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EFFECT OF LANGUAGE! LIVE CURRICULUM ON U.S. MIDDLE SCHOOL STUDENTS' LEXILE SCORES

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Abstract

The purpose of the present investigation was to examine the effect of the Language Live! reading intervention on reading comprehension (Lexile level) in a sample of middle school students from the United States (N = 133) who were deemed ineffective readers. Students were either in the Strategic Group (i.e., reading comprehension below one grade level, n = 71) or the Intensive Group (i.e., reading comprehension below two grade levels, n = 62). Due to the severity of their

reading difficulties, students in each group received a different reading curriculum. The grade x treatment type interaction was not significant. Nevertheless, the treatment type main effect suggested that students in the Strategic Group outperformed students in the Intensive Group regarding Lexile level proficiency, and the grade level main effect showed that the lowest Lexile level was evident in 6th grade while the highest was among 8th grade. Findings indicated the utility of the Language Live! educational intervention for struggling readers.

Keywords

Blended Learning, Reading Comprehension, Lexile, Middle School

1. Introduction

As educators' step into classrooms with large groups of struggling readers, they are faced with the task of identifying the source of the reading issues, finding the best tools and strategies for each student, and bringing those students up to reading at grade level. Though reading difficulties can be present early in a student's educational journey, older students can develop reading problems when they are required to comprehend more difficult text. If students are not identified early and presented with interventions, there can be consequences for the future of the student, both in school and in their life after schooling ends (Moats et al., 2017). In school, struggling readers only have a 13% chance of making it to their senior year of high school on time if they fail their sixth-grade English class. In their world outside of school, 33% of juvenile offenders do not read above a fourth-grade level and 66% of prison inmates are high school dropouts (Moats et al., 2017). These statistics show the importance of reading interventions to students' futures.

Education reform has produced a plethora of initiatives to enhance student achievement beginning in Pre-Kindergarten and extending into higher education (Austin et al., 2019; Benner et al., 2013; Hu et al., 2019). These reforms are directly associated with student performance on standardized assessments. Currently, the Georgia Department of Education (GaDoE) assesses schools and school districts using the College and Career Ready Performance Index (CCRPI). The CCRPI score has become the sole contributor to determining which schools receive immediate focus to implement the abundance of initiatives to include commercial products as interventions (GaDoE, 2018). These commercial products include textbooks, manipulatives, reading guides, and computer programs deemed necessary to raise the reading levels of students as well as standardized test scores. Many schools across the United States are using commercial reading intervention

programs to improve the reading abilities of struggling students (Bippert, 2019). However, no study to date has examined the influence of technology-based literacy interventions on reading comprehension based on different reading curricula. Thus, the purpose of the present study was to determine the impact of an intensive blended learning reading intervention, Language! Live, on the standardized assessment Lexile scores of middle school students (sixth, seventh, and eighth grades) who are at least two grade levels behind (Intensive group) and one level behind (Strategic group) in reading at a Title I school in Georgia, United States.

1.1. Theoretical Framework

The present study employed Tomlinson's Differentiated Instruction (DI) model (Tomlinson & Imbeau, 2013). Differentiated instruction includes designing and planning instruction which is tailored to students' needs and abilities to ensure success. Effective differentiated instruction uses preassessments and continuing assessments to determine a student's understanding of content at varying stages of instruction. The framework of differentiated instruction, as used in present-day, was developed to enable teachers and educational leaders to understand the need and application of differentiating content, process, product, and environment.

Tomlinson's DI theory (Tomlinson & Imbeau, 2013) offered students learn best when their instructor readily accommodates the differences in their readiness levels, interests and learning profiles. The theory focuses on modifying the four essential elements of instruction which includes content, the learning environment, the learning process, and the product. Tomlinson's DI theory also stipulates that each learner, despite their background and capabilities, can comprehend. Content, also referred to as knowledge, is often constant despite the student's ability. However, the differentiation of various methods used to teach learners affects their ability to understand (Malacapay, 2019). While some learners need only one lesson, others need repeated readings with practice and group discussions. Rasheed and Wahid (2018) argued that the teacher should consider the differences that exist between the learners and modify the delivered content and assessment approaches. Accordingly, the teacher should identify the best method to help the learner understand the concept.

A variety of stakeholders in education agree that students have different approaches to learning, which gives rise to the theory of differentiated instruction. According to Halverson and Graham (2019), no single approach enhances the attainment of blended learning. Instead, different components build on learners' engagement through the most convenient approaches.

Subsequently, a blended learning environment is a form of external differentiation that aims at enhancing learners' engagement, which relates to the capacity of the learner to use cognitive and emotional skills to accomplish a learning task (Halverson, & Graham, 2019). The level of learner engagement influences educational outcomes such as satisfaction, sense of community, persistence, and academic achievement. A blended learning environment improves the engagement of learners (Horn & Fisher, 2017). The approach favors the methodological integration of face-to-face and online instruction.

2. Literature Review

This section addresses the major topics relevant to the present study to better situate our arguments. It is divided into three sections, each dealing with a different area to support the need for this study: reading for adolescents in middle school who struggle to read; a review of reading interventions; and a discussion on blended learning.

2.1. Reading in Middle School for Struggling Young Adolescents

The ability to read proficiently becomes crucial as students enter middle school. Middle school is a time when young adolescents are expected to comprehend complex content in social studies, science, math, and language arts classrooms (Vacca et al., 2020). However, too many young adolescents reach middle school without the ability to read on grade-level and the outlook for success in school is not promising. The most recent data from the Nation's Report Card reported that only 34% of eighth graders who took the nation-wide reading assessment scored proficient (National Center for Educational Statistics, 2019). Given the voluminous amount of information and the technical vocabulary encountered in content-area classrooms, it is not surprising that struggling middle school readers become overwhelmed. In conjunction, research has found that students' interest and attitude toward reading decline across the elementary years (Biancarosa, 2012; Guthrie & Klauda, 2014; Vacca et al., 2020) and for struggling readers, disinterest in reading is heightened. Stockard et al. (2018) argued that without highly structured activities that support the reading content, and most importantly, understanding the goals for learning, many young adolescents will continue to struggle.

Recognizing that middle school is a vital bridge between elementary and secondary school, the Association of Middle Level Education postulated that young adolescents require reading programs uniquely designed to their needs and distinguished from elementary reading

programs (Bishop & Harrison, 2020). As such, five components that should be included in reading instruction for young adolescents include: word study, fluency, vocabulary, comprehension, and motivation. While there are many presumed predictors and components of reading on grade level, Allington (2009) recognized that not all young adolescents read on grade level; struggling middle school readers who read one or more grade levels below need additional instructional support, such as an intensive reading program.

2.2. Reading Interventions

As students continue to struggle with reading skills and fall further below grade level reading standards, districts and schools are continuously looking for strategies and programs to help students fill the gaps and make enough academic progress. This is even more pertinent in middle and high school when students need more than phonics interventions to be successful. Students in middle and high school can make progress with individualized and intensive instruction focused on word recognition, vocabulary, and comprehension (Moats et al., 2017); yet, they may have difficulties with basic skills like decoding multi-syllable words, understanding the meaning of content vocabulary, and making inferences within academic texts. For struggling students to progress and meet grade level reading standards, they need intensive and appropriate interventions. Students who struggle with reading may have significant issues in other areas like behavior and attention that can add to the students' struggles. Research has shown that reading achievement and behavioral attention improve when students participate in an intensive, response-based reading intervention over three years (Roberts et al., 2016) and intensive reading interventions should have a multiple year duration (Miciak et al., 2017).

The use of commercial reading intervention programs has increased the use of technology and blended learning within schools and has reflected the technology trends in the United States (Bippert, 2019). Previous research on reading interventions has focused on early intervention in elementary school. The elementary reading interventions focus on skills of beginning readers and rarely include the more complex skills needed by middle school readers (Flynn et al., 2012). With the use of an intensive blended learning reading intervention, it is important to understand the necessities, successes, poor practices, and failures as they apply to middle grades reading (Amendum et al., 2017; Austin et al., 2019). As Rodriguez et al. (2016) determined, implementation requires consistency and the continuous evaluation of instruction. The effective instruction and implementation of an intervention is key to student success.

In order to be academically successful, small group reading interventions need to go further than simply decoding (Bippert & Harmon, 2017). Students must be able to read grade level texts, understand vocabulary, and comprehend academic texts. Additionally, small group reading interventions need to be specific and intensive while also motivating the participating students to read. This can be achieved through the use of reading materials that are engaging, interesting, and applicable to students' real-life (Bippert & Harmon, 2017). Moreover, when reading interventions are culturally relevant, not only are students' interests peaked, but reading fluency and comprehension have been found to improve when culturally relevant passages were used in small group reading interventions (Bennett et al., 2017).

2.3. Blended Learning

Blended learning creates a personalized learning experience for students while combining teacher instruction in the classroom with technology (Horn & Stacker, 2011). Blended learning is not merely putting technology in place of direct instruction. It is the blending of the two in order to benefit the students. Blended learning in small-group reading interventions consists of the instructor giving direct instructions about a reading skill and students practicing and reviewing that skill at their prescribed level using a computer-based program. Blended learning does require teachers to be engaged in the lessons as well as the technology. Research has shown the down sides of blended learning when teachers are not engaged (Schechter et al., 2017).

Though the results of blended learning show greater gains in early intervention, there are considerable benefits when used with struggling adolescent readers (Moats et al., 2017). Struggling readers who participate in blended learning interventions are better able to synthesize the information presented due to the enhanced review and forced assessments via the program. Students are then more successful in their class (Desplaces et al., 2015). Blended learning should not be used as a fix all for every struggling reader, as there are some groups of students that do not benefit from blended learning at the same rate as others. For example, English Language Learners (ELLs) who are struggling to learn to read were able to make similar gains as their non-struggling peers but were not able to catch up using a blended learning approach (Amendum et al., 2017).

3. Research Issues

This section describes the Language! Live curriculum, which was employed as the intervention in the present study to assist struggling readers in middle. It also stipulates the research questions and hypotheses of the present study.

3.1. Language! Live Curriculum Intervention

Language! Live is a systematic reading program that aligns to what reading experts have determined is needed for struggling middle school readers (Allington, 2009; Bippert, 2019; Moats et al., 2017). The Language! Live program evaluates reading demand, examines word frequency, and sentence length to reading comprehension (Lennon & Burdick, 2004). More specifically, Language! Live offers both word training and text training. Word training is provided online, where students are provided with a self-paced environment to facilitate their skills development. Text training meets students where they need to be using teacher-led instruction. The training helps students gain literary and informational skills to comprehend complex ideas required in making connections between texts (Voyager Sopris Learning, 2014). The program has two entry levels. Level 1 is for children who need intense instruction and foundational skills while level 2 is to help them continue the path to mastery. The program also involves live assessments for ongoing students where their benchmark progress and essential language skills are assessed, and students are provided with immediate corrective feedback.

3.2. Research Question and Hypotheses

The present study was guided by the following research question.

What is the effect of grade level (sixth, seventh, eighth) and treatment type (strategic training, intensive training) on posttest Lexile score after being exposed to the Language! Live Curriculum while controlling for pretest Lexile score?

Hypotheses: We predicted that there would be statistically significant interaction among grade x treatment type (1a). Additionally, we expected each main effect (grade level and treatment type), independently, to be significant (1b). More specifically, we expected: 1) eighth graders to outperform sixth and seventh graders; and 2) strategic training to outperform intensive training (1c).

4. Method

This section details the sampling approach, research design, and the participants who were part of the present study. Next, we describe in detail the instruments and tools we employed

to collect data. The section ends with a description of our procedures for data collection and an explanation of our data analysis plan, including assumption testing and screening procedures.

4.1. Participants, Sampling, and Research Design

The present study employed a convenience sampling approach within a quasi-experimental research design (no true control) with a longitudinal (baseline, posttest) component. The population included 690 students in sixth through eighth grade at an economically disadvantaged middle school (i.e., more than 55.7% of the school's population qualified for free or reduced-price lunch) in a suburban school district in the State of Georgia, United States. The racial breakdown of the school's population includes 54.8% White, 23.9% Black, and 9.9% Hispanic. Only 59.65% of the school's students met the target in the English Language Arts (ELA) section of the Georgia Milestones Assessment System (GMAS).

The sample for the present study comprised 133 participants (152 initially) who supplied complete data. There were 92 males (41 females) whose age ranged from 11 to 15 years (M = 13.01; SD = 1.02). Regarding group sizes, there were 48 students in sixth grade, and 42 in seventh grade and 43 in eighth grade (19 [12.5%] students had missing data at either testing occasion). With respect to treatment type, there were 62 students in the intensive and 71 in the strategic group.

4.2. Instrumentation

Data were collected through the Language! Live platform to determine satisfactory participation in the intensive blended learning reading intervention. The present study relies on de-identified archival data, made available to the research team with permission from the school and school district administration at the participating school. The GMAS Lexile scores were collected through the student information platform.

At the end of each school year, learners in middle grades are evaluated on their knowledge of ELA, Social Studies, Science, and Mathematics via the GMAS, which produces standardized, norm-referenced scores for each of these domains. However, the present study focused exclusively on the Lexile scores provided in the ELA portion of the GMAS. According to the GaDoE (2018), there are four levels of the GMAS, which include Beginning, Developing, Proficient, and Distinguished. Beginning learners do not meet content standards and need significant academic support to improve. Developing learners demonstrate low proficiency of standards and require support to become college and career ready. Proficient learners demonstrate proficiency in the skills and knowledge necessary and are on track for college and career readiness.

Distinguished learners demonstrate proficiency above grade level standards. The ELA portion of the GMAS evaluates Lexile Level scores and students' ability to read including the difficulty of a text. The learners must present a rising trajectory on their ability to read.

A Lexile is a score employed to illustrate a student's ability to read. There are two Lexile measures, text and reader. A reader measure is used to represent an individual's ability to read while the difficulty level of a text on a Lexile scale is determined by text measure. The Lexile framework bases its results on both the reader and the material being read, and therefore, appropriately describes a student's reading ability (Archer, 2010). A Lexile text measure is achieved by assessing the readability of a piece of text such as an article or a book. Lexile reader and text measures can be helpful to guide teachers and students to texts that are accessible to the students' reading skill. Inclusion criteria for the two treatment groups was as follows. Students in the intensive group have a Lexile score two grade levels below their actual grade level whereas students in the strategic group scored one grade level below on the GMAS.

4.3. Procedure

All ethical guidelines for conducting research with human participants were followed for the present study. Because the data were archival and de-identified, the research was deemed as Exempt from review by the University's IRB (Approval No. 21079); thus, no participant informed consent was necessary. After receiving permission from the school district to obtain and analyze student information, the researcher accessed the Student Learning Database System (SLDS) platform to retrieve archival data. The GMAS 2017-2018 Lexile scores, final grades within Language! Live, and student information such as age, grade level, and feeder school were all accessed within the SLDS platform. Physical permanent records were checked for any missing data. Students with missing data points were not included in the study. For the purposes of the present study, pretest scores were collected at the beginning of the 2017-2018 academic year (August 2017) and posttest scores were collected a the end of the academic year (May 2018).

4.4. Data Analysis

Data were screened for univariate outliers using box-and-whisker plots and tested for requisite statistical assumptions, including normality, homogeneity of variance, and homogeneity of regression/slope coefficients, prior to data analysis (Tabachnick & Fidell, 2013). There were no outliers detected in the data that would otherwise undermine the trustworthiness of the findings, and hence, data analysis proceeded with 133 cases with complete data. All requisite statistical

assumptions were met, and hence, no statistical adjustment was made to the data. Nevertheless, as previously stated, 19 cases had missing data at either baseline or posttest Lexile. Thus, to ensure that the missingness pattern could be deemed as missing completely at random (MCAR), we conducted Little's MCAR χ^2 statistic (Little & Rubin, 1989; Schaeffer & Graham, 2002). A significant χ^2 (i.e., $p < .05$) would suggest that the pattern of missing data is not MCAR (i.e., missing not at random [MNAR]), which poses a problem for interpretation of results because they may be biased due to systematic differences in non-responses (Tabachnick & Fidell, 2013). However, the result of this test for the present data was non-significant for all groups, all *p*-values $\geq .53$, suggesting that the missingness pattern in the data was MCAR.

The research question was answered by conducting a 3 (grade level: sixth, seventh, eighth) x 2 (treatment type: strategic, intensive) factorial analysis of covariance (ANCOVA), with Lexile score as the dependent measure and baseline Lexile score as the covariate. This analysis permits for the statistical control of pre-existing variables such as baseline scores. The Bonferroni adjustment to statistical significance was applied to all post-hoc/follow up analyses to obviate familywise Type I error rate inflation. Effect sizes for the factorial ANCOVA were reported as partial η^2 (η^2_p). Cohen (1988) provided the following interpretive guidelines for η^2_p: .010-.059 as small; .060-.139 as moderate; and $\geq .140$ as strong.

5. Results and Discussion

5.1. Descriptive Analyses and Group Equivalence at Baseline

Descriptive statistics, including initial and adjusted mean Lexile scores at posttest, by group are reported in Tables 1 and 2 and bivariate, zero-order correlations by group are displayed in Tables 3-5.

Table 1: *Descriptive Statistics for Lexile Scores at Baseline and Posttest by Treatment Type*

Variable	Strategic (*n* = 71)				Intensive (*n* = 62)			
	Baseline		Posttest		Baseline		Posttest	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Lexile	799.72	123.53	870.21 [857.54; S.E., 14.22]	122.93	633.71	172.15	769.44 [784.63; S.E., 15.23]	120.99

Note. Statistics in brackets represent the adjusted Lexile posttest mean and its standard error (S.E.) after controlling for Lexile pretest mean.

(Source: Authors' Own Illustration)

N = 133

Table 2: *Descriptive Statistics for Lexile Scores at Baseline and Posttest by Grade Level*

Variable	6th (*n* = 48)				7th (*n* = 42)				8th (*n* = 43)			
	Baseline		Posttest		Baseline		Posttest		Baseline		Posttest	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Lexile	641.98	198.35	789.90 [798.83; S.E., 17.22]	140.08	773.33	128.53	799.88 [787.93; S.E., 17.28]	111.58	762.21	135.76	883.26 [876.49, S.E., 16.91]	121.80

Note. Statistics in brackets represent the adjusted Lexile posttest mean and its standard error (S.E.) after controlling for Lexile pretest mean.

(Source: Authors' Own Illustration)

N = 133

Table 3: *Zero-Order Correlation Matrix for Lexile Score at Baseline by Treatment Type*

Variable	1	2
1. Lexile Baseline	-	.24*
2. Lexile Posttest	.38**	-

* $p < .05$ ** $p < .01$

Note. The correlation above the diagonal is for the strategic readers group and that below the diagonal is for the intensive readers group.

(Source: Authors' Own Illustration)

N = 133 (strategic, *n* = 71; intensive, *n* = 62)

Table 4: *Zero-Order Correlation Matrix for Lexile Score for 6th and 7th Grade*

Variable	1	2
1. Lexile Baseline	-	.60*
2. Lexile Posttest	.41*	-

* $p < .01$

Note. The correlation above the diagonal is for 6th grade and that below the diagonal is for 7th grade.

(Source: Authors' Own Illustration)

n = 90 (6th grade, n = 48; 7th grade, n = 42)

Table 5: *Zero-Order Correlation Matrix for Lexile Score for 8th Grade*

Variable	1	2
1. Lexile Baseline	-	.13 ns
2. Lexile Posttest		-

ns non-significant.

(Source: Authors' Own Illustration)

n = 43

With respect to correlational patterns, results indicated that the association between baseline and posttest Lexile was stronger for the intensive group than for the strategic group (see Table 3). Interestingly, for grade level, the relation between baseline and posttest Lexile was stronger for sixth grade than for seventh grade, and this relation was negligible for eighth grade (see Tables 4 and 5).

5.2. Main Analyses

Results of the 3 x 2 factorial ANCOVA revealed that baseline Lexile scores exerted a significant influence on posttest Lexile scores, η^2_p = .053, and hence, the need to control for this variable. The two-way interaction was not statistically significant, p = .061. However, both main effects reached statistical significance: grade, F (2,126) = 8.15, p < .001, η^2_p = .115; treatment type, F (1,126) = 10.52, p < .001, η^2_p = .078, even after controlling for Lexile pretest mean. The follow up results of each significant individual main effect with the Bonferroni adjustment for multiple comparisons were interpreted next.

The treatment type main effect post hoc results suggested that the strategic group manifested significantly higher Lexile scores than the intensive group. Finally, the grade level main effect follows up comparisons revealed that significant between-grade level differences existed between sixth and eighth grades and also between seventh and eighth grades. The

difference between sixth and seventh grades was not significant, $p = .910$ (see Tables 1 and 2 for initial [unadjusted] Lexile and adjusted posttest means by group).

5.3. Discussion of Findings

The purpose of this study was to determine the impact of an intensive blended learning reading intervention, Language! Live, on the standardized assessment posttest scores of middle school students who were one or two grade levels behind in reading comprehension while controlling for pretest assessment scores. The study aimed to establish if students who were significantly below grade level could grow with the assistance of an intensive blended learning reading intervention. The implementation of blended learning in reading interventions has increased recently as technology continues to develop and advance (Bippert, 2019).

Results of the present study revealed a statistically non-significant grade x treatment type interaction. However, the treatment type main effect suggested that students in the strategic group outperformed students in the intensive group regarding Lexile level proficiency, and the grade level main effect showed that the lowest Lexile level was evident in sixth grade while the highest was among eighth grade. Thus, our hypotheses were partially supported by the findings.

Tomlinson's Theory of Differentiated Instruction stipulates that instruction should include accommodating for content, learning environment, learning process, and product (Tomlinson & Imbeau, 2013). Current research focuses on early childhood and higher education application of blended learning instruction and intervention. The present study sought to enhance the literature with the addition of implementation of intensive blended learning reading interventions in middle grades reading. Research shows that differentiation of content, learning environment, product, and learning process can address a variety of educational needs and allows for growth and inquiry when blended learning is used (Horn & Fisher, 2017). The implementation of the Language! Live reading intervention as individualized instruction can facilitate better results for at-risk learners (Shanahan & Lonigan, 2010).

The findings of the present study converge with existing research that highlights the positive impact of blended learning educational interventions on reading comprehension (e.g., Allington, 2009; Amendum et al., 2017; Austin et al., 2019; Desplaces et al., 2015), especially among middle grades (e.g., Archer, 2010; Brooks-Yip & Koonce, 2010; Guthrie & Klauda, 2014). The fact that the present study focused exclusively on middle school students who were at least one grade level behind in reading comprehension supports the body of research that struggling

readers are not a homogenous group of learners, but rather a diverse group that benefits from differentiated, blended instruction (e.g., Austin et al., 2019; Hu et al., 2019; Malacapay, 2019). Interestingly, the intensive reading group, which is comprised of readers that are two or more grade levels below their at-grade-level peers, benefitted the most from the educational intervention, supporting the conclusion that even students with the lowest reading comprehension skill can improve their reading. Thus, educational interventions should continue to be tailored to the individual needs of struggling readers.

5.3.1. Implications for Practice

This study served as a foundation for understanding how reading interventions, blended learning, and middle school reading are related to the benefit of student academic achievement. Though extant research is divided on the benefits of reading interventions and blended learning, this study adds to the understanding of the positive aspects of using an intensive blended learning model in middle grades and further supports the premise that the methodological integration of face-to-face and online instruction improves the engagement of learners by creating unique learning pathways (Halverson & Graham, 2019). The results of the study imply that middle school administrators at the school and district level, as well as teachers and instructional specialists should consider using Language! Live as a reading intervention to benefit struggling readers in the middle grade's classroom.

This study also adds to the discussion of interventions implemented to close the gaps in reading abilities on standardized assessments, especially within subgroups of struggling readers. Though the intervention did not effectively close the gap and ensure all students in the intervention were reading at grade level, students did show growth after the intervention. This study aimed to establish if students who were significantly below grade level could make growth with the assistance of an intensive blended learning reading intervention and the results suggest that the Language! Live reading intervention can enhance student growth, especially among the poorest readers (i.e., those in the intensive group).

6. Conclusion

The present study demonstrated that a blended learning curriculum, Language! Live can be successfully employed to improve struggling middle school readers' comprehension skill. Even though both the strategic reading group (those one grade level below in reading comprehension)

and the intensive reading group (those two grade levels below in reading comprehension) showed Lexile gains, data revealed that the Lexile growth was more than double for the intensive group (the poorest performing group). Thus, Language! Live can be implemented by middle school teachers in their everyday curricula, along with what they are currently teaching in reading, to enhance struggling readers' reading comprehension. Equally as important, this intervention should be implemented as early as possible (i.e., sixth grade) rather than waiting until seventh or eighth grade, as the present study supports.

6.1. Research Limitations

This research study used a convenience sample, which limits the generalizability and representativeness of the results. Also, the present study used a relatively small sample size. Future replication studies should use random sampling approaches and larger sample sizes to test the replicability of our findings.

6.2. Scope of Future Research

The results of this study are beneficial to the continuing discussion of the use of blended learning and reading interventions to effectively help struggling middle school readers. The data collected provide a foundation for further research regarding intensive blended learning reading intervention in middle grades. Additionally, future research should compare data of students who received intervention at the intensive and strategic level to the data of students who did not receive the intervention to better understand the impact of the Language! Live intervention. Finally, the present study took place at a single Title I middle school, and thus, further research is recommended to include all middle schools within a school district and beyond. Because Title I middle schools enroll disproportionately higher numbers of students of low socioeconomic status, future research should explore the impact of the feeder elementary schools and socioeconomic status on students' reading skills.

6.3. Conflict of Interest Statement

The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript and there is no financial interest to report. We certify that the submission is original work and is not under review at any other publication.

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