LXDRESEARCH
AT CHARLES RIVER MEDIA

# IMSE's Orton-Gillingham Plus (OG+) Efficacy Study

## Examining the Impact of IMSE's OG+ Program on K–1 Early Literacy Skills in a Low-SES School District


**Authors:**

Rachel Schechter, Ph.D.

Michaela Gulemetova, Ph.D.

Colin Ackerman, Ph.D.

**JULY 2025**

LXDRESEARCH
AT CHARLES RIVER MEDIA


# MODERATE

LXD Research Recognition for IMSE's Orton-Gillingham Plus (OG+)

institute for multi-sensory education

This product has been rigorously evaluated and is hereby acknowledged for meeting the educational impact criteria of the Every Student Succeeds Act (ESSA), warranting a **Level 2** for "**Moderate**" Evidence. This recognition is based on its proven effectiveness in enhancing grade-level learning outcomes.

**REVIEWED BY THE LXD RESEARCH EXPERT REVIEW PANEL**

**VERIFIED BY:**

EVIDENCE for ESSA

**Rachel Schechter, Ph.D.**
Founder of LXD Research

JULY 2025

**DATE**

# Understanding ESSA Evidence

LXDRESEARCH
AT CHARLES RIVER MEDIA

**Educators search for high-quality research and evidence-based solutions to strengthen grant applications, to support comprehensive and targeted instruction, or to implement new programming in their schools. Evidence requirements under the Every Student Succeeds Act (ESSA) are designed to ensure that states, districts, and schools can identify programs, practices, products, and policies that work across various populations.**

Educational programs document their evidence of design, effectiveness, and impact in order to be eligible for federal funding. While there is no singular authority that determines a program's tier, the Department of Education's Office of Educational Technology provides standards to assess the varying levels of strength of research for education products.

The categories for ESSA Evidence are: strong (Tier 1), moderate (Tier 2), and promising (Tier 3) evidence of effectiveness, or demonstrates a rationale to be effective (Tier 4).

**This product meets the requirements for Tier 2:**

- In a quasi-experimental design, students who used the program are examined against a comparison group who did not use the program.
- At least one quasi-experimental study with the proper design and implementation with at least two teachers and a multi-site sample of 350 students showed statistically significant, positive findings.
- The study uses a program implementation that could be replicated.
- A third-party research organization has reviewed the documentation for ESSA validation.


When product designers leverage learning sciences to design and evaluate the effectiveness of their programs, educators can better target instruction, and students' skills soar. A quasi-experimental study design using standardized assessment data, an analysis of student growth, and educator feedback demonstrates this product's efficacy, meeting the criteria for LXD Research's ESSA Tier 2 Evidence.

**– Rachel Schechter, Ph.D., Founder of LXD Research**

# EFFICACY STUDY SUMMARY
## GRADES K–1
## 2022–2023

## PROGRAM DESCRIPTION

IMSE's Orton-Gillingham Plus (OG+) is a Structured Literacy program designed for K–2 foundational literacy and intervention for students in grades 3 and beyond. Rooted in explicit, systematic, and cumulative instruction, it builds phonemic awareness, phonics, fluency, vocabulary, and comprehension through multimodal techniques and guided practice. This evidence-based program equips educators with the tools to teach every student to read.

## STUDY DETAILS

**Sample Description**

- Total students: 397 in Grades K–1, spread across four schools
- Treatment group: Students taught using IMSE's OG+ program: 220 students
- Comparison group: Students who received standard district literacy instruction: 177 students
- Location: Michigan

**Time Frame**

- Fall 2022–Spring 2023

**Methodology**

- Study Design: Quasi-experimental design with treatment and comparison groups.
- Instructional Model: Treatment teachers completed 30 hours of professional development before the start of the school year and implemented IMSE's OG+ program in daily 30-minute sessions, five times per week. The comparison group followed district-standard literacy instruction.
- Assessment Measure: NWEA MAP Growth at Fall 2022 (baseline) and Spring 2023 (outcome).
- Statistical Analysis: Linear regression of student growth, controlling for baseline scores, ethnicity, and school fixed effects, with clustered standard errors at the teacher level.

## STUDY SUMMARY

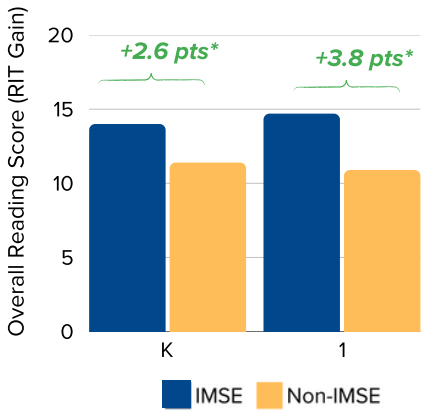
LXD Research conducted a quasi-experimental study to evaluate the impact of IMSE's Orton-Gillingham Plus (OG+) program on early literacy outcomes in a Title 1 school district in Michigan. The study analyzed student progress using MAP Growth from fall to spring, comparing students taught using IMSE's OG+ program to a comparison group. Results demonstrated that students taught using IMSE's OG+ program showed significantly greater literacy skill growth in kindergarten and first grade. The study included 397 students across four schools and compared those taught by teachers using IMSE's OG+ program to students whose teachers followed the district's standard literacy practices. MAP Growth was used to measure student progress at the beginning and end of the school year. Statistical analyses confirmed that students taught using IMSE's OG+ program demonstrated more substantial literacy skill development, with particularly notable gains in foundational reading skills.

## KEY FINDINGS

- Students taught using IMSE's OG+ program had **significantly higher spring scores and fall-to-spring gains** compared to the comparison group, controlling for fall baseline scores.
- The **impact was observed across both grade levels on multiple subdomains**, with notably consistent boosts in applying foundational skills in Language and Writing.
- **Educators highlighted strong student engagement and growth,** crediting the program's structured approach and consistent implementation.
- **Teachers reported strong confidence in IMSE's OG+,** noting earlier and more fluent student mastery of literacy skills.

**Students in Grades K and 1 who received instruction using IMSE's OG+ program showed significantly greater gains on MAP**

### Average RIT Gains from Fall to Spring by Group




*These improvements were the equivalent of*

**2 additional months of growth with IMSE**

*Statistically significant difference in adjusted Spring scores, after controlling for Fall MAP score, ethnicity, and school fixed effects, with clustered standard errors.

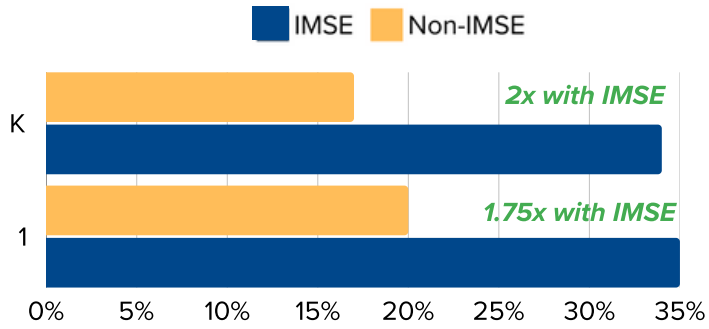
Grade K: n = 179, $\beta = 2.54$, $p = .027$, $\eta^2 = 0.03$, Cohen's $d = .33$
Grade 1: n = 218, $\beta = 3.77$, $p = .002$, $\eta^2 = 0.05$, Cohen's $d = .48$

## GROWTH TARGET ACHIEVEMENT

MAP provides each student with a personalized growth target based on their grade and baseline skill level. For 237 students[1], MAP indicated whether or not students met or did not meet these targets. Students taught using IMSE's OG+ program demonstrated remarkable progress in meeting their expected literacy growth targets. In kindergarten, 35% of students taught using IMSE's OG+ program met their growth targets, compared to just 17% in the comparison group. In first grade, 35% of students taught using IMSE's OG+ program met their growth targets, versus only 20% in the comparison group. Across both grades, nearly twice the proportion of students met their growth targets when their teachers received IMSE's OG+ training before the school year began.

**Students taught using IMSE's OG+ program demonstrated remarkable progress in meeting literacy growth targets.**

### Percent of Students who Met Growth Targets

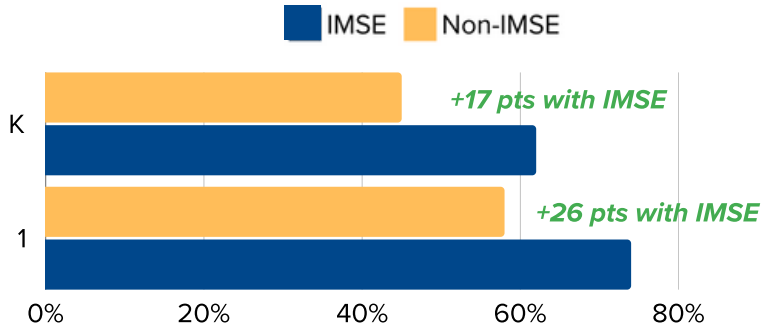



Grade K: n = 111, $\beta$ = .15, $p$ = .066, $\eta^2_p$ = 0.03, Cohen's $d$ = 0.37
Grade 1: n = 126, $\beta$ = .18, $p$ = .032, $\eta^2_p$ = 0.04, Cohen's $d$ = 0.43

## PERFORMANCE LEVEL PROGRESSION

For each assessment period, MAP provides one of five performance levels for each student based on their percentile ranking (e.g., Low is 1st–20th, LowAvg is 21st–40th, etc.; HiAvg and High were combined for this analysis, covering the 61st–100th percentiles). Students may maintain, improve or decline in their performance level through the year. The study revealed significant improvements in students' ability to maintain or advance their performance levels. Across the year, students taught using IMSE's OG+ program showed substantial gains in maintaining or improving their performance level. In kindergarten, students taught using IMSE's OG+ program saw 62% students maintaining or improving their performance level compared to the comparison group's 45%. First grade showed an even more dramatic difference, with 74% of students maintaining or improving their performance level compared to 58%. This suggests that IMSE's OG+ approach not only supports learning but helps prevent learning regression, particularly in these critical early education years.

### Percent of Students who Maintained or Improved their Performance Level




Grade K: n = 179, $\beta$ = .17, $p$ = .025, $\eta^2_p$ = 0.03, Cohen's $d$ = 0.35
Grade 1: n = 218, $\beta$ = .19, $p$ = .000, $\eta^2_p$ = 0.03 Cohen's $d$ = 0.41

**Students taught using IMSE's OG+ program showed substantial gains in maintaining or improving their performance levels.**

[1]MAP indicates meeting the growth target by Yes, Yes*, No, or No* with * indicating low confidence. Students with a * were excluded from this analysis. 237 out of 397 (~60% of analytic sample) had data for meeting projected growth in the spring.

## SUBDOMAIN IMPACT: TARGETED LITERACY SKILL DEVELOPMENT

The NWEA MAP assesses multiple subdomains, covering critical components of early literacy. Gains on these subdomains were compared for students taught using IMSE's OG+ program and those in non-IMSE classrooms.

### Structure of MAP Subdomains

**Vocabulary Use & Functions**
Applying vocabulary knowledge in context

**Foundational Skills**
Essential building blocks for literacy development

**Literature & Informational Texts**
Understanding and interpreting literary and informational texts

**Language & Writing**
Skills necessary for effective communication and expression

MAP assessments revealed nuanced improvements across critical literacy skill areas. In kindergarten, students taught using IMSE's OG+ program demonstrated statistically significant gains across multiple subdomains. Foundational skills showed meaningful progress, while language and writing skills demonstrated the most pronounced improvement. Vocabulary use and functions also saw notable gains. First grade results presented an even more compelling picture, with foundational skills improvement and particularly strong gains in literature and informational text comprehension and vocabulary use and functions. These targeted improvements highlight IMSE's OG+ structured approach to addressing specific literacy skill gaps, suggesting the program's effectiveness in supporting early literacy development across multiple critical domains.

### Subdomain Impact - Gains from BOY to EOY

**IMSE students had greater gains**

**IMSE students had similar gains**

| Goal | Kindergarten | First Grade |
|---|---|---|
| Foundational skills | IMSE | ↗ |
| Language and Writing | IMSE | IMSE |
| Literature and informational Text | ↗ | IMSE |
| Vocabulary Use and Functions | ↗ | IMSE |

*IMSE outperformed comparison group, means are estimated marginal means after controlling for Fall MAP score (same goal), ethnicity, and school fixed effects

**Kindergarten:**

- Foundational skills: n = 177, $\beta = 2.92$, $p = .042$, $\eta^2_p = .02$, Cohen's $d = .25$
- Language and writing: n = 179, $\beta = 3.17$, $p = .006$, $\eta^2_p = .02$, Cohen's $d = .29$
- Vocabulary use and functions: n = 177, $\beta = 2.99$, $p = .094$, $\eta^2_p = .02$, Cohen's $d = .25$

**First Grade:**

- Foundational skills: n = 218, $\beta = 3.61$, $p = .072$, $\eta^2_p = .02$, Cohen's $d = .30$
- Language and writing: n = 218, $\beta = 2.61$, $p = .041$, $\eta^2_p = .01$, Cohen's $d = .23$
- Literature and informational text: n = 218, $\beta = 4.28$, $p = .017$, $\eta^2_p = .02$, Cohen's $d = .35$
- Vocabulary use and functions: n = 218, $\beta = 4.37$, $p = .009$, $\eta^2_p = .03$, Cohen's $d = .36$

**Students taught using IMSE's OG+ program showed greater gains on multiple subdomains.**

## EDUCATOR VOICES: SCHOOL AND INSTRUCTIONAL LEADERSHIP INSIGHTS

Educators and school leaders consistently emphasized the relevance, structure, and observable impact of IMSE's OG+ program. Key implementation insights include:

- **Relevance to Literacy Challenge**: Educators reported that OG+ was suited to address literacy challenges observed in their school district, particularly in foundational literacy skill gaps in early grades. As one administrator put it, "We've had to turn the wheel over and get to phonics again… Kids can't do that like they used to be able to do."
- **High Levels of Student Engagement**: Educators also highlighted the program's ability to engage students overall: "The program is engaging. The kids like it. It's fun. I've watched as they're blending words together… kids tend to be engaged in it."
- **Administrator Investment and Fidelity of Implementation**: Leaders identified administrator investment and fidelity of implementation as critical to success. A principal reflected, "If as an administrator, if you're behind it, they're behind it. So I try to show my buy-in whenever possible." Another emphasized, "I would say definitely to make sure that your lower [elementary] team is using it with fidelity… do what you need to do to make sure it's getting taught."
- **Systematic Progression and Learning Continuum Set OG+ Apart:** The structured and developmental nature of the OG+ curriculum stood out as a strength. As one ELA coordinator observed, "Well with the IMSE, it has a learning continuum. And you know there's reasoning behind that with all of the other curriculums that I've used." The coordinator also noted, "So with, you know the OG [curriculum], it builds from one lesson to the next. And makes sense like these letters and sounds are developmentally, kids are ready for. And then it builds upon itself where other programs are not that way."
- **Evidence of Impact Seen in Data**: Several educators described not just anecdotal success but growth supported by assessment data over time. A principal noted, "One thing I will say is, from four years ago we went from being minimally effective on our scores to effective. One thing that we are seeing is growth, which is amazing….[we] love to celebrate the growth…"

> *"The OG [curriculum], it builds from one lesson to the next. And [it] makes sense, like these letters and sounds are developmentally, kids are ready for. And then it builds upon itself, where other programs are not that way."*
>
> **–ELA Coordinator**

> *"One thing I will say is, from four years ago we went from being minimally effective on our scores to effective. One thing that we are seeing is growth, which is amazing….[we] love to celebrate the growth…"*
>
> **–Principal**

## EDUCATOR VOICES: TEACHER SURVEY INSIGHTS

Most educators reported strong confidence in implementing IMSE's OG+ with notable improvements in student literacy outcomes. Key implementation insights include:

- **High Efficacy Ratings Across Core Literacy Skills**: Survey respondents reported high confidence in OG+'s effectiveness across fundamental literacy domains particularly in teaching phonics (82% agreement), reading fluency (77%), and spelling (73%). One teacher elaborated: "What I have noticed most is that the students in my class have definitely been able to learn their letters and sounds much sooner and quicker and apply those to the curriculum. Like the text, they are... breaking up words and syllables and chunking and they're applying it to decodable text much sooner."
- **Strong Implementation Confidence Despite Integration Challenges**: Teachers expressed high confidence in their ability to implement IMSE's OG+ routines (82% agreement) yet revealed more mixed feelings about program integration into existing instruction (64% agreement). This pattern suggests that while educators feel competent using IMSE's methods, systemic integration remains a challenge, which may in part be explained by the district context, which involves several programs as part of their comprehensive literacy toolkit.
- **Sustained Student Engagement as a Key Success Factor**: Survey findings reinforced the interview theme of high student engagement, with 77% of teachers agreeing that students are engaged when using the OG+ program. One noted, "The children really like it and they're engaged in it, and I've noticed that their spelling ability has improved and that their ability to decode words is much better."
- **Implementation Across Instructional Settings**: IMSE's OG+ demonstrated effectiveness in both whole-class and small-group contexts, with educators adapting the program to meet diverse student needs. One teacher explained, "I can't tell you enough how much my students have grown with their phonics, which in turn has increased their reading levels... about three-quarters of my class are on grade level with reading." The program's structured components—including dictation, decodable readers, and daily cumulative review drills—functioned effectively regardless of group size, allowing educators to maintain fidelity while differentiating instruction based on student needs and classroom contexts.
- **Accelerated Skill Acquisition and Universal Success:** Teachers reported that students were mastering literacy concepts earlier and with more consistency. One teacher observed, "What I have noticed most is that the students in my class have definitely been able to learn their letters and sounds much sooner and quicker and apply them when they're reading. Like the text, they are breaking up words and syllables and chunking and they're applying it to decodable text much sooner." The same teacher noted that fewer students were struggling: "It seems that it's a majority of the students who are grasping the concepts... where sometimes I would have half and half." The program's multimodal approach was seen as a major contributor to these results.

> *"I can't tell you enough how much my students have grown with their phonics, which in turn has increased their reading levels... about three-quarters of my class are on grade level with reading."*
>
> **–Teacher**

> *"What I have noticed most is that the students in my class have definitely been able to learn their letters and sounds much sooner and quicker and apply those to the curriculum. Like the text, they are rhyming and breaking up words and syllables and chunking and they're applying it to decodable text much sooner."*
>
> **– Teacher**

## CONCLUSION

Students in kindergarten and first grade taught by teachers using IMSE's OG+ program showed **significant and substantial gains** compared to a comparison group of students. The current mixed-methods quasi-experimental study shows a **clear impact** of IMSE's OG+ program on supporting progress for kindergarten and first-grade students in meeting literacy growth targets, maintaining or improving performance levels, and demonstrating growth within subdomains. The present findings suggest the program's explicit, systematic, and cumulative method of instruction is effective at supporting student learning, with its comprehensive coverage of phonemic awareness, phonics, fluency, vocabulary, and comprehension through multimodal techniques and guided practice.

Impacts on student performance were **echoed by educators** interviewed as part of the study. Administrators and coaches reported seeing the results in students first-hand and in real-time. Educators overall reported positive experiences with IMSE's OG+ program that reinforce the evident impact of the program on student learning and literacy skill development in kindergarten and first grade.

**Students taught using IMSE's OG+ program demonstrated remarkable progress in meeting literacy growth targets.**

**Students taught using IMSE's OG+ program showed substantial gains in maintaining or improving their performance levels.**

**Students taught using IMSE's OG+ program showed greater gains on multiple literacy subdomains.**

# IMSE's Orton-Gillingham Plus (OG+) Efficacy Study

Examining the Impact of IMSE's OG+ Program on K–1 Early Literacy Skills in a Low-SES School District

Conducted by Rachel Schechter, Ph.D., Michaela Gulemetova, Ph.D., & Colin Ackerman, Ph.D.
LXD Research

## Abstract

This study examined the impact of the Institute for Multi-Sensory Education's (IMSE) Orton-Gillingham Plus (OG+) program on early literacy outcomes in a Title I school district in Michigan during the 2022–2023 school year. Learning Experience Design (LXD) Research employed a quasi-experimental study design with 397 kindergarten and first-grade students across four elementary schools. Students taught by teachers using IMSE's OG+ program demonstrated significantly greater growth in foundational literacy skills compared to peers in the comparison group, even after controlling for fall baseline scores and demographic characteristics. These gains were consistent across literacy subdomains, with statistically significant improvements in language, writing, and vocabulary among first-grade students. Teacher interviews and surveys revealed that educators consistently viewed IMSE's OG+ as effectively addressing critical literacy gaps through its systematic, developmental progression and high student engagement, with both administrators and teachers noting significant improvements in phonics skills, reading fluency, and overall achievement scores. The program demonstrated flexibility and success across both whole-class and small group settings, with survey respondents and interviewees observing accelerated skill acquisition, reduced numbers of struggling readers, and sustained student engagement through the program's multisensory approach and structured daily routines. These findings demonstrate that IMSE's OG+ enhances early literacy outcomes and equips educators with effective tools for addressing persistent achievement gaps.

Keywords: Educator Training, Orton-Gillingham (OG), Foundational Skills, Early Literacy

---

APA Cite: Schechter, R., Gulemetova, M., & Ackerman, C. (2025). *Examining the Impact of IMSE's OG+ Program on K–1 Early Literacy Skills in a Low-SES School District.* LXD Research.

## Table of Contents

## Introduction

High-quality early literacy instruction is essential, particularly given the recent national decline in reading achievement. The 2024 National Assessment of Educational Progress results indicate that only 31% of fourth-grade students performed at or above the proficient level in reading (National Center for Education Statistics, 2024). This represents a significant drop compared to previous years and intensifies concerns about literacy equity (NCES, 2024). The data also reveal a widening gap between the lowest and highest-performing students, underscoring the urgent need for robust and evidence-based literacy instruction.

Research consistently highlights five core principles of effective early reading instruction. First, explicit instruction directly teaches literacy concepts rather than relying on student discovery (Ehri, 2014). Second, instruction must be systematic and sequential, presenting content in a logical order that builds on prior knowledge (Mesmer & Griffith, 2011). Third, a cumulative design reinforces previously taught concepts while introducing new ones, ensuring that learning builds upon a strong foundation (Harden, 1999). Fourth, data-driven teaching uses ongoing assessments to inform individualized instruction that meets each student's needs (Schifter et al., 2014). Fifth, multimodal teaching strategies that engage visual, auditory, and kinesthetic/tactile pathways are essential for supporting foundational reading skills (International Dyslexia Association [IDA], 2020). The Structured Literacy approach, which incorporates these elements, has been shown to be effective in supporting all students, including those with dyslexia and other reading difficulties (IDA, 2020). Effective literacy instruction is essential, given the continued concern about literacy rates in the United States.

To meet this critical need, the Institute for Multi-Sensory Education (IMSE) developed IMSE's Orton-Gillingham Plus (OG+) program. IMSE's OG+ offers an evidence-based core foundational skills literacy curriculum and teacher training course that provides systematic, explicit, and cumulative instruction to support all learners, including those with dyslexia and other reading difficulties (IDA, 2020). The program distinguishes itself by integrating reading and spelling instruction, recognizing that these interconnected skills engage the same cognitive processes and reinforce each other (Spear-Swerling, 2019). This integrated and data-driven framework aligns with the Structured Literacy approach, addressing key challenges in early literacy instruction and equipping educators to build a strong foundation for all students.

A growing body of research supports the effectiveness of the Orton-Gillingham approach and Structured Literacy methods in improving early literacy outcomes (IDA, 2020; Spear-Swerling, 2019). However, independent evaluations remain essential to validate the impact of these programs in real-world classroom settings. To provide this evidence, IMSE partnered with

Learning Experience Design (LXD) Research to conduct a third-party quasi-experimental evaluation of IMSE's OG+ program during the 2022–2023 school year in a Title I school district.

## Product Description

**IMSE's Orton-Gillingham Plus (OG+) Program** is a core foundational literacy skills curriculum and training program designed to implement the principles of Structured Literacy for kindergarten through second-grade students and older students who continue to need support in foundational literacy skills. The comprehensive training course is designed to prepare educators to confidently and effectively implement the OG+ curriculum in their classrooms. IMSE strongly recommends that all teachers complete this interactive, hands-on training before introducing the OG+ curriculum to ensure fidelity and optimize student outcomes. This evidence-based program equips educators with the knowledge, strategies, and tools necessary to deliver IMSE's OG+ foundational literacy skills curriculum with precision and skill.

The OG+ training course is appropriate for general and special education teachers, teachers of English Learners, interventionists supporting students in kindergarten through second grade, and educators working with older students who require foundational literacy skill development. Throughout the course, educators examine the structure and foundation of the English language and the body of research known as the science of reading (Moats, 2020). Decades of research have established the importance of explicit, systematic phonics instruction for developing early literacy skills, particularly for students at risk of reading difficulties (Ehri, 2014; National Reading Panel, 2000). The training helps educators integrate these evidence-based practices into a systematic and cohesive instructional approach that aligns with Structured Literacy principles (IDA, 2020).

Educators also learn to assess and instruct students across all three tiers of Response to Intervention (RTI) within a Multi-Tiered System of Support (MTSS) framework, including students with dyslexia and those requiring targeted intervention or acceleration (Fuchs & Fuchs, 2006). The course provides explicit guidance on differentiating instruction to meet individual student needs and offers practical strategies for supporting English Learners. The 30-hour training includes explicit instruction in the science of reading and Structured Literacy principles, the structure of the English language, comprehensive lesson planning and implementation, assessment and data-driven instruction, and differentiation within an MTSS framework.

All IMSE instructors hold at least a master's degree in an educational field and are certified by the International Dyslexia Association/Center for Effective Reading Instruction. They bring extensive experience from classroom teaching, mentoring, consulting, and training roles, and many have implemented the OG+ curriculum with their own students. Having well-trained and certified instructors is critical, as educator expertise significantly influences the quality of reading

instruction and student outcomes (Darling-Hammond, 2000). The OG+ training course supports educators in preparing for the Center for Effective Reading Instruction's (CERI) Knowledge and Practice Examination, which can lead to additional certifications. This comprehensive training empowers educators to strengthen early literacy instruction and support all learners in developing essential reading skills.

The OG+ core foundational literacy skills curriculum integrates explicit instruction with clear explanations and demonstrations, systematic instruction with organized goals and logical steps, sequential instruction that progresses from simple to complex concepts, cumulative instruction that builds on previously taught material, and multimodal instruction that engages visual, auditory, and kinesthetic learning pathways simultaneously.

Every OG+ lesson follows a consistent six-part structure designed to maximize learning transfer. The lesson begins with phonemic awareness activities that develop sound manipulation skills, followed by Three-Part Drill and Vowel Intensive Drill components that build automaticity in sound-symbol relationships through multimodal practice. The phonics component introduces new concepts through explicit instruction and structured dictation, while the irregular words section teaches irregular "Red Words" through systematic visual and kinesthetic techniques. Syllable division and word analysis instruction equips students with strategies for tackling multisyllabic words, and the reading component develops fluency, vocabulary, and comprehension through decodable texts and interactive read-aloud routines.

The program features a robust assessment system including benchmark assessments administered three times yearly, progress monitoring tools that guide instructional decisions, and targeted skill assessments for identifying specific gaps. Assessment results directly inform strategic grouping, instructional pacing decisions, and customized support strategies. The program incorporates immediate corrective feedback through the Gradual Release Routine and PIMS Correction Procedure, ensuring students receive targeted support while maintaining a positive learning environment.

## Study Description

IMSE partnered with LXD Research, a third-party educational research firm, to assess the program's one-year impact on early literacy outcomes. This quasi-experimental study analyzed MAP Growth assessment results for kindergarten and first-grade students from the fall and spring of the 2022–2023 school year, comparing students taught by teachers using IMSE's OG+ program with peers receiving standard district literacy instruction in comparison classrooms. The study included a sample of 397 students enrolled in kindergarten and first-grade classrooms

across four schools within a Title I school district in Michigan. The intervention consisted of IMSE's OG+ professional development for teachers, which focused on the implementation of IMSE's foundational literacy skills curriculum.

### Research Questions

The study focused on three specific research questions aimed at exploring the impact of the IMSE's OG+ program on kindergarten and first-grade early literacy outcomes.

1. What was the impact of a one-year implementation of IMSE's OG+ program on reading achievement gains in kindergarten and first-grade students as measured by MAP?
2. In what ways did IMSE's OG+ implementation influence the percentage of students meeting growth targets and progressing in MAP performance levels?
3. What specific MAP subdomains demonstrated the most significant impact of IMSE's OG+ program, indicating targeted literacy skill development?

## Method

### Study Context

This study was conducted using data from the 2022–2023 school year in a Title I school district in Michigan. Kindergarten through second-grade teachers across four elementary schools received IMSE's OG+ program. The study employed a quasi-experimental comparison group design, categorizing teachers based on their IMSE OG+ program training status: those who had not received training (comparison group) and those trained either just before or at the beginning of the school year (treatment group). Teachers who started the training during the school year but did not complete it were excluded. Second grade was excluded due to an insufficient number of comparison group students. Data collection occurred in the fall and spring of the 2022–2023 school year.

#### *District Literacy Toolkit Description*

This district implemented a comprehensive literacy toolkit anchored by a Reading Workshop model using the Wonders Curriculum and supported by small group differentiated instruction through guided reading and strategy groups using multiple programs. The core program dedicated 120 minutes daily to reading instruction that included shared and guided reading sessions, phonemic awareness for kindergarten and first-grade students using Heggerty, as well as phonics, word work, and grammar instruction across all elementary grades. Students also engaged with independent reading and Lexia Reading Core 5 for additional skill reinforcement. Writing instruction received 30 minutes of daily focus, split between direct teaching and practice

that could be integrated into social studies or science lessons. The district provided Tier II interventions for students needing extra support, including specialized programs such as Road to the Code, Early Literacy Interventions, Kindergarten Early Literacy Interventions, Oral Language Development Intervention, Leveled Literacy Intervention, and Critical Reading Intervention.

### *IMSE's OG+ Implementation Description*

IMSE's OG+ instructional routines were implemented by treatment teachers who completed a comprehensive 30-hour professional development course prior to the beginning of the school year. This training provided educators with the necessary skills, strategies, and knowledge to deliver explicit, systematic, and cumulative literacy instruction aligned with the Orton-Gillingham approach. Following the training, treatment teachers incorporated IMSE's OG+ curriculum into their daily instructional practice as part of their literacy toolkit, dedicating 30-minute sessions five times per week to Phonics and Word Study instruction. Educators decided how and when to integrate IMSE's OG+ curriculum and instructional routines across tiered instructional levels and in strategy groups. In contrast, the comparison group continued to implement the district's standard literacy instruction without any components of IMSE's OG+ program.

## Participants

### *Student Sample*

The analytic sample consisted of 397 students enrolled in the study classrooms of kindergarten and first grade. Table 1 presents the distribution of students by grade and condition. Notably, one of the participating schools had only one first-grade teacher who received OG+ training in the middle of the study year, resulting in no first-grade students from that school being included in the sample. Tables 2 and 3 provide further details of the distribution of kindergarten and first-grade students across treatment and comparison groups in each school. All schools had a mix of both treatment and comparison group students, ensuring a more balanced analysis across the sample. See the Appendix for more details on the determination of the analytic sample.

***Table 1.*** *Number of Students by Grade and Condition*

| Grade | Treatment Group | Comparison Group | Total |
|---|---|---|---|
| K | 87 | 92 | 179 |
| 1 | 133 | 85 | 218 |
| **Total** | **220** | **177** | **397** |

***Table 2.*** *Distribution of Kindergarten Students by School and Group*

| Grade | School | Treatment Group | Comparison Group | Total |
|---|---|---|---|---|
| K | School A | 19 | 21 | **40** |
| K | School B | 27 | 27 | **54** |
| K | School C | 23 | 26 | **49** |
| K | School D | 18 | 18 | **36** |

*Note.* The total reflects the sum of the treatment and comparison group counts for each school.

***Table 3.*** *Distribution of First Grade Students by School and Group*

| Grade | School | Treatment Group | Comparison Group | Total |
|---|---|---|---|---|
| 1 | School A | 39 | 21 | **60** |
| 1 | School B | 72 | 22 | **94** |
| 1 | School C | 22 | 42 | **64** |
| 1 | School D | n/a | n/a | **n/a** |

*Note.* School D only had one first-grade teacher who was trained, and the training happened during the school year; thus, there were no students in either the treatment or comparison groups in that school.

The district serves a student population that is 70% minority, including 55% Black or African American, 11% multi-ethnic, 5% Hispanic/Latino, and less than 1% Asian or Asian Pacific Islander or American Indian/Alaska Native students. The district's student population is 28% White, and 72% of students are considered economically disadvantaged. Table 4 further illustrates the demographic composition of the study sample, highlighting the representation of racial and ethnic groups within each grade and condition. The sample closely mirrors these district demographics, with 70% of participating students identifying as minority students.

***Table 4.*** *Sample Demographics by Grade and Condition*

| Grade | Black or African American (T/C) | Hispanic or Latino (T/C) | Multi-ethnic (T/C) | White (T/C) |
|---|---|---|---|---|
| K | 51% / 41% | 2% / 2% | 17% / 20% | 39% / 27% |
| 1 | 57% / 58% | 0% / 0% | 15% / 18% | 28% / 25% |

*Note.* T= Treatment; C= Comparison

### *Baseline Equivalence Analysis*

To ensure the treatment and comparison groups were equivalent at the beginning of the study, LXD Research conducted a baseline equivalence analysis using Fall 2022 MAP Growth Reading assessment scores. Effect size analyses of beginning-of-year (BOY) scores were completed separately by grade level using Stata's `esize` command. Treatment status was used as the grouping variable, and both Cohen's d and Glass's Δ were calculated to quantify the standardized mean differences. As shown in Table 5, the resulting effect sizes indicated that the sample had minimal differences between the groups. While the first-grade baseline difference approaches the threshold of 0.25 for baseline equivalence without adjustment, the study accounted for these differences in subsequent impact analyses (What Works Clearinghouse, 2022). These efforts ensure that any observed differences in end-of-year outcomes can be attributed to IMSE's OG+ intervention rather than pre-existing group disparities. The study meets What Works Clearinghouse (WWC) baseline equivalence criteria after applying appropriate statistical adjustments in the impact analysis.

***Table 5.*** *Baseline Equivalence: MAP Test RIT Scores for Fall 2022*

| Grade | Group | N | Mean | SD | Cohen's d | Glass's Δ |
|---|---|---|---|---|---|---|
| K | Treatment | 87 | 136.5 | 8.5 | 0.08 | 0.08 |
| | Comparison | 92 | 135.8 | 8.4 | | |
| 1 | Treatment | 133 | 149.3 | 11.5 | -0.24 | -0.26 |
| | Comparison | 85 | 152.0 | 10.4 | | |

## *Educator Sample*

### *Educational and/or Instructional Leader Interviews*

Semi-structured interviews were conducted with six educational leaders from the participating school district between April and May 2025. The purposive sample included three instructional coaches, two building principals, and one district ELA coordinator, all of whom had direct involvement with IMSE's program implementation for at least one academic year. Participants were selected to represent diverse organizational perspectives, from classroom-level support to district-wide curriculum oversight.

Each interview lasted 30–45 minutes and followed a semi-structured protocol exploring implementation experiences, observed student outcomes, challenges encountered, and

recommendations for improvement. Interviews were conducted virtually via video conferencing, audio-recorded with participant consent, and professionally transcribed for analysis.

### *Teacher Survey*

The teacher survey collected responses from 22 educators implementing IMSE's programs, providing quantitative ratings and qualitative insights about their experiences with IMSE's Orton-Gillingham Plus (OG+). The respondent pool consisted primarily of classroom teachers (77%) with varying experience levels.

## Measures

### *NWEA MAP Growth*

The assessment tool used in this study was the NWEA MAP Growth Reading assessment, a computer-adaptive, standardized measure administered in the fall of 2022 and spring of 2023. This assessment provides RIT (Rasch Unit) scores, which allow for precise tracking of student growth across the school year and enable valid comparisons across grade levels (NWEA, 2024). In addition to overall growth scores, MAP Growth also offers sub-goal performance data that highlight progress in key areas of literacy development, such as phonics, vocabulary, and comprehension (National Center on Intensive Intervention, 2024; Peng et al., 2024).

## Analysis Plan

### *Quantitative*

To estimate the impact of teachers using IMSE's OG+ program had on student outcomes, an ordinary least squares (OLS) regression was conducted separately for each grade level. The statistical model included a treatment indicator (IMSE's OG+ program use Group vs. Comparison Group), baseline NWEA MAP RIT score, and student ethnicity. School fixed effects were included to absorb all between-school variation. This is useful in case the study schools differ in unobservable ways that affect the outcome and are correlated with the independent variables. Standard errors were clustered at the teacher level to account for within-teacher correlation and the clustered nature of the data. See Appendix for full model specification.

The primary outcome was the end-of-year (EOY) NWEA MAP RIT score. In addition to analyzing spring test scores, the same model was applied to several secondary outcomes: score gains from Fall 2022 (BOY) to Spring 2023 (EOY), a binary indicator for meeting the projected growth target, and a binary indicator for maintaining or improving a student's performance level. The analysis also examined score gains within each of the NWEA MAP test's four subdomains—foundational skills, language and writing, literature and informational, and vocabulary use and functions—to

assess whether the intervention had differential effects across specific skill areas. These models made it possible to assess the robustness of IMSE's OG+ effect across multiple measures of student progress.[1]

### *Qualitative*

Interview transcripts were analyzed using thematic analysis. Initial coding identified recurring concepts related to implementation contexts, program impacts, and implementation barriers. These codes were then organized into broader themes through an iterative process of review and refinement. Direct quotations were selected to illustrate each theme while maintaining participant anonymity through role-based identifiers.

For the educator survey, descriptive statistics were calculated for all Likert-scale items, including means and response distributions. Open-ended survey responses underwent content analysis to identify themes related to implementation strategies, student progress, and program adaptations.

Themes from interviews and surveys were compared to identify converging evidence across data sources. Areas of alignment between quantitative ratings and qualitative comments were examined to understand the complexity of implementation experiences. Member checking with a subset of participants ensured an accurate representation of their perspectives.

## Study Results

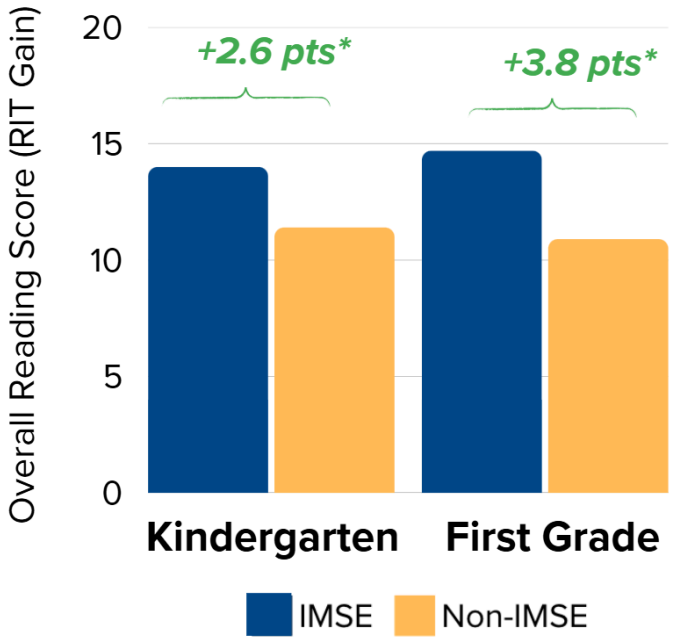
### Scale Score Gains

This study investigated whether providing IMSE's OG+ program to teachers prior to the beginning of the school year enhanced student literacy outcomes compared to instruction provided by teachers with no experience with or use of IMSE's OG+ program. Results indicated that students in the treatment group demonstrated significantly greater NWEA MAP RIT score growth than those in the comparison group at both grade levels. In kindergarten, treatment students showed significantly higher gains ($\beta$ = 2.54, $p$ = .027), with a small-to-moderate effect size ($\eta_p^2$ = .03; Cohen's $d$ = 0.30). In first grade, the difference in gains was also statistically significant ($\beta$ = 3.77, $p$ = .002), with a moderate effect size ($\eta_p^2$ = .05; $d$ = 0.34). When interpreted in terms of academic

[1] For the impact model analyzing the binary outcome of meeting the growth target, teacher-level clustering of standard errors was excluded due to limitations in the sample. Approximately one-third of students were missing this indicator, resulting in a substantially reduced analytic sample. In this smaller sample—10 teachers in 4 schools—combining school fixed effects with teacher-level clustering led to model instability and overcorrection, inflating standard errors and reducing statistical power. To address these issues and produce more stable estimates, the full model specification was retained but the clustering was omitted for this outcome only.

progress, these differences correspond to approximately 2.05 additional months of growth in kindergarten and 2.14 months in first grade for students taught by teachers using IMSE's OG+ program (see Figure 1).

***Figure 1.*** *Effect of IMSE's OG+ Program on MAP Reading Growth: Kindergarten and First Grade*

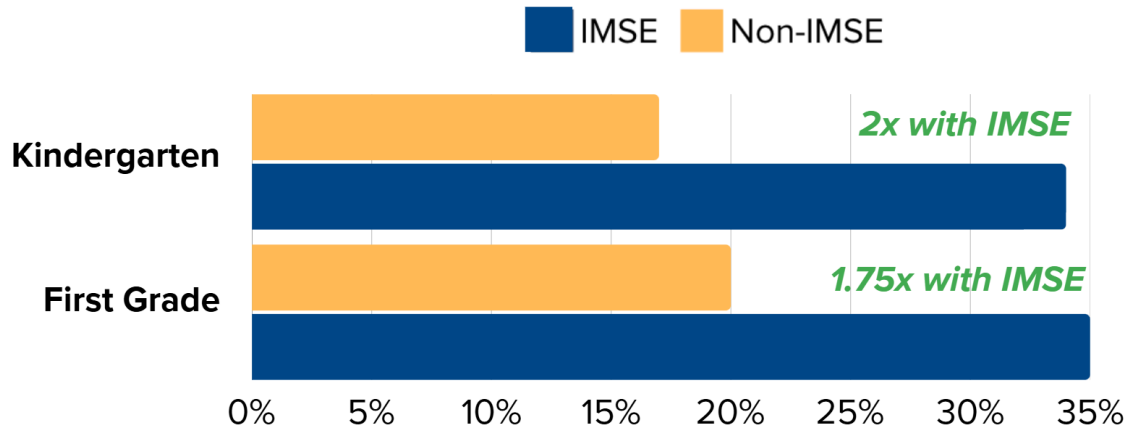



*Note*. The asterisk indicates a statistically significant difference in adjusted Spring scores, after controlling for Fall MAP score, ethnicity, and school fixed effects, with clustered standard errors.

## Growth Target Achievement

The analysis revealed a substantial positive impact of IMSE's OG+ program on student growth target achievement. In kindergarten, 35% of students with teachers using IMSE's OG+ program met their projected growth targets. This is a 17.9 percentage point advantage over the 17% in the comparison group. The kindergarten results ($n$ = 111) demonstrated a small-to-moderate effect size ($\eta_p^2$ = 0.03; $d$ = 0.35), but the regression coefficient was not significant ($\beta$ = 0.15, $p$ = .066). In first grade, 35% of students with teachers using IMSE's OG+ program met growth targets, compared to only 20% in the comparison group, which is a 14.4 percentage point advantage. These first-grade results ($n$ = 126) showed a moderate effect size ($\eta_p^2$ = 0.04; $d$ = 0.41) with a significant regression coefficient ($\beta$ = 0.18, $p$ = .032) (see Figure 2). Overall, these findings represent an approximate 50% increase in the proportion of students achieving growth targets when their teachers completed IMSE's OG+ training before the school year began and then implemented IMSE's OG+ curriculum during the school year.

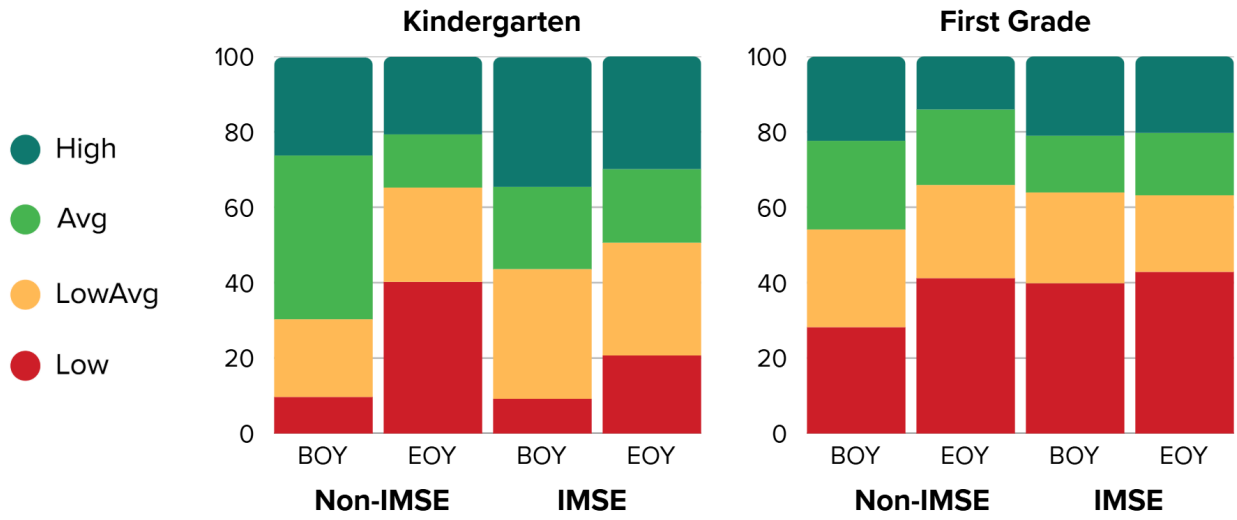
*Figure 2. Percentage of Students Meeting MAP Growth Targets by Grade and Group*




## Performance Level Progression

The study also examined how these gains manifested across performance levels by analyzing shifts in student achievement from Fall 2022 to Spring 2023. For each assessment period, MAP provides one of five performance levels for each student based on their percentile ranking (e.g., Low is 1st–20th, Low Average is 21st–40th, Average is 41st–60th, High Average is 61st–80th, and High is 81st–100th; High Average and High were collapsed for this analysis). Students may maintain, improve, or decline in their performance level throughout the year (see Figure 3).

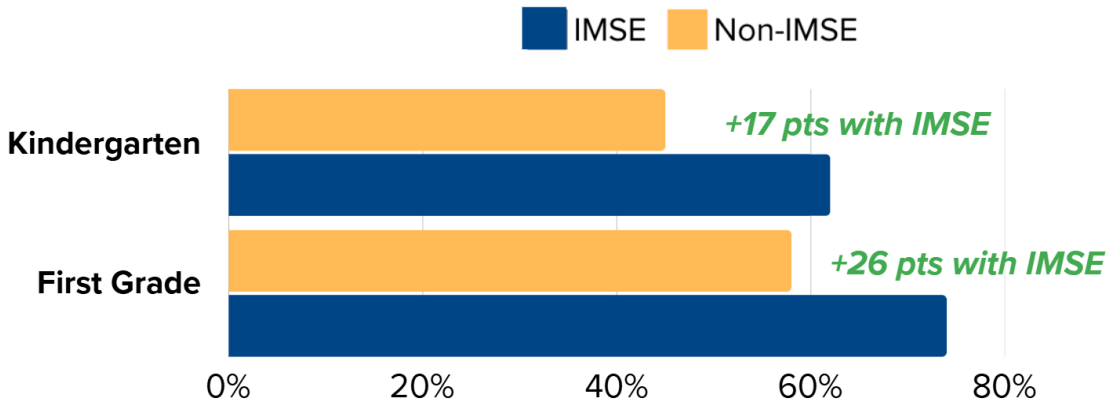
*Figure 3. MAP Performance Levels for Kindergarten and First Grade*



In kindergarten, the treatment group experienced a smaller increase in students in the "Low" performance level (+11.5%) compared to the comparison group (+30.4%). The comparison group also saw a notable decrease in the "Average" category (-29.3%), suggesting downward movement without compensatory gains in higher levels. In contrast, the treatment group demonstrated better maintenance across performance levels. This pattern was supported by statistical analyses for kindergarten ($n$ = 179), which indicated a moderate effect size ($\eta_p^2$ = 0.03; $d$ = 0.34) and a significant regression coefficient ($\beta$ = 0.17, $p$ = .025) (see Figure 4).

In first grade, the treatment group showed a minimal increase in the "Low" category (+3.0%) compared to a larger increase in the comparison group (+12.9%). The treatment group also saw an increase in the "Average" category (+1.5%), while the comparison group declined (-3.5%). Additionally, the "High" population in the treatment group remained nearly stable (-0.8%), compared to an 8% decline in the comparison group. These findings were corroborated by statistical analyses for first grade ($n$ = 218), which demonstrated a moderate effect size ($\eta_p^2$ = 0.03; $d$ = 0.41) and a significant regression coefficient ($\beta$ = 0.19, $p$ < .001) (see Figure 4). Overall, these results suggest that IMSE's OG+ program effectively sustained or improved student performance across achievement levels.

***Figure 4.*** *Comparative Performance Level Progression on MAP in Kindergarten and First Grade*




## Subdomain Impact: Targeted Literacy Skill Development

Analysis of NWEA MAP subdomain scores revealed targeted improvements in literacy skills for students taught using IMSE's OG+ program. In kindergarten, gains were first observed in Foundational Skills ($n$ = 177, $\beta$ = 2.92, $p$ = .042, $\eta^2_p$ = .02, $d$ = 0.24), with a moderate effect size and statistically significant improvement. There were also significant gains in Language and Writing ($n$ = 179, $\beta$ = 3.17, $p$ = .006, $\eta^2_p$ = .02, $d$ = 0.28). These results indicate a small-to-moderate effect size and a statistically significant positive association of student outcomes for teachers using IMSE's

OG+ program. While Vocabulary Use and Functions demonstrated a similar positive trend ($n$ = 177, $\beta$ = 2.99, $p$ = .094, $\eta^2_p$ = .02, $d$ = 0.24), the result approached but did not reach significance, indicating a meaningful but more modest gain.

In first grade, substantial improvements were observed across multiple subdomains. Literature and Informational Text ($n$ = 218, $\beta$ = 4.28, $p$ = .017, $\eta^2_p$ = .02, $d$ = 0.34) demonstrated a small-to-moderate effect size and a statistically significant gain, indicating that the treatment group's decoding skills supported comprehension and analytical skills performance in literature and informational texts. Vocabulary Use and Functions also demonstrated statistically significant and meaningful gains ($n$ = 218, $\beta$ = 4.37, $p$ = .009, $\eta^2_p$ = .03, $d$ = 0.35), reflecting the addition of IMSE's OG+'s impact on the literacy toolkit's effectiveness in enhancing vocabulary and language usage as seen in the comparison group. Additional positive effects were observed in Language and Writing ($n$ = 218, $\beta$ = 2.61, $p$ = .041, $\eta^2_p$ = .01, $d$ = 0.23) and Foundational Skills ($n$ = 218, $\beta$ = 3.61, $p$ = .072, $\eta^2_p$ = .02, $d$ = 0.30), further highlighting the impact of IMSE's OG+ program across key literacy areas. While the differences in Foundational Skills demonstrated a similar positive trend and modest gain, the result approached but did not meet significance ($p$ = .072). The consistent small-to-moderate effect sizes across subdomains indicate that IMSE's OG+ program contributed to broad improvements in early literacy.

The most substantial improvements in kindergarten were seen in Language and Writing ($p$ = .006, $d$ = 0.28), while first-grade students demonstrated notable gains in Literature and Informational Text ($p$ = .017, $d$ = 0.34) and Vocabulary Use and Functions ($p$ = .009, $d$ = 0.35), emphasizing the breadth of literacy areas enhanced by IMSE's OG+ program (see Table 6).

***Table 6.*** *Regression Results Comparing Spring MAP RIT Goal Scale Gains*

| Grade | Goal | Significance ($p$) | Effect Size (Cohen's $d$) |
|---|---|---|---|
| K | **Foundational Skills** | **.042** | **0.24** |
| | **Language and Writing** | **.006** | **0.28** |
| | Literature and Informational Text | .169 | 0.16 |
| | Vocabulary Use and Functions | .094 | 0.24 |
| 1 | Foundational Skills | .072 | 0.30 |
| | **Language and Writing** | **.041** | **0.23** |
| | **Literature and Informational Text** | **.017** | **0.34** |
| | **Vocabulary Use and Functions** | **.009** | **0.35** |

*Note.* Regression results after controlling for Fall MAP goal score, ethnicity, and school fixed effects, clustering. Items in bold reached a significance level of $p < .05$.

## Subgroup Impact: Students Who Started Below the 40th Percentile

Moreover, students who began the year below the 40th percentile also benefited from IMSE's OG+ program (Kindergarten: $n$ = 66, First grade: $n$ = 131), particularly in first grade. These first-grade students in the treatment group showed significant growth ($p$ = .008, $d$ = 0.43), indicating a moderate effect size and a statistically significant advantage over the comparison group (see Figure 5). First-grade students also maintained or improved their performance level at a higher rate than their peers in the comparison group (84% vs. 72%, $p$ = .016; see Figure 6). These findings underscore the capacity of IMSE's OG+ program to support not only overall literacy growth but also targeted skill development, particularly for students at risk of falling behind in early literacy skill acquisition.

***Figure 5.*** *Average MAP RIT Score Gains for Students Starting Below the 40th Percentile at BOY*

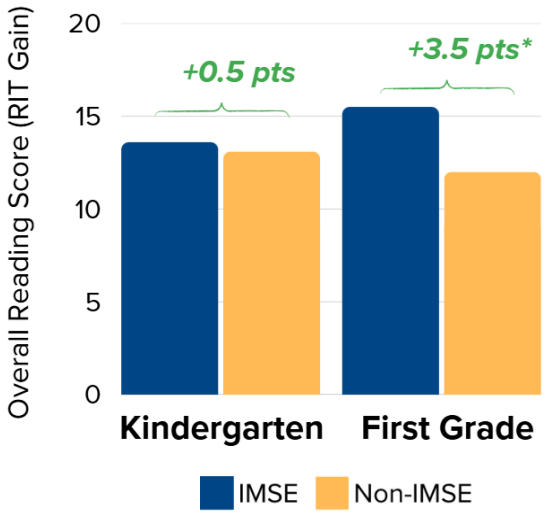
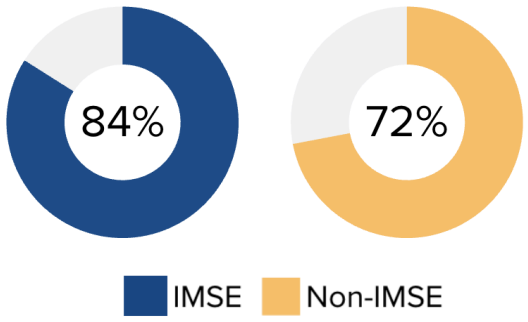



***Figure 6.*** *Percent of Students Starting Below the 40th Percentile who Maintained or Advanced in MAP Performance Level*




## Leader and Educator Voices

### *Educational and/or Instructional Leader Interviews*

***Relevance to Literacy Challenges.*** Educators expressed that IMSE's OG+ was suited to address literacy challenges observed across the interviewees' school district, particularly the decline in foundational phonics skills in kindergarten through first grade. An administrator observed, "We've had to turn the wheel over and get to phonics again... Kids can't do that like they used to be able to do."

***High Levels of Student Engagement.*** Educators also highlighted the program's ability to engage students overall: "The program is engaging. The kids like it. It's fun. I've watched as they're blending words together... kids tend to be engaged in it."

***Administrator Investment and Fidelity of Implementation.*** Administrator investment emerged as a key factor influencing successful OG+ implementation. A principal noted, "If as an administrator, if you're behind it, they're behind it. So I try to show my buy-in whenever possible." Beyond general buy-in, there was an emphasis on the importance of maintaining program fidelity to ensure that instructional practices aligned with IMSE's OG+ methods. One administrator emphasized, "I would say definitely to make sure that your lower [elementary] team is using it with fidelity... do what you need to do to make sure it's getting taught." These perspectives highlight the need for clear administrative leadership and accountability in promoting consistent implementation.

***Systematic Progression and Learning Continuum Set OG+ Apart.*** The structured nature of IMSE's OG+ emerged as a distinguishing feature that set it apart from other literacy curricula. The district ELA coordinator highlighted this systematic approach: "Well with the IMSE, it has a learning continuum. And you know there's reasoning behind that with all of the other curriculums that I've used." This intentional sequencing contrasted sharply with the perceived randomness of other programs. The coordinator further explained the developmental appropriateness of IMSE's progression: "So with, you know the OG [curriculum], it builds from one lesson to the next. And makes sense like these letters and sounds are developmentally, kids are ready for. And then it builds upon itself where other programs are not that way." These observations underscore how IMSE's carefully designed scope and sequence provides educators with a clear instructional pathway that aligns with students' developmental readiness and builds foundational skills in a logical, cumulative manner.

***Evidence of Impact Seen in Data:*** Interviewees indicated that not only have they anecdotally seen the positive impact of OG+, but have also observed the impact born out in their assessment data. Since implementing the program four years prior, improvement has been observed in student achievement scores. One principal said, "One thing I will say is, from four years ago we went from being minimally effective on our scores to effective. One thing that we are seeing is growth, which is amazing....[we] love to celebrate the growth..."

### *Educator Survey*

***High Efficacy Ratings Across Core Literacy Skills.*** Survey respondents indicated strong confidence in the effectiveness of IMSE's OG+ across fundamental literacy domains. Teachers rated the program highly for improving students' phonics skills (82% agreement), reading fluency (77% agreement), and spelling development (73% agreement). These quantitative findings align

with interview themes about the program's relevance to addressing foundational literacy challenges. One teacher elaborated on these gains: "What I have noticed most is that the students in my class have definitely been able to learn their letters and sounds much sooner and quicker and apply those to the curriculum." This convergence between quantitative ratings and qualitative observations reinforces the program's effectiveness for core literacy skill development identified in interviews.

***Strong Implementation Confidence Despite Integration Challenges.*** Teachers expressed high confidence in their ability to implement IMSE's OG+ routines (82% agreement) yet revealed more mixed feelings about program integration into existing instruction (64% agreement). This pattern suggests that while educators feel competent using IMSE's methods, systemic integration remains a challenge, which may in part be explained by the district context, which involves several programs as part of their comprehensive literacy toolkit. Qualitative responses illuminated this complexity: "I feel...confident in implementing the [OG+], and I do use a lot of the resources [from training], and I do check back often because sometimes I feel like I'm forgetting things. There's a lot to remember... [OG+] does align with my students' needs, especially being first grade...but we have a lot of fit in." While integration with other ELA curricula presented a challenge, teachers overall expressed high confidence in implementing the program.

***Sustained Student Engagement as a Key Success Factor.*** Survey findings reinforced the interview theme of high student engagement, with 77% of teachers agreeing that students are engaged when using the OG+ program. Teachers provided specific examples of this engagement in their qualitative responses: "So the children really like it and they're engaged in it, and I've noticed that their spelling ability has improved and that their ability to decode words is much better." The systematic nature of daily implementation described by multiple respondents suggests that sustained engagement facilitates consistent program delivery, supporting the interview finding that engagement is crucial for successful implementation.

***Implementation Across Instructional Settings.*** IMSE's OG+ demonstrated effectiveness in both whole-class and small group contexts, with educators adapting the program to meet diverse student needs. In whole-class settings, teachers reported comprehensive success, with one teacher noting: "I can't tell you enough how much my students have grown with their phonics, which in turn has increased their reading levels... about three-quarters of my class are on grade level with reading." Daily whole-class implementation was sustainable, as another teacher shared: "I am currently implementing the OG plus program in my classroom daily. We use the spelling rules, we do the Red Words, we do OG with the whiteboards."

Small group instruction emerged as particularly powerful for targeted support. An instructional coach observed: "I think it's most successful [in small groups]... The students are definitely more engaged in the small group. It's easier to monitor." Teachers successfully integrated both

approaches, with one educator explaining: "I have used the program mainly for small groups. I do incorporate [whole group aspects]." The program's structured components—including dictation, decodable readers, and daily cumulative review drills—functioned effectively regardless of group size, allowing educators to maintain fidelity while differentiating instruction based on student needs and classroom contexts.

***Accelerated Skill Acquisition and Universal Success.*** Teachers reported notable improvements in the pace and breadth of student learning with IMSE's OG+ program. One teacher observed substantial gains in foundational literacy skills: "What I have noticed most is that the students in my class have definitely been able to learn their letters and sounds much sooner and quicker and apply those to the curriculum. Like the text, they are...breaking up words and syllables and chunking and they're applying it to decodable text much sooner." Beyond individual progress, the program demonstrated broader classroom impact by reducing the number of struggling readers. The same teacher noted a shift in classroom dynamics: "The other thing, it seems like there's fewer children who struggle with it. It seems that it's a majority of the students who are grasping the concepts... where sometimes I would have half and half, someone [would] really understand it and some it took a lot longer." The multimodal approach particularly resonated with students, as the teacher explained: "There's a lot of hands-on, like the students love to look at the mirrors, look at their mouths, how we make the sounds with their mouths. A lot of those phonological awareness activities and skills that I've learned have been very beneficial to my class." These observations suggest that IMSE's explicit, multimodal methods not only accelerate individual learning but also elevate overall classroom achievement.

## Discussion

The findings from this study provide compelling evidence of the positive impact of IMSE's OG+ program on a range of early literacy outcomes after one year in a Title I district context. Students who received instruction using IMSE's OG+ program demonstrated greater score gains in one school year, equivalent to approximately 2.05 additional months of academic growth in kindergarten and 2.14 months in first grade.

Students in classrooms using IMSE's OG+ program achieved higher rates of meeting projected growth targets compared to their peers in the comparison group, representing an approximate 50% increase in growth target achievement. This aligns with research emphasizing the importance of explicit, systematic instruction for foundational literacy development (Ehri, 2014; IDA, 2020). IMSE's OG+ program equips teachers with structured, multimodal strategies that directly address the gaps needed to reverse declines in literacy achievement and address disparities in student outcomes across the nation.

Performance level progression data further highlights these benefits. In both kindergarten and first grade, students in the treatment group were more likely to maintain or improve their performance level, while those in the comparison group were more likely to score at a lower level and experience a decline. These patterns are consistent with the principles of Structured Literacy, which emphasize cumulative and scaffolded instruction to build and reinforce foundational skills (IDA, 2020).

The analysis of subdomain scores offers additional insight into how the foundational skills taught by IMSE's OG+ program transferred more successfully to additional reading domains, which align with the Structured Literacy emphasis on explicit language instruction (Spear-Swerling, 2019). In kindergarten, substantial improvements were observed in the areas of "Language and Writing" and "Vocabulary Use and Functions," and in first grade, the greatest improvements occurred in "Literature and Informational Text" and "Vocabulary Use and Functions." These results indicate that IMSE's OG+ program prepared teachers to move beyond foundational skills and support higher-level comprehension and analysis better than the comparison group. These results reiterate the need for explicit, systematic, and data-driven instruction to strengthen early literacy outcomes.

Importantly, the study found that students who began the year below the 40th percentile showed significant benefits from being taught with IMSE's OG+ program. These students demonstrated higher growth rates and maintained or improved their performance levels at a greater rate than their peers in the comparison group. Such targeted support for at-risk students aligns with research showing that early, explicit interventions can prevent later reading difficulties and close achievement gaps (Ehri, 2014; Fuchs & Fuchs, 2006).

Educator perspectives reinforced these quantitative findings. Teachers stated that in addition to using it with success in whole-group settings, they also use IMSE's OG+ in small-group settings, noting that it allowed them to monitor progress and meet individual needs more effectively. Administrators highlighted the importance of leadership buy-in and program fidelity to ensure consistent delivery of IMSE's OG+ instructional routines. These insights echo the core principles of effective literacy instruction, including explicit teaching, cumulative learning, and data-driven differentiation (IDA, 2020). Although educators reported difficulty finding time to integrate IMSE's OG+ routines in combination with their district-mandated curricula, the overall improvements in student engagement and achievement suggest that IMSE's OG+ program equipped teachers with practical tools to integrate high-impact literacy practices and address persistent literacy inequities.

### Limitations

This study's quasi-experimental design, though strengthened by baseline equivalence and statistical controls, limits the ability to draw causal conclusions due to the potential for unmeasured confounding variables and a lack of random assignment to study conditions. The sample was drawn from a single district, which may affect generalizability to other contexts. Additionally, the study did not include direct classroom observations to verify implementation fidelity. Future research should explore the long-term, multi-year impact of IMSE's OG+ program through randomized controlled trials and observations, ensuring that implementation quality is maintained and that outcomes continue to improve.

## Conclusion and Next Steps

This study provides clear evidence that IMSE's OG+ program is an effective approach for strengthening early literacy outcomes in high-need educational settings. IMSE's OG+ program incorporates explicit, systematic, and multimodal strategies to enhance growth target achievement, progress in performance levels, and develop targeted subdomain literacy skills. These consistent positive outcomes demonstrate the program's alignment with the essential principles of Structured Literacy and its capacity to address persistent achievement gaps identified in the broader educational context.

The impact of IMSE's OG+ program in this study underscores its practical value in meeting the real-world challenges of early literacy instruction. Educators identified IMSE's OG+ as an engaging and data-driven program that can be effectively implemented through both whole-group and small-group instruction and ongoing formative assessments. The program's focus on explicit instruction and cumulative learning resonated strongly with teachers, who

emphasized how IMSE's OG+ supported them in addressing students' diverse literacy needs and building a strong foundation for future reading success.

Future research should examine the long-term effects of IMSE's OG+ on literacy development across multiple grade levels and diverse school settings. Incorporating randomized controlled trials, direct classroom observations, and implementation fidelity measures would strengthen the evidence base and provide robust insights into how IMSE's OG+ can be scaled to reach more students. Such studies will be critical for refining IMSE's OG+ and ensuring that all students, particularly those in high-need communities, receive the explicit, systematic instruction they need to thrive in early literacy.

## References


Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives, 8*(1), 1–44. https://doi.org/10.14507/epaa.v8n1.2000

Ehri, L. C. (2014). Orthographic mapping in the acquisition of sight word reading, spelling memory, and vocabulary learning. *Scientific Studies of Reading, 18*(1), 5–21. https://doi.org/10.1080/10888438.2013.819356

Fuchs, D., & Fuchs, L. S. (2006). Introduction to response to intervention: What, why, and how valid is it? *Reading Research Quarterly, 41*(1), 93–99. https://doi.org/10.1598/RRQ.41.1.4

Harden, R. M. (1999). What is a spiral curriculum? *Medical Teacher, 21*(2), 141–143. https://doi.org/10.1080/01421599979752

International Dyslexia Association. (2020). *Structured literacy: An introductory guide*. https://dyslexiaida.org/structured-literacy-effective-instruction-for-students-with-dyslexia-and-related-reading-difficulties/

Mesmer, H. A. E., & Griffith, P. L. (2011). Everybody's selling it—but just what is explicit, systematic phonics instruction? *The Reading Teacher, 59*(4), 366–376. https://doi.org/10.1598/RT.59.4.6

Moats, L. C. (2020). *Speech to print: Language essentials for teachers* (3rd ed.). Paul H. Brookes Publishing.

National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction.* (NIH Publication No. 00-4769). National Institute of Child Health and Human Development.

National Center for Education Statistics. (2024). *The Nation's Report Card: Long-term trends in reading: Age 9 student group scores*. U.S. Department of Education. https://www.nationsreportcard.gov/ltt/reading/student-group-scores/?age=9

National Center on Intensive Intervention (2024). *MAP Growth Reading.* NCII. https://charts.intensiveintervention.org/screening/tool/?id=2582f64d54b44fbb

Northwest Evaluation Association. (2024). *MAP Reading Growth*. NWEA. https://www.nwea.org/map-growth/

Peng, P., Wang, W., Filderman, M. J., Zhang, W., & Lin, L. (2024). The active ingredient in reading comprehension strategy intervention for struggling readers: A Bayesian network meta-analysis. *Review of Educational Research, 94*(2), 228–267. https://doi.org/10.3102/00346543231171345

Schifter, C., Natarajan, U., Ketelhut, D. J., & Kirchgessner, A. (2014). Data-driven decision-making: Facilitating teacher use of student data to inform classroom instruction. *Contemporary Issues in Technology and Teacher Education*, *14*(4), 419–432.

Spear-Swerling, L. (2019). Structured literacy and typical literacy practices: Understanding differences to create better outcomes. *Teaching Exceptional Children, 51*(3), 201–211. https://doi.org/10.1177/0040059917750160

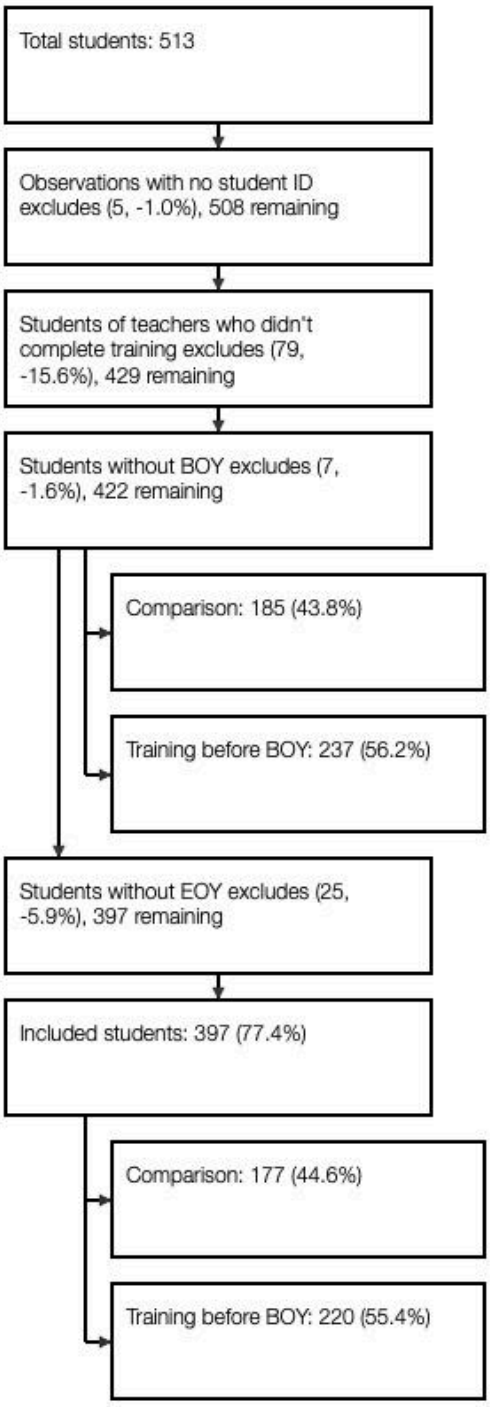
What Works Clearinghouse. (2022). *Procedures handbook: Version 5.0*. Institute of Education Sciences, U.S. Department of Education. https://ies.ed.gov/ncee/wwc/handbooks


## Acknowledgements

The authors of this study would like to express their deepest gratitude to the participating district for partnering with LXD Research to complete this study. The authors also want to express their sincere thanks to IMSE for contributing to this work.

## Appendix

*Analytic Sample Flow Chart*



*Statistical Model*

$$Y_{ij} = \beta_0 + \beta_1 Treatment_{ij} + \beta_2 BOY_{ij} + \beta_3 Ethnicity_{ij} + \beta_4 School_j + \varepsilon_{ij}$$

Where

- $Y_{ij}$ is the Spring 2023 test score for student *i* in school *j*;
- $Treatment_{ij}$ is an indicator whether a students received the intervention;
- $BOY_{ij}$ is the Fall 2022 baseline test score;
- $Ethnicity_{ij}$ is a vector of dummy variables for student ethnicity;
- $School_j$ is a vector of school fixed effects;
- $\varepsilon_{ij}$ is the error term, clustered at the teacher level.

The parameter of interest in the model was $\beta_1$, representing the estimated effect of the treatment on the outcome.

*Effect size*

$$d = \frac{b}{\sqrt{\frac{(n_1-1)SD_1^2+(n_0-1)SD_0^2}{n_1+n_0-2}}}$$

Where

- $b$ is the unadjusted mean difference between the treatment and control groups of a baseline characteristic or the covariate-adjusted mean difference between the treatment and control groups of an outcome measure (regression coefficient);
- $n_1$ is the sample size of the treatment group;
- $n_0$ is the sample size of the control group;
- $SD_1$ is the unadjusted standard deviation for the treatment group;
- $SD_0$ is the unadjusted standard deviation for the control group.

LXDRESEARCH
AT CHARLES RIVER MEDIA

**LXD Research** is an independent research firm that evaluates educational programs with ESSA-aligned methods.

**Learn more at www.lxdresearch.com**


institute for
multi-sensory
education

For additional information about **IMSE** visit:

**www.IMSE.com**