



THE EDTECH COLLECTIVE

Instructure Partner Ecosystem

SADLIER PREK WITH WILEY BLEVINS

ESSA Evidence Level IV Study

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EXECUTIVE SUMMARY

Instructure developed a logic model for *Sadlier PreK* and designed the logic model to satisfy Level IV requirements (*Demonstrates a Rationale*) according to the Every Student Succeeds Act (ESSA).¹

Logic Model

A logic model provides a program roadmap, detailing program inputs, participants reached, program activities, outputs, and outcomes.

Study Design for Sadlier PreK Evaluation

Informed by the logic model, the next phase will focus on planning ESSA studies to examine how *Sadlier PreK* is related to student learning outcomes and instructional decision-making. Specifically, W. H. Sadlier plans to conduct ESSA Level III studies to answer the following research questions:

Implementation Questions

1. Among teachers, what were the usage patterns of *Sadlier PreK* across the ten thematic units? To what extent did teachers:
 - a. implement structured routines blending literacy, math, life skills, and content knowledge?
 - b. conduct read-alouds using trade books, Knowledge Building Cards, and story/song resources?
 - c. incorporate digital tools (e.g., articulation videos, vocabulary boosters) via SadlierConnect
2. What supports (e.g., professional development, administrator guidance) are most associated with successful integration of *Sadlier PreK* into daily routines?

Outcome Questions

3. How was teachers' use of *Sadlier PreK* related to:
 - a. students' mastery of life skills (e.g., empathy, self-regulation)?
 - b. foundational literacy skills (e.g., letter recognition, phonological awareness)?
 - c. math understanding (e.g., number sense, pattern recognition)?

¹ Level IV indicates that an intervention should include a "well-specified logic model that is informed by research or an evaluation that suggests how the intervention is likely to improve relevant outcomes; and an effort to study the effects of the intervention, that will happen as part of the intervention or is underway elsewhere..." (p. 9, U.S. Department of Education, 2016).

4. Do students who complete *Sadlier PreK* enter kindergarten with higher demonstrated readiness in academic and life skills areas compared to district averages or non-participating peers?

Conclusions

This study satisfies ESSA evidence requirements for Level IV (*Demonstrates a Rationale*). Specifically, this study met the following criteria:

- ✓ Detailed logic model informed by previous, high-quality research
- ✓ Study planning and design is currently underway for an ESSA Level III or higher study

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INTRODUCTION

Instructure developed a logic model for *Sadlier PreK* and designed the logic model to satisfy Level IV requirements (*Demonstrates a Rationale*) according to the Every Student Succeeds Act (ESSA).

Despite growing recognition of the importance of early learning, access to high-quality PreK instruction remains inconsistent, especially for multilingual learners, younger preschoolers, and students in under-resourced settings. *Sadlier PreK* addresses this gap with a structured, research-based program for 3- and 4-year-olds. It combines engaging read-alouds, hands-on activity pads, life skills tools like puppets and posters, and built-in supports for diverse learners, which thereby empowers educators to deliver consistent, whole-child instruction and prepare every student for kindergarten.

The study had the following objectives:

1. Define the *Sadlier PreK* logic model and foundational research base.
2. Document ESSA Level II and III study designs.

Previous Research

This logic model is based on a literature review that establishes evidence-based connections between high-quality PreK experiences and students' academic outcomes. Research demonstrates that intentional early instruction in literacy, numeracy, and self-regulation yields significant gains in later academic achievement. High-quality early childhood education is widely recognized as a critical foundation for academic success (Barnett, 2011; Camilli et al., 2010; Yoshikawa et al., 2013). A recent federal evidence review by Schoch, et al. (2023), found that on average, preschool participation produces an immediate improvement of about half a standard deviation in cognitive abilities. This improvement is equivalent to moving a child from the 30th to the 50th percentile on achievement tests (Barnett, 2011). Furthermore, early childhood education yields lasting benefits, including improved academic outcomes, such as reduced grade repetition, higher graduation rates, and enhanced social behavior (Barnett, 2011; Camilli et al., 2010; Yoshikawa et al., 2013). More recent research shows that attending preschool at age four increases on-time college enrollment by eight percentage points, underscoring how a rich, developmentally appropriate PreK curriculum sets children up to thrive in formal schooling and beyond (Gray-Lobe et al., 2023).

Sadlier PreK with Wiley Blevins is a comprehensive early childhood program designed to build strong foundations for literacy, numeracy, and knowledge across content areas. It combines explicit, research-based instruction with hands-on exploration and purposeful play. A core tenet of the *Sadlier PreK* program is its cohesive and carefully-sequenced design, which promotes learning that is both purposeful and lasting. This is achieved through a curriculum designed for deep thinking and one that has both vertical and horizontal coherence (Surma et al. 2025). Vertical coherence includes topics that are sequenced across 10 thematic units, which allows

children to first learn foundational concepts before moving on to more complex ideas, while horizontal coherence connects knowledge across different subjects and integrates learning across subjects like math, science, and social studies. The review below demonstrates how *Sadlier PreK* program is grounded in evidence-based practices that support school readiness and later achievement.

Knowledge Building. The *Sadlier PreK* curriculum is organized around ten knowledge-building units that immerse children in content-rich themes (e.g., science, social studies, etc.). A key component for this is the Knowledge-Building Read Aloud Cards, which are used over a three-week period within each unit to help children delve deeper into specific topics and build progressively more complex understanding. This design is strongly supported by research on early vocabulary and knowledge development. Research shows that vocabulary size and depth are critical for reading comprehension and strongly predict later success in understanding written texts (Neuman & Wright, 2014; Dickinson & Porche, 2011). Despite its importance, children enter school with vast disparities in vocabulary knowledge. By age four, children from language-rich, high-income households may have heard up to 30 million more words than their low-income peers but targeted early instruction can effectively address these gaps (Neuman & Wright, 2014). These findings highlight the strength of *Sadlier PreK* approach, which builds vocabulary and background knowledge through thematic units (e.g. family, animals, community, weather) using read-aloud books, discussions, and play, supported by Concept Books that introduce foundational knowledge in science ("Our Earth"), social studies ("Our Country"), and math ("Our 1,2,3s") aligned to key learning standards.

Developing early literacy skills is a central focus of *Sadlier PreK*. Recognizing that children develop at different paces, the program is designed to serve students aged 3 to 5 with built-in adaptations. For 3-year-olds, the program provides specific literacy and math guidance each day, while for 4- and 5-year-olds, each lesson provides on-the-spot guidance for tailoring instruction to individual learning levels. Learning is made engaging through purposeful play and hands-on activities that deepen understanding. Further, to support a confident start to formal schooling, the curriculum includes a *Getting Ready for Kindergarten* transition unit, which focuses on building foundational academic and social skills through a variety of materials and activities. Sadlier leans on the Science of Reading, a body of research that emphasizes the importance of building foundational literacy skills for reading success (Castles et al., 2018; Ehri, 2022). Drawing from fields such as cognitive psychology, neuroscience, linguistics, and education, it emphasizes the importance of explicit, systematic instruction in foundational skills like phonemic awareness, phonics, vocabulary, fluency, and comprehension. This evidence-based framework helps educators understand the processes behind reading acquisition and guides the development of effective literacy programs. Children's knowledge of letters is one of the strongest predictors of their later ability to read and spell (Piasta & Wagner, 2010; National Early Literacy Panel, 2008). Multiple longitudinal studies found that preschool growth in alphabet knowledge and early decoding skills predicts later writing and literacy achievement (Cabell et al., 2021; Piasta & Wagner, 2010). Children who enter kindergarten with limited letter knowledge are more likely to

struggle with reading, be classified with reading difficulties, or face long-term academic challenges (Piasta & Wagner, 2010).

For these reasons, early childhood experts consider mastery of the alphabetic principle a core goal of the preschool years. The National Early Literacy Panel (NELP) found that code-focused interventions in preschool, e.g., activities that build alphabet knowledge and phonological awareness, have clear, positive effects on decoding and spelling skills (Shanahan & Lonigan, 2010; National Early Literacy Panel, 2008). Recent experimental work further shows that instruction combining letter names and sounds yields the strongest gains, particularly for English learners (Roberts et al., 2018). *Sadlier PreK* reflects these evidence-based practices by providing systematic phonemic awareness and phonics instruction developed by literacy expert Dr. Wiley Blevins.

In addition to teaching letters and sounds (code-focused instruction), the program develops crucial oral language skills. This is done through read-alouds, conversations, and storytelling to improve vocabulary and listening comprehension. These elements mirror this balanced approach recommended by NELP, which found that early interventions targeting vocabulary and listening comprehension yield substantial gains in language skills. By weaving together alphabet instruction and rich language experiences, *Sadlier PreK* lays the groundwork for literacy growth and future reading success (Ehri, 2022; Roberts et al., 2018; Cabell et al., 2021).

Sadlier PreK also intentionally develops early mathematics skills through age-appropriate, hands-on activities. This emphasis is well-supported by a growing body of research demonstrating that early math abilities are among the strongest predictors of later academic achievement—not only in mathematics but across subjects. For example, a landmark study found that a child's math skills at kindergarten entry were the single strongest predictor of later performance in both math and reading (Duncan et al., 2007). More recent studies confirm that when early math instruction is aligned with children's developmental stages, it significantly boosts their understanding and readiness for school (Clements, Sarama, and Lizcano, 2023). Similarly, preschoolers' understanding of number concepts (cardinality) and math vocabulary has been shown to predict their long-term math achievement in elementary school (Cahoon et al., 2024).

Researchers suggest that early math learning may enhance general cognitive abilities—such as reasoning, attention, and problem-solving—which in turn support broader academic success. By incorporating daily math activities that build number sense, pattern recognition, and spatial reasoning, *Sadlier PreK* reflects these evidence-based practices. Its approach aligns with recommendations from the National Association for the Education of Young Children (NAEYC) and other leading organizations advocating for high-quality, developmentally appropriate math instruction in early childhood settings.

A central tenet of the *Sadlier PreK* program is its design as a comprehensive, knowledge-building core curriculum. Their approach is rooted in the well-established principle that knowledge is a principal driver of comprehension. The more a child knows about a topic, the better their listening

comprehension and, subsequently, their reading comprehension will be (NAEYC, 2020). By building a rich mental database of concepts and vocabulary in early childhood, educators are laying the foundation that is critical for all future learning. This is because memory functions as an interconnected network; new information is retained and understood most easily when it can be connected to what is already known (Cockcroft, 2016). A broad base of knowledge creates more conceptual "hooks" for new learning to attach to, accelerating the acquisition of further knowledge and skills.

The efficacy of this approach is validated by large-scale studies. Research has found that preschoolers in knowledge-rich schools achieved significantly better results in reading, math, and science than their peers (Fuller et al., 2017). The implications of this for educational equity are profound. The positive effects of a deep, knowledge-rich curriculum are strongest for children from low-income backgrounds, who may not have the same opportunities for knowledge-building outside of school (U.S. Department of Health and Human Services, 2023). By providing children with access to a rich base of knowledge and deep understanding, the Sadlier PreK program is intentionally designed to address and mitigate educational inequity from the very start of a child's academic journey.

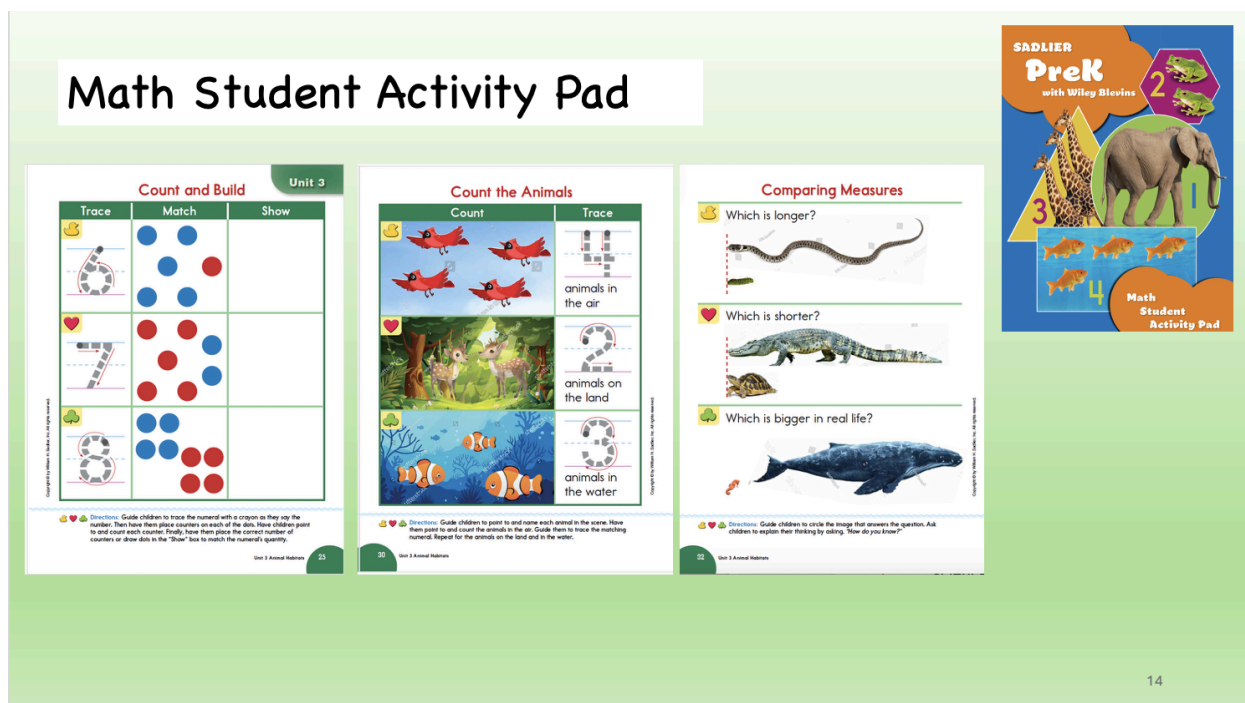


Figure 1. Math Student Activity Pad

Purposeful Play and Learning. Sadlier PreK leverages “purposeful play” i.e., structured, goal-oriented activities that promote learning through exploration as key instructional modes. A recent meta-analysis (Skene et al., 2022) found that guided play is as effective as, and in some cases more effective than, traditional teacher-led lessons in teaching skills such as early math,

spatial vocabulary, and cognitive flexibility. *Sadlier PreK*'s daily routines include ample opportunities for such play-based learning. For example, in an "Animal Habitats" unit, *Sadlier PreK* integrates purposeful play through a series of structured, hands-on learning centers across Alphabet, Writing and Drawing, Science, and Math. Each activity is designed to engage children in exploration while targeting specific developmental skills. For instance, in the Alphabet center, children match letters to animal photo cards and thereby reinforce letter-sound associations.

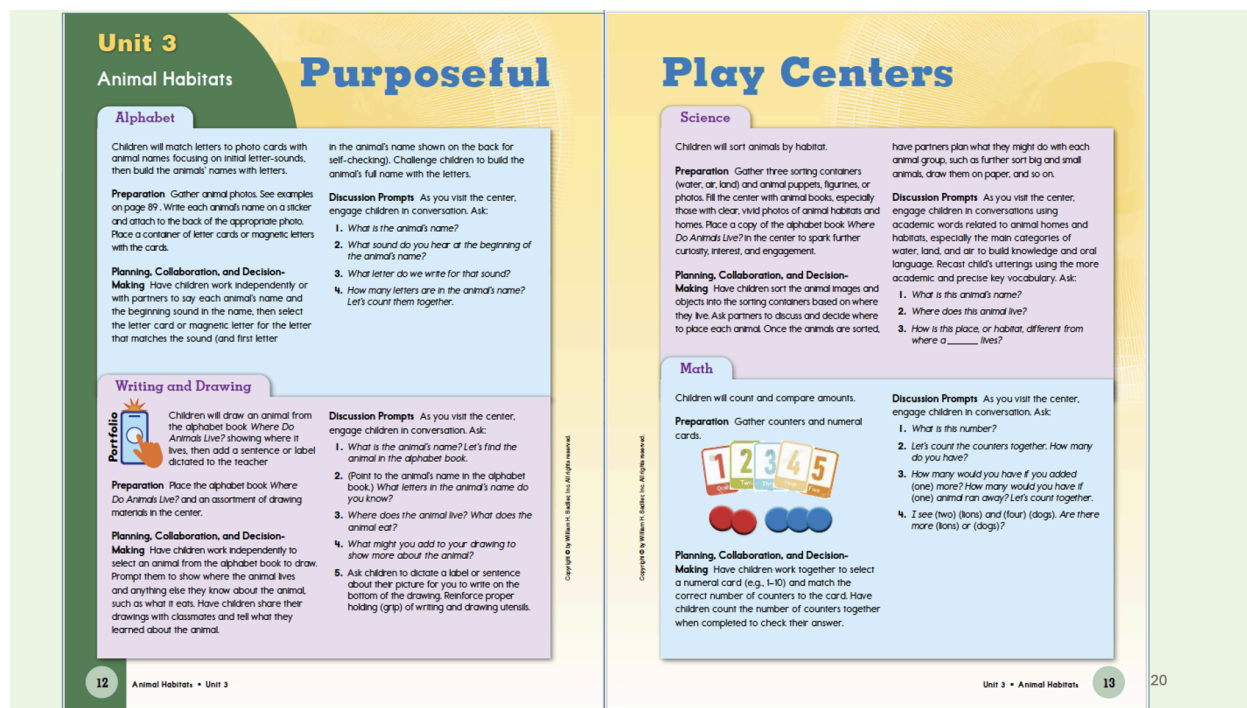


Figure 2. Purposeful Play Center

Beyond academics, *Sadlier PreK* addresses life skills to support holistic development, including emotion regulation and interpersonal skills. Such features target the development of children's self-regulation, which research has identified as a cornerstone of school readiness. Studies have repeatedly linked strong self-regulation in preschoolers with positive outcomes in both academic and social domains (Blair & Raver, 2015; Zelazo et al., 2016). *Sadlier PreK*'s curriculum encourages this growth by embedding life skills development in each unit. For example, the "Animal Habitats" unit includes identifying major emotions, handling big feelings, self-awareness, and social awareness.

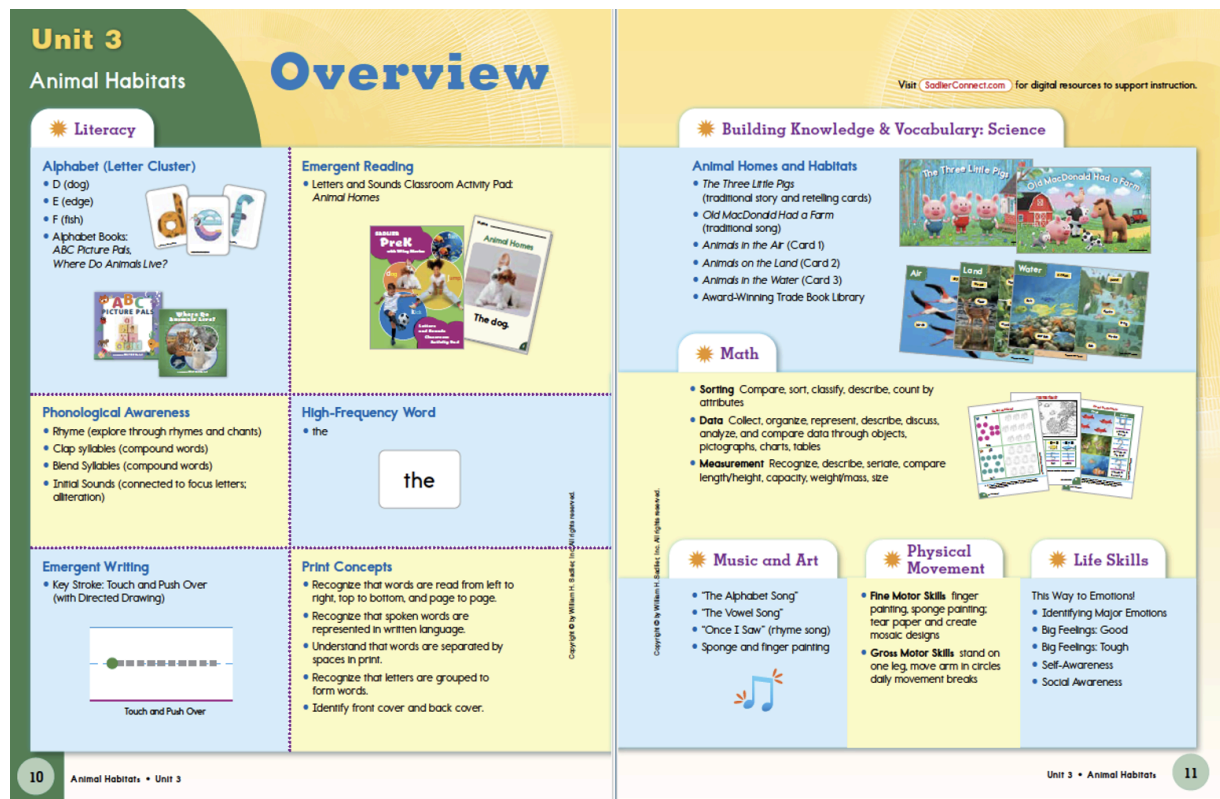


Figure 3. Animal Habitats Overview

These foundational tasks strengthen children's executive functioning skills, such as working memory and inhibitory control. *Sadlier PreK*'s attention to life skills is backed by evidence that early self-regulation and social skills are strong predictors of later academic success and well-being (Distefano et al., 2021) and supports development across key domains such as self-awareness, social connection, responsible behavior, and emotional growth (Lawson et al., 2019). Through the process of developing life skills alongside cognitive skills, the program supports the development of confident and school-ready children.

LOGIC MODEL

A logic model is a program or product roadmap. It identifies how a program aims to impact learners, translating inputs into measurable activities that lead to expected results. A logic model has five core components: inputs, participants, activities, outputs, and outcomes (see Table 1).

Table 1. Logic model core components

Component	Description	More information
Inputs	What W. H. Sadlier and districts invest	What resources are invested and/or required for the learning solution to function effectively in real schools?
Participants	Who W. H. Sadlier reaches	Who receives the learning solution or intervention? Who are the key users?
Activities	What participants do	What do participants do with the resources identified in Inputs? What are the core/essential components of the learning solution? What is being delivered to help students/teachers achieve the program outcomes identified?
Outputs	Products of activities	What are numeric indicators of activities? (e.g., key performance indicators; allows for examining program implementation)
Outcomes	Short-term, intermediate, long-term	Short-term outcomes are changes in awareness, knowledge, skills, attitudes, and aspirations. Intermediate outcomes are changes in behaviors or actions. Long-term outcomes are ultimate impacts or changes in social, economic, civil or environmental conditions.

The Instructure team reviewed *Sadlier PreK* resources, artifacts, and program materials to develop a draft logic model. The *Sadlier PreK* team reviewed the draft and provided revisions during virtual meetings. The final logic model depicted below (Figure 1) reflects these conversations and revisions.



Problem Statement: Despite growing recognition of the importance of early learning, access to high-quality PreK instruction remains inconsistent, particularly for multilingual learners, younger preschoolers, and students in under-resourced settings. This lack of consistency limits opportunities for equitable early development and kindergarten readiness. The Sadlier PreK program seeks to address this gap with a structured, research-based curriculum for 3- and 4-year-olds. It integrates engaging read-alouds, hands-on activity pads, life skills tools (such as puppets and posters), and built-in supports for diverse learners. By equipping educators to deliver consistent, whole-child instruction, Sadlier PreK helps ensure that every child is prepared for kindergarten success.

Sadlier PreK Logic Model

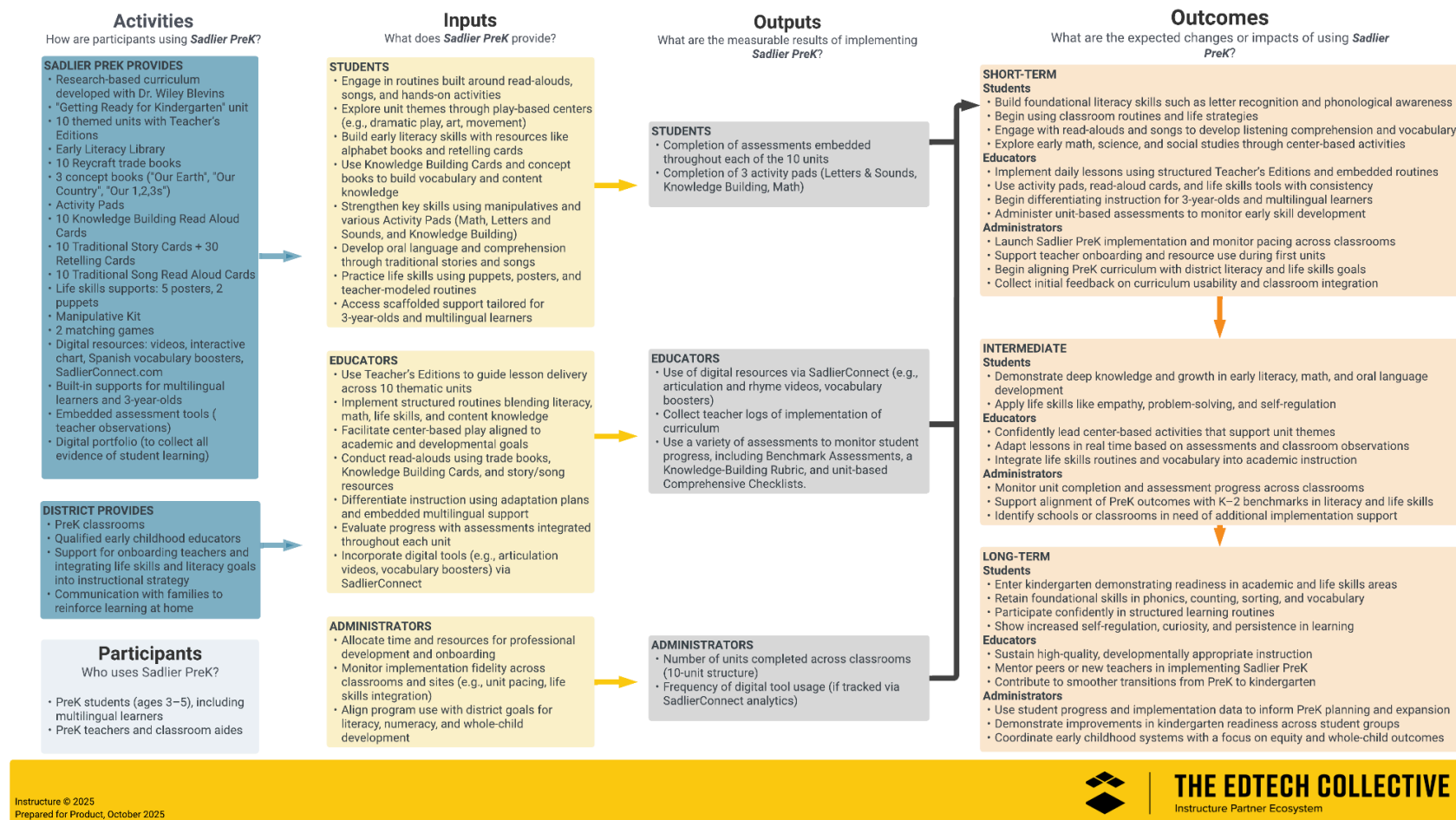


Figure 4. *Sadlier PreK* logic model



Sadlier PreK Logic Model Components

Sadlier PreK provides several resources, including:

- Research-based curriculum developed with Dr. Wiley Blevins
- “Getting Ready for Kindergarten” unit
- 10 themed units with Teacher’s Editions
- Early Literacy Library
- 10 Reycraft trade books
- 3 concept books ("Our Earth", "Our Country", "Our 1,2,3s")
- Activity Pads
- 10 Knowledge Building Read Aloud Cards
- 10 Traditional Story Cards + 30 Retelling Cards
- 10 Traditional Song Read Aloud Cards
- Life skills supports: 5 posters, 2 puppets
- Manipulative Kit
- 2 matching games
- Digital resources : videos, interactive chart, Spanish vocabulary boosters, SadlierConnect.com
- Built-in supports for multilingual learners and 3–5-year-olds
- Embedded assessment tools (teacher observations)
- Digital portfolio (to collect all evidence of student learning)

Districts who use *Sadlier PreK* should offer PreK classrooms, qualified early childhood educators, support for onboarding teachers and integrating life skills and literacy goals into instructional strategy, and communication with families to reinforce learning at home.

Ultimately, *Sadlier PreK* aims to reach PreK students (ages 3–5), including multilingual learners, and PreK teachers and classroom aides.

Using these program resources, students, educators, and administrators and families can engage with *Sadlier PreK* through the following activities:

Students:

- Engage in routines built around read-alouds, songs, and hands-on activities
- Explore unit themes through play-based centers (e.g., dramatic play, art, movement)
- Build early literacy skills with resources like alphabet books and retelling cards
- Use knowledge building cards and concept books to build vocabulary and content knowledge
- Strengthen key skills using manipulatives and various Activity Pads (Math, Letters and Sounds, and Knowledge Building) Strengthen math understanding using the Math Activity Pad and manipulatives [letters and sounds and knowledge building Activity Pads
- Develop oral language and comprehension through traditional stories and songs
- Practice life skills using puppets, posters, and teacher-modeled routines

- Access scaffolded support tailored for 3-year-olds and multilingual learners

Educators:

- Use Teacher's Editions to guide lesson delivery across 10 thematic units
- Implement structured routines blending literacy, math, life skills, and content knowledge
- Facilitate center-based play aligned to academic and developmental goals
- Conduct read-alouds using trade books, Knowledge Building Cards, and story/song resources
- Differentiate instruction using adaptation plans and embedded multilingual support
- Evaluate progress with assessments integrated throughout each unit
- Incorporate digital tools (e.g., articulation videos, vocabulary boosters) via SadlierConnect

Administrators:

- Allocate time and resources for professional development and onboarding
- Monitor implementation fidelity across classrooms and sites (e.g., unit pacing, life skills integration)
- Align program use with district goals for literacy, numeracy, and whole-child development

Sadlier can examine the extent to which core activities were delivered and participants were reached by examining the following quantifiable outputs for *Sadlier PreK*:

Students:

- Completion of assessments embedded throughout each of the 10 units
- Completion of 3 activity pads (Letters & Sounds, Knowledge Building, Math)

Educators:

- Use of digital resources via SadlierConnect (e.g., articulation and rhyme videos, vocabulary boosters)
- Teacher logs of implementation of curriculum
- Use of assessments to monitor student progress: Benchmark Assessments, Knowledge-Building Rubric, and unit-based Comprehensive Checklists

Administrators:

- Number of units completed across classrooms (10-unit structure)
- Frequency of digital tool usage (if tracked via SadlierConnect analytics)

If implementation is successful, based on a review of program outputs, Sadlier can expect several short-term student, educator, and administrator outcomes for *Sadlier PreK*. Students will build foundational literacy skills such as letter recognition and phonological awareness, begin using classroom routines and life skills strategies, and engage with read-alouds and songs to develop listening comprehension and vocabulary. They will also explore early math, science, and social studies through center-based activities. Educators will implement daily lessons using structured

Teacher's Editions and embedded resources, use activity pads, read-aloud cards, and life skills tools with consistency, begin differentiating instruction for 3-year-olds and multilingual learners, and administer unit-based assessments to monitor early skill development. Administrators will launch *Sadlier PreK* implementation, monitor pacing across classrooms, support teacher onboarding and resource use during the first units, begin aligning PreK curriculum with district literacy and life skills goals, and collect initial feedback on curriculum usability and classroom integration.

In the intermediate term, students, educators, and administrators can expect several outcomes. Students will demonstrate deep knowledge growth in early literacy, math, and oral language development, and apply life skills such as empathy, problem-solving, and self-regulation. Educators will confidently lead center-based activities that support unit themes, adapt lessons in real time based on assessments and classroom observations, and integrate life skills routines and vocabulary into academic instruction. Administrators will monitor unit completion and assessment progress across classrooms, support alignment of PreK outcomes with K–2 benchmarks in literacy and life skills, and identify schools or classrooms in need of additional implementation support.

In the long term, students will enter kindergarten demonstrating readiness in academic and life skills areas, retain foundational skills in phonics, counting, sorting, and vocabulary, participate confidently in structured learning routines, and show increased self-regulation, curiosity, and persistence in learning. Educators will sustain high-quality, developmentally appropriate instruction and mentor peers or new teachers in implementing *Sadlier PreK*. Administrators will use student progress and implementation data to inform practice, demonstrate improvements in kindergarten readiness across student groups, and coordinate early childhood systems with a focus on equity and whole-child development.

STUDY DESIGN FOR SADLIER PREK EVALUATION

To continue building evidence of effectiveness and examine the proposed relationships in the logic model, Instructure plans to conduct an evaluation to determine the extent to which *Sadlier PreK* produces the desired outcomes. Specifically, Sadlier plans to begin ESSA Level III studies in 2026 to answer the following research questions:

Implementation Questions

1. Among teachers, what were the usage patterns of *Sadlier PreK* across the ten thematic units? To what extent did teachers:
 - a. implement structured routines blending literacy, math, life skills, and content knowledge?
 - b. conduct read-alouds using trade books, Knowledge Building Cards, and story/song resources?

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- 2. What supports (e.g., professional development, administrator guidance) are most associated with successful integration of *Sadlier PreK* into daily routines?

Outcome Questions

- 3. How was teachers' use of *Sadlier PreK* related to:
 - a. students' mastery of life skills (e.g., empathy, self-regulation)?
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 - c. math understanding (e.g., number sense, pattern recognition)?
- 4. Do students who complete *Sadlier PreK* enter kindergarten with higher demonstrated readiness in academic and life skills areas compared to district averages or non-participating peers?

CONCLUSIONS

This study satisfies ESSA evidence requirements for Level IV (*Demonstrates a Rationale*). Specifically, this study met the following criteria for Level IV:

- ✓ Detailed logic model informed by previous, high-quality research
- ✓ Study planning and design is currently underway for an ESSA Level III or higher study

REFERENCES

- Barnett, W. S. (2011). *Preschool education as an educational reform: Issues of effectiveness and access*. National Institute for Early Education Research.
- Blair, C., & Raver, C. C. (2015). School readiness and self-regulation: A developmental psychobiological approach. *Annual Review of Psychology*, 66, 711–731. <https://doi.org/10.1146/annurev-psych-010814-015221>
- Cabell, S. Q., Gerde, H. K., Hwang, H., Bowles, R., Skibbe, L., Piasta, S. B., & Justice, L. M. (2022). Rate of growth of preschool-age children's oral language and decoding skills predicts beginning writing ability. *Early Education and Development*, 33(7), 1198–1221. <https://doi.org/10.1080/10409289.2021.1952390>
- Cahoon, A., Simsek, E., Gilmore, C., & Simms, V. (2024). The cognitive and numerical predictors of early mathematical achievement: A latent growth curve analysis. *Journal of Cognition and Development*, 26(3), 443–463. Advance online publication. <https://doi.org/10.1080/15248372.2024.2434036>
- Camilli, G., Vargas, S., Ryan, S., & Barnett, W. S. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record*, 112(3), 579–620
- Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological Science in the Public Interest*, 19(1), 5–51. <https://doi.org/10.1177/1529100618772271kkk>
- Claessens, A., Duncan, G. J., & Engel, M. (2009). Kindergarten skills and fifth-grade achievement: Evidence from the ECLS-K. *Economics of Education Review*, 28(4), 415–427. <https://doi.org/10.1016/j.econedurev.2008.09.003>
- Clements, D. H., Lizcano, R., & Sarama, J. (2023). Research and pedagogies for early math. *Education Sciences*, 13(8), 839. <https://doi.org/10.3390/educsci13080839>
- Cockcroft, K. (2016). The role of working memory in childhood education. *South African Journal of Childhood Education*, 6(1), a412.
- Dickinson, D. K., & Porche, M. V. (2011). Relation between language experiences in preschool classrooms and children's kindergarten and fourth-grade language and reading abilities. *Child Development*, 82(3), 870–886. <https://doi.org/10.1111/j.1467-8624.2011.01576.x>

- Distefano, R., Grenell, A., Palmer, A. R., Houlihan, K., Masten, A. S., & Carlson, S. M. (2021). Self-regulation as promotive for academic achievement in young children across risk contexts. *Cognitive Development*, 58, 101050. <https://doi.org/10.1016/j.cogdev.2021.101050>
- Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., ... & Japel, C. (2007). School readiness and later achievement. *Developmental Psychology*, 43(6), 1428–1446. <https://doi.org/10.1037/0012-1649.43.6.1428>
- Ehri, L. C. (2022). What teachers need to know and do to teach letter-sounds, phonemic awareness, word reading, and phonics. *The Reading Teacher*, 76(1), 53–61. <https://doi.org/10.1002/trtr.2095>
- Fuller, B., Bein, E., Kim, Y. S., & Rabe-Hesketh, S. (2017). Do academic preschools yield stronger benefits? A national quasi-experiment. *Journal of Applied Developmental Psychology*, 50, 1-13.
- Gray-Lobe, G., Pathak, P. A., & Walters, C. R. (2023). The long-term effects of universal preschool in Boston. *The Quarterly Journal of Economics*, 138(1), 363–411. <https://doi.org/10.1093/qje/qjac036>
- Lawson, G. M., McKenzie, M. E., Becker, K. D., Selby, L., & Hoover, S. A. (2018). The core components of evidence-based social emotional learning programs: A framework for educators and researchers. *Prevention Science*, 20(4), 457–467. <https://doi.org/10.1007/s1121-018-0953-y>
- National Association for the Education of Young Children (NAEYC). (2020). *Developmentally appropriate practice*. <https://www.naeyc.org/resources/position-statements/dap/principles>
- National Early Literacy Panel. (2008). *Developing early literacy: Report of the National Early Literacy Panel*. National Institute for Literacy.
- Neuman, S. B., & Wright, T. S. (2014). The magic of words: Teaching vocabulary in the early childhood classroom. *American Educator*, 38(2), 4–13.
- Piasta, S. B., & Wagner, R. K. (2010). Developing early literacy skills: A meta-analysis of alphabet learning and instruction. *Reading Research Quarterly*, 45(1), 8–38. <https://doi.org/10.1598/RRQ.45.1.2>
- Roberts, T. A., Vadasy, P. F., & Sanders, E. A. (2018). Preschoolers' alphabet learning: Letter name and sound instruction, cognitive processes, and English proficiency. *Early Childhood Research Quarterly*, 44, 257–274. <https://doi.org/10.1016/j.ecresq.2018.04.011>
- Shanahan, T., & Lonigan, C. J. (2010). The National Early Literacy Panel: Practical implications of its findings. *Educational Researcher*, 39(4), 279–285. <https://doi.org/10.3102/0013189X10369172>

Skene, K., O'Farrelly, C., Byrne, E. M., Kirby, N., Stevens, E. C., & Ramchandani, P. G. (2022). Can guidance during play enhance children's learning and development in educational contexts? A systematic review and meta-analysis. *Child Development*, 93(4), 1162–1180.

<https://doi.org/10.1111/cdev.13775>

Surma, T., Vanhees, C., Wils, M., Nijlunsing, J., Crato, N., Hattie, J., Muijs, D., Rata, E., Wiliam, D., & Kirschner, P. A. (2025). Developing curriculum for deep thinking: The knowledge revival. Springer Cham. <https://doi.org/10.1007/978-3-031-74661-1>

U.S. Department of Health and Human Services, Administration for Children and Families. (2023). *What the evidence says about the benefits of early care and education for children*. OPRE Report.

Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M. R., Espinosa, L. M., Gormley, W. T., Ludwig, J., Magnuson, K. A., Phillips, D., & Zaslow, M. J. (2013). *Investing in our future: The evidence base on preschool education*. Foundation for Child Development & Society for Research in Child Development.

Zelazo, P. D., Blair, C. B., & Willoughby, M. T. (2016). *Executive function: Implications for education (NCER 2017-2000)*. National Center for Education Research, Institute of Education Sciences, U.S. Department of Education.