



LXDRESEARCH
AT CHARLES RIVER MEDIA



ESSA Evidence Packet

Research Foundation
& Logic Model

Authors:

Rachel Schechter, Ph.D.

Sofia Jiminez, Ph.D.

Erin Kabba

Prepared for Riverside Insights
August 15, 2024





LXDRESEARCH
AT CHARLES RIVER MEDIA



ESSA LEVEL IV

LXD Research Recognition for ESGI



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 IV designation for "**Demonstrates a Rationale.**" This recognition is based on its designing the product based on rigorous research associated with effectiveness in enhancing grade-level learning outcomes.

REVIEWED BY THE LXD RESEARCH EXPERT REVIEW PANEL

Rachel Schechter, Ph.D.
Founder of LXD Research

July 27, 2024

DATE

What is ESGI?

ESGI is a progress monitoring tool specialized for use with students in Pre-K through 2nd grade. It supports individualized instruction, early intervention, and gives teachers and administrators timely data to make informed decisions.



Monitor progress effectively

- Support early identification of struggling students
- Foster timely interventions to address learning gaps
- Make informed decisions to optimize teaching strategies and maximize student growth

COLLECT, COLLABORATE, AND REPORT

- Automated reports and graphs
- Share created tests with others in district

STRENGTHEN THE CONNECTION TO HOME

- Engage all students with Collaborative Challenges and puzzles

INDIVIDUALIZE INSTRUCTION

- 2,500+ customizable assessments
- Special education, ELL, SEL, and all content areas
- Engaging classroom activities





ESGI Foundational Research: How ESGI Aligns to Learning Sciences Research

What is ESGI?

ESGI is the only progress monitoring system designed to support Pre-K through 2nd Grade foundational skills development. Teachers seamlessly collect, track, and analyze student data to inform classroom instruction. Administrators have real-time, district-wide visibility into where students stand. ESGI delivers actionable data, enabling educators to close skill gaps and improve learning outcomes.

Literature Review: How ESGI supports Student learning

ESGI software provides robust progress monitoring for students in Pre-K through 2nd grade, supporting early intervention, personalized learning, and data-informed instruction. It gives educators and school districts tools they need to effectively support all students in foundational learning goals and to track each students' progress. Teachers can use their own assessments or can use pre-loaded assessments and these can be shared at the school and district levels. Additionally, ESGI helps teachers foster a partnership with parents by providing them with specific and detailed progress information about learning goals. These features align with established research on educational assessment and intervention strategies that emphasize the critical importance of ongoing monitoring and tailored support for young learners.

Early Intervention

Early intervention is a cornerstone of effective educational practice, particularly in the foundational years (Fuchs & Fuchs, 2006). The implementation of ESGI's continuous progress monitoring allows for the early identification of students who are struggling, facilitating timely interventions.

School	Teacher	Student	Grade							
			K	Green	Blue	Blue	Blue	Red	Blue	Green
			K	Green	Green	Green	Green	Green	Green	Green
			K	Green	Green	Green	Green	Green	Green	Green
			K	Red	Blue	Blue	Green	Blue	Blue	Green
			K	Red	Red	Red	Red	Red	Red	Red
			K	Green	Green	Green	Green	Green	Green	Green
			K	Yellow	Blue	Blue	Red	Blue	Blue	Green
			K	Red	Red	Red	Red	Red	Red	Red
			K	Green	Green	Green	Green	Green	Green	Green

Fuchs and Fuchs (2006) highlight the significance of progress monitoring within the Response to Intervention (RTI) framework, noting that periodic assessments enable educators to identify students who are not making adequate progress in the general classroom and adjust instructional strategies accordingly. This dynamic approach ensures that learning gaps are addressed promptly, which is crucial for students with learning disabilities but beneficial for all learners (Harkin et al., 2016). Additionally, ESGI makes

identification of individual students who need support easy with intuitive data reports that not only classroom teachers can access, but also district leaders and administrators.

Personalized Learning

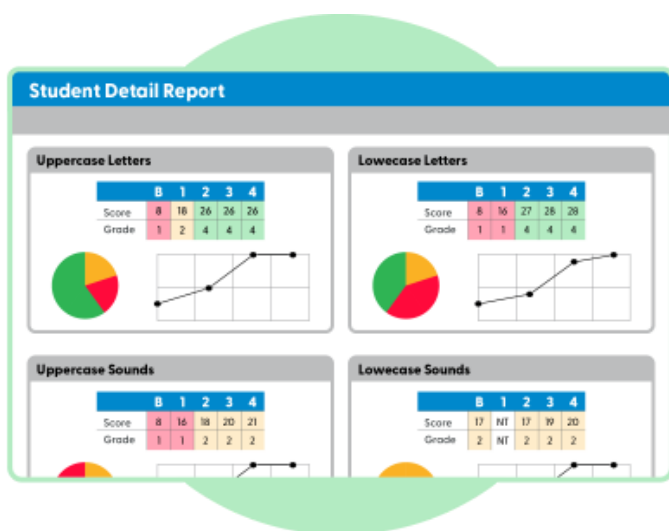
Personalized learning, another key feature of ESGI, involves tailoring instruction to meet individual student needs based on consistent tracking of progress. Progress monitoring within an RTI framework can help educators respond to the diverse needs of their students (Stecker et al., 2008), whether that means giving extra support for some learners or extra challenge for others. By collecting data on individual student performance, teachers can customize their instructional approaches to better support each learner's unique requirements in each subject. Teachers can also use data from ESGI to give praise on effort and constructive feedback to students as they meet their goals, teacher praise supports student satisfaction in elementary school (Burnett, 2002). Additionally, the ability to give parents more fine-grained information on their students' learning can help build the home-school connection which has strong effects on student learning outcomes (Ma et al., 2016). ESGI's ability to create customized assessments and track specific skills provides educators with the tools to deliver differentiated instruction, specific praise, and parent involvement that promote optimal student growth.

Test Name	Test Session Date	Grade
Uppercase Letters Correct: A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X,Y,Z	25/26	8/18
Lowercase Letters Correct: a,b,c,d,e,f,g,h,i,j,k,l,m,n,o,p,q,r,s,t,u,v,w,x,y,z	28/28	8/18
TK Rhyming Correct: rhyming 1, rhyming 3, rhyming 4, rhyming 5	4/6	8/18
Happies May SCI Correct: Energy, Insect Legs, Insects, Ladybugs, Life Cycle, Roots, Seasons, Stars, Temperature, Weather	10/11	8/18
Independence Correct: A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X,Y,Z	3/4	8/18

Data-Informed Instruction

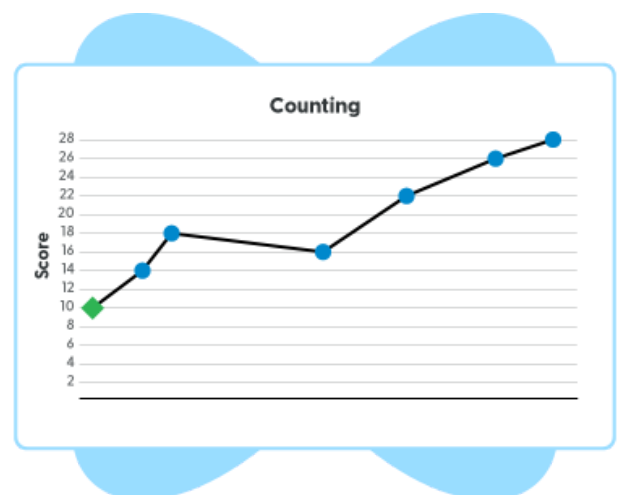
Data-informed instruction is essential for optimizing teaching strategies by maximizing student achievement and growth. It is facilitated by digital monitoring tools like ESGI (Faber et al., 2023; Stecker et al, 2008). ESGI's emphasis on providing real-time, actionable data enables educators to make informed decisions about their instructional practices. The meta-analysis by Faber, Feskens, and Visscher (2023) supports the efficacy of digital monitoring tools like ESGI, demonstrating that such tools can have a moderate positive effect on student achievement in both primary and secondary

education. In addition to providing individualized feedback, aggregate data can give valuable information about program success. When administrators have access to student performance, they can better monitor schools and make more informed decisions that ultimately benefit the students (Datahan, 2020). These studies underscore the importance of frequent feedback and the ability to aggregate data at various levels (student, class, school, and district), which are critical for evaluating and enhancing instructional quality.



Empirical Support for ESGI Features

Empirical studies highlight the importance of consistent and accurate data collection in driving educational outcomes in math, literacy, and social domains. Lambert, Algozzine, and Gee (2014) found that the use of progress monitoring tools in elementary mathematics significantly improved student performance, particularly when implementation fidelity was high. The user-friendly software that ESGI utilizes along with the ability to share student data helps educators use student data with fidelity. There is also evidence that short assessments that measure things like nonsense word fluency can be predictive of later



reading ability (Clemens et al., 2014). ESGI helps teachers administer these short assessments that may have significant impacts on students' literacy growth. Similarly, Palmer et al. (2018) demonstrated that progress monitoring in inclusive preschool classrooms led to significant gains in both academic and social domains when tied to preschool curriculum, emphasizing the value of ongoing assessment in early childhood education even outside of purely academic outcomes.

Conclusion

The integration of ESGI in Pre-K through 2nd grade education is well-supported by research, with its emphasis on early intervention, personalized learning, and data-informed instruction aligning with best practices in educational assessment and intervention. As student instruction becomes more tailored to student needs, their self-efficacy in language arts and math will grow which in turn has effects on increased sense of belonging, and satisfaction with education (McMahon, et al., 2009). Additionally, edtech tools like ESGI support key components that contribute to growth mindset such as continuous feedback, evidence of competencies reached, and individualized yet challenging material (Kazakoff & Mitchell, 2009). Furthermore, testing anxiety is something that affects an estimated 10 to 40% of elementary students starting as young as age seven (Talbot, 2016). One way to reduce testing anxiety, at least in older learners, is to give them practice with assessments that require retrieval practice (Liu et al., 2024). Therefore, one benefit of using ESGI regularly and early may be reduced testing anxiety as students grow older. By leveraging the capabilities of ESGI, educators can ensure that all students receive the timely and tailored support they need to succeed, laying a strong foundation for their future academic achievements.

Logic Model for ESGI

PROBLEM STATEMENT

Students in Pre-K through 2nd grade are learning and developing foundational skills quickly throughout the school year, yet standardized exams only happen at a few time points per year. Teachers and administrators are most effective in providing necessary, timely instruction and academic support when they can monitor the progress students are making in key learning outcomes in real-time. Traditional, paper-based progress monitoring methods are ineffective because they are slow, difficult to administer and analyze, and the data is not accessible or sharable with other stakeholders. ESGI solves this problem by helping teachers seamlessly collect, track, and analyze student data to inform classroom instruction. Administrators have real-time, district-wide visibility into where students stand. ESGI delivers actionable data, enabling educators to close skill gaps and improve learning outcomes.

RESOURCES

What resources are or could be available?

- Clear dashboards of student achievement in different curriculum areas for teachers and administrators
- Assessments that can be administered 1:1 by an adult or taken independently by the student
- Standards-aligned assessments that can be customized by the teacher in the classroom or teachers can create their own assessments
- Flexible assessment creation that can be shared throughout the school or entire district
- Ability to build a series of assessments that align with the district's scope and sequence
- Automated progress report letters generated for parents and guardians
- Personalized support resources like flash cards, writing practice, and Bingo
- Free online training webinars and videos

STRATEGIES & ACTIVITIES

What will the activities, events, and such be?

- Teachers can use their student dashboard and assessments to group students by skill level
- With an item-level analysis teachers can see specific skills that need to be addressed
- Students are grouped by skill level and receive appropriate instruction
- Students complete assessments either 1:1 with an adult or independently weekly or biweekly on important learning outcomes
- Administrators see how learning is progressing at the district, school, classroom and student levels
- Assessments are aligned throughout the district making student progress transparent to stakeholders
- Parents/Guardians can understand their child's progress on foundational skills and address gaps with resources provided

OUTPUTS

What are the initial products of these activities?

- Teachers gain an understanding of students' learning gaps and misunderstandings
- Teacher instruction is more effective because it is targeted to those who need it most and the content students do not understand
- Students' time in class is more productive and less frustrating because they are being taught at their level
- Students demonstrate their strengths and serve as peer tutors by performing well on assessments
- Teachers save hours per week by having data aggregated across students and parent reports automated
- Data on student outcomes are consistent across the district
- District leaders can see what's working and where they can provide proactive supports
- Parents gain a better understanding of their child's strengths and areas for improvement—can then target homework time effectively

SHORT-TERM AND INTERMEDIATE OUTCOMES

- Students will receive more personalized instruction based on assessment results
- Student achievement across foundational skills increases due to personalized attention to learning gaps
- Students are less likely to be given instruction that goes beyond their current level
- Teachers will gain an understanding of what content is consistently difficult for students and how to teach the content more effectively
- Student performance on key learning indicators will increase across the district and administrators will be more effective in their interventions and supports.
- Student's confidence will grow when they are being taught at their correct level
- Teachers more successfully differentiate instruction for all learners

LONG-TERM OUTCOMES AND IMPACTS

- Improved learning outcomes in foundational skills will set students up for long-term educational success and career success
- Student will have increased confidence and motivation for learning
- Testing anxiety is reduced or prevented through repeated assessments due to the testing effect
- Districts will gain a better understanding of effective teaching practices and curriculum to improve learning for all students

ASSUMPTIONS

- Classrooms have laptops or tablets available to administer the assessment
- Noise-canceling headphones are needed for individual assessment
- Teachers have the knowledge to use the data insights to make changes to instruction and group students based on assessment data
- Teachers administer the assessments consistently throughout the year.

References

- Burnett, P. C. (2002). Teacher praise and feedback and students' perceptions of the classroom environment. *Educational Psychology, 22*(1), 5-16.
- Faber, J. M., Feskens, R., & Visscher, A. J. (2023). A best-evidence meta-analysis of the effects of digital monitoring tools for teachers on student achievement. *School Effectiveness and School Improvement, 34*(2), 169-188.
- Fuchs, L. S., & Fuchs, D. (2006). Introduction to response to intervention: What, why, and how valid is it? *Reading Research Quarterly, 41*(1), 93-99.
- Clemens, N. H., Shapiro, E. S., Wu, J. Y., Taylor, A. B., & Caskie, G. L. (2014). Monitoring early first-grade reading progress: A comparison of two measures. *Journal of Learning Disabilities, 47*(3), 254-270.
- Datahan, P. J. (2020). School monitoring evaluation and adjustment in public secondary schools: Practices and performance of administrators. *Journal of World Englishes and Educational Practices, 2*(2), 146-157.
- Kazakoff, E., & Mitchell, A. (2017). Cultivating a growth mindset with educational technology. Lexia. Retrieved(25.04. 2018) from: www.lexialearning.com.
- Lambert, R., Algozzine, B., & Gee, J. M. (2014). Effects of progress monitoring on math performance of at-risk students. *British Journal of Education, Society & Behavioural Science, 4*(4), 527-540.
- Liu, S., Zhao, W., Shanks, D. R., Hu, X., Luo, L., & Yang, C. (2024). Effects of Test Anxiety on Self-Testing and Learning Performance. *Educational Psychology Review, 36*(2), 1-38.
- Ma, X., Shen, J., Krenn, H. Y., Hu, S., & Yuan, J. (2016). A meta-analysis of the relationship between learning outcomes and parental involvement during early childhood education and early elementary education. *Educational psychology review, 28*, 771-801.
- McMahon, S. D., Wernsman, J., & Rose, D. S. (2009). The relation of classroom environment and school belonging to academic self-efficacy among urban fourth-and fifth-grade students. *The Elementary School Journal, 109*(3), 267-281.
- Palmer, S. B., Fleming, K. K., Horn, E. M., Butera, G. D., & Lieber, J. A. (2018). Progress Monitoring in Inclusive Preschools: Using Children's School Success+Curriculum Framework. *Inclusion (Washington, D.C.), 6*(2), 110–126.
<https://doi.org/10.1352/2326-6988-6.2.110>
- Harkin, B., Webb, T. L., Chang, B. P., Prestwich, A., Conner, M., Kellar, I., ... & Sheeran, P. (2016). Does monitoring goal progress promote goal attainment? A meta-analysis of the experimental evidence. *Psychological bulletin, 142*(2), 198.

- Stecker, P. M., Fuchs, D., & Fuchs, L. S. (2008). Progress monitoring as essential practice within response to intervention. *Rural Special Education Quarterly*, 27(4), 10-17.
- Talbot, L. (2016). Test anxiety: Prevalence, effects, and interventions for elementary school students. *James Madison Undergraduate Research Journal*, 3(1), 42-51.
Retrieved from <http://commons.lib.jmu.edu/jmurj/vol3/iss1/5/>.



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

For additional information about
ESGI visit:

www.ESGI.com

