by a participant: words spelled correctly, total number of words at five minutes, total number of words, 5 longest words spelt correctly, and total number of letters in the five longest words. For each participant, scores collected during the baseline were averaged and a 2 standard deviation band around each participant's baseline mean was created. Scores above this band were considered to be significantly different from baseline. Binomial probability of the number of significant events relative to the baseline phase probability of a significant event was calculated for two time periods: (1) Period 1 - all data points from the beginning of phase 1 to the beginning of phase 2, and (2) Period 2 – all data points from the beginning of phase 2 to the end of the study.

Results

The number of measurement points completed by each participant for each study phase is displayed in Tables

1 through 6, for the 6 outcome measures respectively (See Appendix A). Each table is separated by the measure that was obtained and by intervention groups. Those represented in the tables with an (*) beside the measure, scored 2 standard deviations higher than their baseline scores, indicating significant positive clinical change. For words spelled correctly, 1 out of 20 participants showed significant changes immediately after intervention regardless of the intervention phase. As well, 1 out of 10 who had received intervention in phase 1 showed a change at phase 1 and 2, and an additional 5 showed a change at phase 2 only. Fifteen out of 20 participants showed no significant changes. For total words at 5 minutes, 2 out of 20 participants showed significant changes immediately after intervention regardless of the intervention phase. As well, 3 out of 10 who had received intervention in phase 1 showed a change at phase 2 only. Fourteen out of 20 participants showed no significant changes. For total letters at 5 minutes, 1 out of 20 participants showed significant changes immediately after intervention regardless of the intervention phase. As well, 2 out of 10 who had received intervention in phase 1 showed a change at phase 2 only. Sixteen out of 20 participants showed no significant changes. Interestingly, 2 out of the 10 participants who received intervention 2 regressed with score higher at the end of phase 1 compared to the end of phase 2.

Figures 1 through 5 (See Appendix B) shows the results for the 5 participants with significant scores on the words spelled correctly.

The participants from intervention 1 for words spelled correctly showed the most significant change as a group compared to participants in intervention 2 and when compared to all other measures. Of the 10 participants in each intervention, words spelled correctly was the only one to reach 50% of the participants showing significant change. The yellow line represents 2 standard deviations above what would be expected natural growth of each participant and all points above the line indicate significant positive clinical change. Of note, all participants showed a significant improvement by Pre-Intervention 2 time point. All participants showed a sloping increase in the number words spelled correctly during phase 2 with the exception of participant 40 (Fig. 3).

Discussion

Results of the pilot study revealed that oral narrative intervention can have an effect on different writing components but most significantly on the number of words spelled correctly. Findings measuring total words, total words at 5 minutes, and total number of letters in the 5 longest words showed few significant changes across participants in both interventions. As a direct effect of the intervention, the number of words increased in relation to improved story structure and participants including more story elements. Words spelled correctly came as a surprise as it was not explicitly taught in the intervention, but most teachers target spelling when working on written skills (Cutler & Graham, 2008). The combination of explicit and implicit instruction could have impacted this measure.

A major shortcoming of the pilot study is the time allotted for change to occur, as results show more significant change in the intervention 1 group. Measuring both total words and total words at 5 minutes takes away standardization for this measure as there is no control, and measures considered misaligning with the intervention targets.

General Discussion

A critical analysis of the existing literature revealed that oral narrative language interventions does impact children's writing abilities as it relates to length of writing, story grammar elements, and overall written narration skills. Results of the small-scale pilot study showed suggestive evidence supporting the impacts oral narrative intervention has on quantitative writing skills. A further discussion of these results will be explored in this section.

The critical analysis revealed in three of the four studies that oral narrative intervention improves these broad writing skills: story grammar elements, language complexity, narrative structure, and character development (Spencer & Peterson, 2018, Scadden Nelson, 2019, Brady & Millard, 2012). While the study conducted by **Griffin, Hemphill, Camp, and Wolf (2004)** found a connection between oral discourse skills at age 5 and later written narrative skills at age 8. All four studies included clear definitions of narrative writing skills but failed to

define 'writing skills' when generally making statements about the improvements noted. Due to lack of clarity, the pilot study cannot be compared directly to these findings. Broadly, the pilot study supported that oral narrative interventions can support writing skills such as words spelled correctly. Interestingly, the pilot study showed few significant changes in story length which would have been supported by the other studies if the participants included additional information such as story elements, that they were not including prior to intervention.

Results from both the critical analysis and pilot study found the most significant changes to be evident over time. The most significant results were demonstrated by those who had more time between the intervention and maintenance phases. This is supported by the pilot study as the most significant changes were found in those who received intervention one during the second phase. **Brady and Millard (2012)** did not show as compelling results as the other studies but noted that with more time they predict there may have been an increase in significant change seen in the participants writing skills. The remaining studies were all conducted over longer periods of time and all showed suggestive results in the improvement in writing skills.

Results of the pilot study demonstrated that only the measure of "words spelled correctly" had a significant improvement as 50% of participants in intervention one had significant improvements. It is likely that because participants in intervention one had more data points post intervention to assess, that these changes were noted compared to participants in intervention two. The results of this study were somewhat unexpected as it was hypothesized that total words and total number of letters of words would be longer as children were being taught more story grammar words and elements that could result in longer stories and more diverse vocabulary. It is shown that most teachers focus on spelling when working on writing and could have done so outside the intervention sessions which could have supported learning.

Limitations of the critical review include having primarily typically developing participants, limiting those with exceptionalities. For example, those with developmental language disorder would likely have different outcomes on how oral learning affects

writing skills than those who are typically developing. Additionally, the studies did not have clear definitions for writing skills even though they mention that they did improve from the interventions. Similar to **Brady and Millard (2012)**, a limitation to the pilot study was not providing sufficient time to see change from the intervention. Another limitation was the inconsistency in samples collected during the intervention due to competing classroom priorities. There were also limitations in comparing the studies. The measures from the critical analysis did not align with the measures of the pilot study. The pilot study targeted story retells but measured specific writing abilities that are taught explicitly by teachers. Storytelling is one method to examine but the critical analysis looked at the qualitative measures, whereas quantitative measures would have allowed for a more direct comparison.

Clinical Implications

Results of this study and analysis suggest that oral narrative language intervention is appropriate for targeting story structure due to the focus on qualitative measures like story-retell abilities including the elements of story grammar and language complexity. There is suggestive evidence that oral narrative language intervention improves writing outcomes such as number of words spelled correctly and minimal improvement in respect to total words and number of letters. However, clinicians need to monitor the intervention and should allow for sufficient time in order to see and expect any significant change. If oral narrative language intervention is to continue to be used to address and improve story structure abilities, it is recommended to use the standardized CUBED Narrative Language Measures in order to appropriately examine measures and make comparisons to the limited research available. Future studies should consider using a study design with a longer maintenance phase in order to potentially see more changes.

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Appendix A:

Table 1:

TOTAL WORDS AT 5 MINUTES INTERVENTION 1

	Phase 1 total correct	Phase 1 total trials	Phase 2 total correct	Phase 2 total trials
STC034	1	6	5*	5*
STC035	5*	6*	4	6
STC036	2	7	5*	5*
STC039	4	7	6*	6*

Table 2:

TOTAL WORDS AT 5 MINUTES INTERVENTION 2

	Phase 1 total correct	Phase 1 total trials	Phase 2 total correct	Phase 2 total trials
STC054	9*	11*	6*	7*
STC057	6*	9*	1	1

Table 3:

TOTAL LETTERS AT 5 MINUTES INTERVENTION 1

	Phase 1 total correct	Phase 1 total trials	Phase 2 total correct	Phase 2 total trials
STC034	4	6	5*	5*
STC040	2	6	6*	6*

Table 4:

TOTAL LETTERS AT 5 MINUTES INTERVENTION 2

	Phase 1 total correct	Phase 1 total trials	Phase 2 total correct	Phase 2 total trials
STC054	9*	11*	3	7

STC058	7*	8*	6*	8*
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Table 5:

TOTAL WORDS SPELLED CORRECTLY INTERVENTION 1

	Phase 1 total correct	Phase 1 total trials	Phase 2 total correct	Phase 2 total trials
STC034	2	6	5*	5*
STC035	5*	6*	5*	6*

Table 6:

TOTAL WORDS SPELLED CORRECTLY INTERVENTION 2

Participant	Phase 1 total correct	Phase 1 total trials	Phase 2 total correct	Phase 2 total trials
STC054	9*	11*	6*	7*
STC057	5	9	1*	1*

Appendix B

Fig. 1

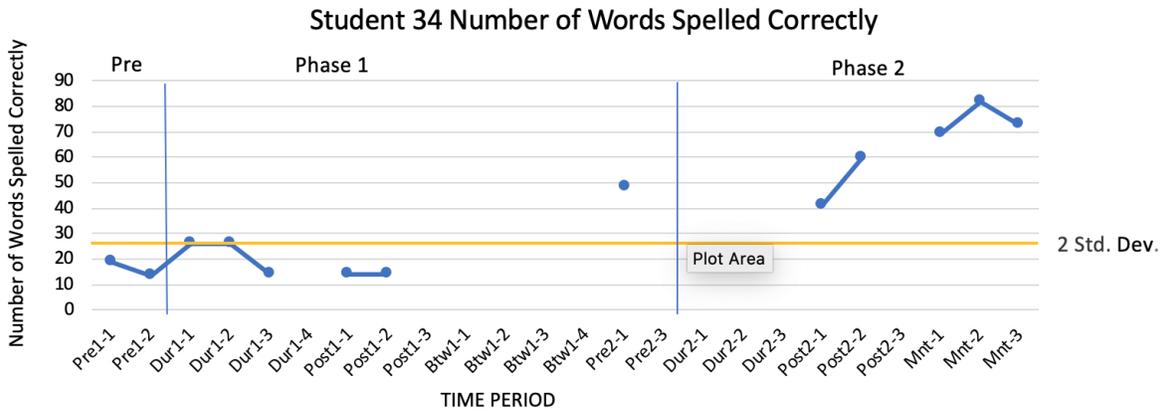


Fig. 2

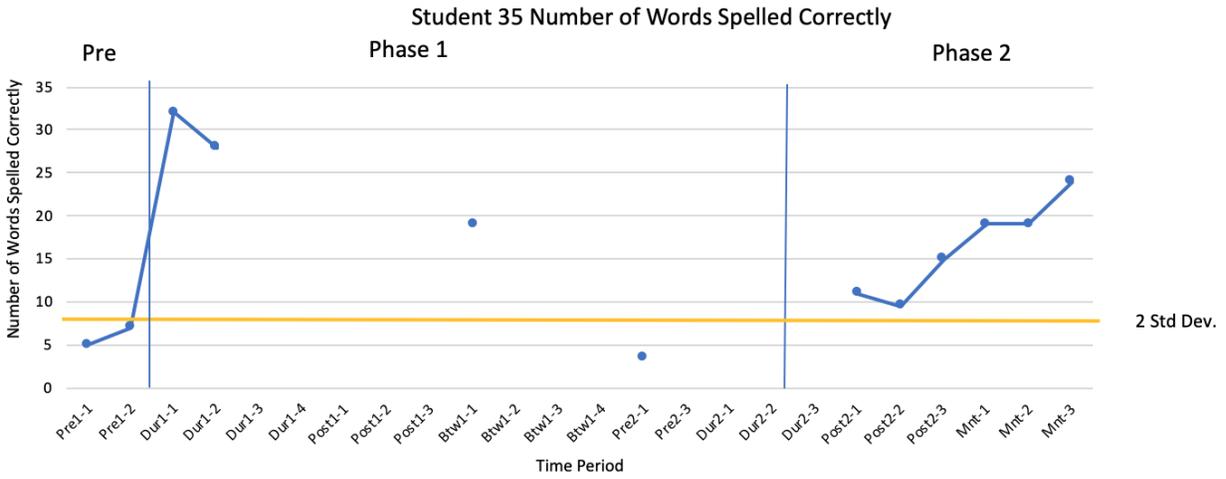


Fig. 3

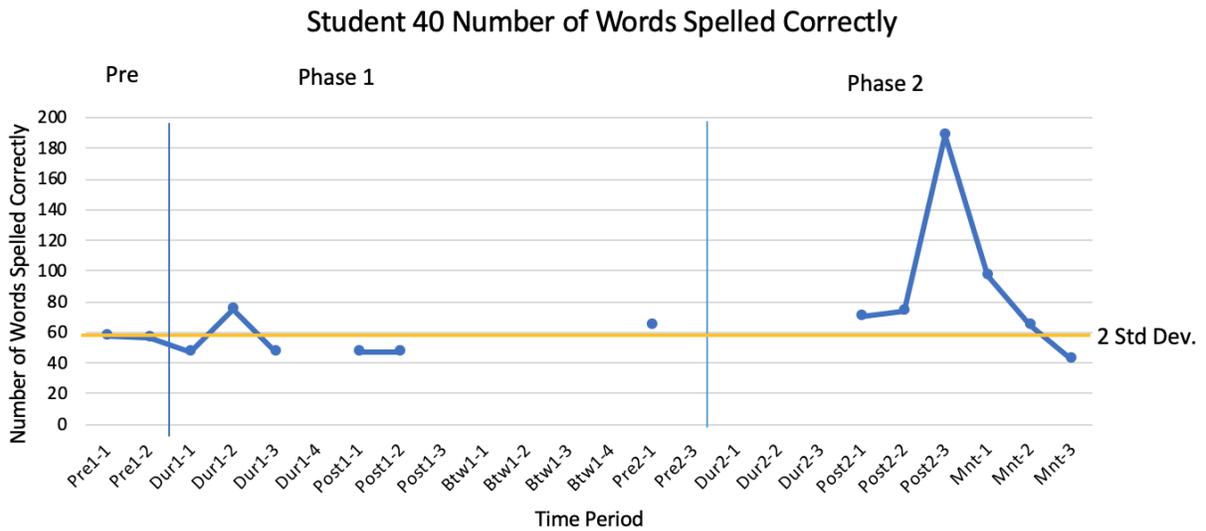


Fig. 4

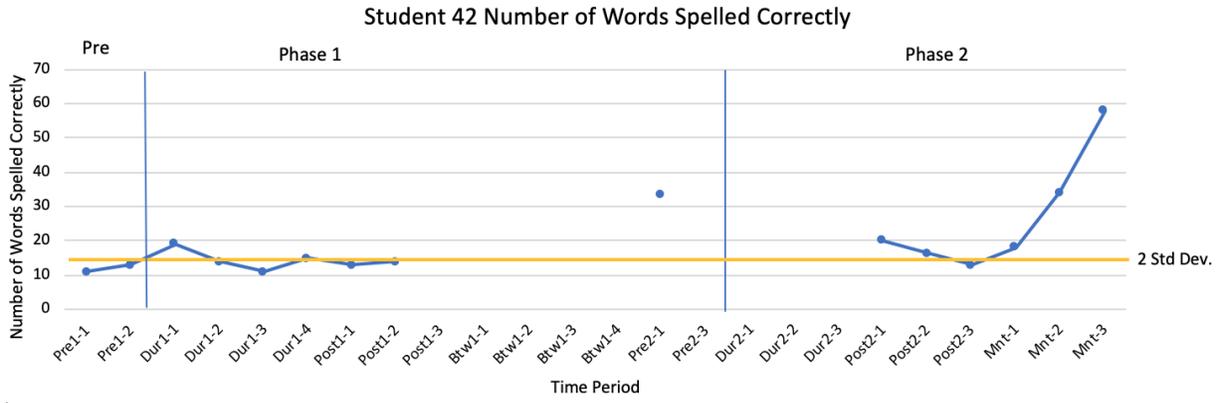


Fig. 5

