

RESEARCH

Lexia® LETRS® for Early Childhood Educators Logic Model

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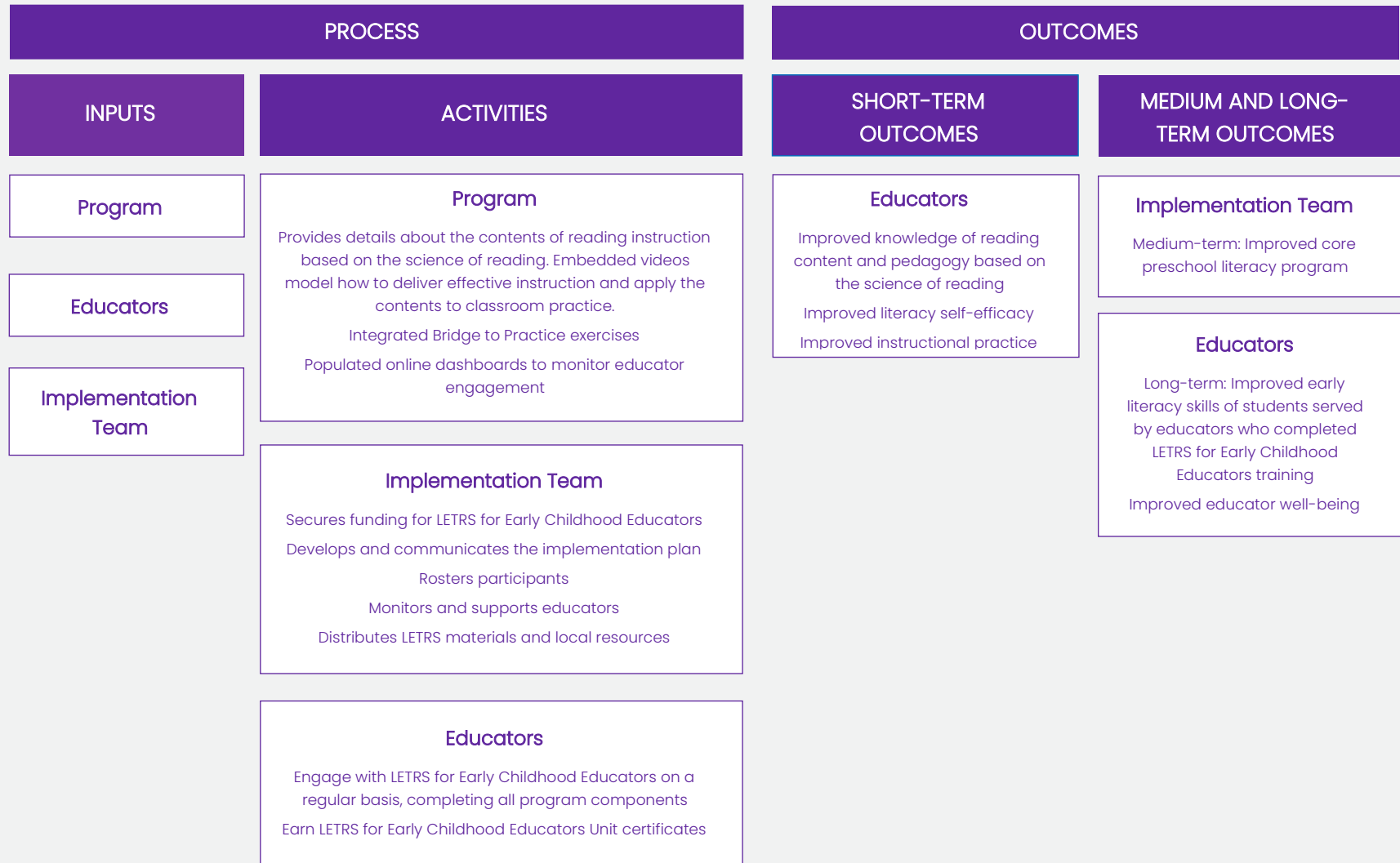
Lexia® LETRS® for Early Childhood Educators Program Logic Model

The early childhood years are critical to building the foundations children need for success in school and life. Even at this early stage of learning, independent experts agree that “a well-implemented, evidence-based curriculum” and an emphasis on the quality and continuous training of early childhood educators leads to success in the classroom. Lexia® LETRS® for Early Childhood Educators provides deep knowledge of literacy instruction for the youngest learners. The more children know about language and literacy before they begin kindergarten and first grade, the better equipped they are to succeed in literacy learning and beyond. Dr. Louisa Moats and Dr. Lucy Hart Paulson designed this course for early childhood educators because research shows the foundation of literacy begins at a young age. Early childhood educators need the same level of professional learning as K–5 educators to effectively teach the foundation of literacy.

Lexia LETRS for Early Childhood Educators is a professional learning course for educators of young children who aim to prepare all students for success in kindergarten and beyond.

The LETRS for Early Childhood Program Logic Model is a visual representation of how the program is expected to have effects on schools, educators, and students prior to accounting for contextual factors. It helps satisfy the “demonstrates a rationale” level of evidence for the effectiveness of an educational program, as described by the Every Student Succeeds Act (ESSA). The primary purpose of the logic model is to guide planning and implementation of the LETRS for Early Childhood Educators program by identifying short-, medium-, and long-term objectives. The logic model can also be used to inform evaluation efforts, although evaluators should also consult the LETRS for Early Childhood Educators Theory of Change (see below), which describes the rationale behind the model and how external factors are expected to affect the program’s implementation, output, and outcomes.

LETRS for Early Childhood Educators Program Logic Model



The LETRS for Early Childhood Educators Program Logic Model is divided into two main parts: process variables and outcome variables. Process variables are the inputs, activities, and outputs that constitute the essential components of a LETRS for Early Childhood Educators implementation. Most of the process variables can be measured using program data. The few exceptions, which are described next, should be measured using local data sources. Outcomes variables are the variables that the program is intended to change. They are grouped into three phases: short-, medium, and long-term. Variables within a phase are not necessarily expected to occur simultaneously. At present, the logic model does not describe the potential relationships between outcomes within a phase.

LETRS for Early Childhood Educators Inputs

Inputs describe the key additions necessary to implement LETRS for Early Childhood Educators. Inputs can be broadly divided into two variable categories: the program itself and the people involved in its use. In the case of LETRS for Early Childhood Educators, people involved in the program's use include educators and the implementation team. Each category of input variables is described in more detail next.

Program: LETRS for Early Childhood Educators is a professional learning course for early childhood educators who aim to improve literacy outcomes for students. It is typically completed within one year and provides educators with in-depth knowledge and tools they can use with any core curriculum. LETRS for Early Childhood Educators can be implemented using one of two models: the guided learning model and the self-directed model.

The guided learning model includes three components:

- Lexia LETRS Online Learning Platform
- Lexia LETRS for Early Childhood Educators Print Manual
- Lexia LETRS for Early Childhood Educators Professional Learning Sessions

The self-directed model consists of two components:

- Lexia LETRS Online Learning Platform
- Lexia LETRS for Early Childhood Educators Print Manual

The print manual consists of four units and aligns with the online learning platform. Each unit takes between two and eight hours to complete and contains Bridge to Practice activities to

promote classroom application. These activities take an additional 30 minutes to two hours depending on the unit. If the guided learning model is selected, the professional learning sessions can be delivered in two modes: live in person or live online. Six hours of training will be delivered after Units 1 and 2, and six hours of training delivered after Units 3 and 4.

Educators: LETRS for Early Childhood Educators is used by educators with various backgrounds, experience, knowledge, and skills. Compared to elementary educators, the experience, knowledge, and skill levels of early childhood educators apt to be more variable due to flexible credentialing, higher turnover rates, and a less standardized employment environment. The LETRS for Early Childhood Educators Program Logic Model assumes that each educator's unique constellation of characteristics will contribute to program implementation in different ways. Effective evaluations of LETRS for Early Childhood Educators should therefore seek to identify and potentially control for relevant educator characteristics.

Implementation team: The LETRS for Early Childhood Educators implementation team consists of course manager(s) together with school, district, and/or state leaders. The purpose of the implementation team is to ensure local support for the implementation of LETRS for Early Childhood Educators and collaboration with other Lexia team members. To reap the full benefit of LETRS for Early Childhood Educators, it is essential that the program is implemented with fidelity. At a minimum, the implementation team should equip participants to use the program in accordance with documents in [Managing Your LETRS Implementation](#).

LETRS for Early Childhood Educators Activities

The inputs identified previously are necessary but insufficient to achieve LETRS for Early Childhood Educators' intended outcomes. Achieving these outcomes is a process that depends upon activities that specify what each input variable *does* to produce the intended short-, medium- and long-term outcomes. Activities are sometimes conceptualized as action variables, as they capture the actions necessary to achieve desired outcomes.

Program: LETRS for Early Childhood Educators provides explicit details about the contents of reading instruction based on the science of reading. These include early literacy foundations, oral language connections, phonological foundations, and print knowledge. Embedded videos model how to deliver effective instruction and apply these concepts to classroom practice.

Throughout the LETRS for Early Childhood Educators program, Bridge to Practice opportunities allow teachers to apply the concepts to daily classroom instruction. The online Bridge to Practice exercises are designed to bolster transfer of knowledge to classroom practices. Explicit directions are provided, as well as downloadable tools for support.

Finally, LETRS for Early Childhood Educators populates dashboards with data on educators' participation. The program gives administrators the ability to monitor participation and knowledge gains.

Implementation team: The LETRS for Early Childhood Educators implementation team will:

- Secure funding to purchase LETRS for Early Childhood Educators licenses for educators.
- Develop and communicate the implementation plan and rationale to educators and other relevant stakeholders.
- Work with Lexia to roster educators into the LETRS Online Learning Platform and send onboarding communications to the educators.
- Distribute materials tied to LETRS for Early Childhood Educators implementation, including time for course completion, access to technology, and relevant local information that LETRS completion is intended to enhance, such as evidence-based curricula and valid, research-aligned assessments.

Once educators have begun LETRS for Early Childhood Educators, the implementation team will use the LETRS Online Learning Platform to monitor and support educator course completion. If the guided learning model is being used (which includes professional learning sessions), the implementation team will work with the Lexia Customer Success team to schedule professional learning sessions in accordance with their school/district calendar.

The implementation team should prioritize completion of the LETRS for Early Childhood Educators program by creating an enabling context for educators to have the time to complete the course and emphasizing the importance of doing so. The implementation team should be aware that a comprehensive evaluation of educator outcomes requires access to local data sources, such as school/district records. Data from the LETRS for Early Childhood Educators program only captures how well educators completed course components. Course completion is likely to contribute to positive outcomes for educators.

LETRS for Early Childhood Educators Course Structure

		Online	Reading	Bridge to Practice	Face-to-Face	Total
Unit 1	Session 1	50-55 mins	20-30 mins	20-30 mins		90-115 mins
	Session 2	60-75 mins	20-30 mins	15-30 mins		95-135 mins
	Total	2-2.5 hrs	0.5-1 hrs	0.5-1 hrs		3.5-4.5 hrs

Unit 2	Session 3	70-80 mins	20-30 mins	15-20 mins		105-130 mins
	Session 4	60-70 mins	20-30 mins	15-30 mins		95-140 mins
	Session 5	55-60 mins	20-30 mins	20-30 mins		95-120 mins
	Session 6.1	60 mins	20-30 mins			80-110 mins
	Session 6.2	70 mins		15-30 mins		85-100 mins
	Total	5-5.5 hrs	1.5-2 hrs	1-2 hrs		7.5-9.5 mins

Unit 3	Session 7	40-50 mins	20-30 mins	15-30 mins		75-110 mins
	Session 8.1	75 mins	20-30 mins			95-105 mins
	Session 8.2	60 mins		15-30 mins		75-90 mins
	Total	3-3.5 hrs	0.5-1 hrs	0.5-1 hrs		4-4.45 hrs

Unit 4	Session 9.1	30 mins	20-30 mins			50-80 mins
	Session 9.2	75 mins		30-45 mins		105-120 mins
	Session 10.1	50 mins	20-30 mins			85-115 mins
	Session 10.2	45 mins		30-45 mins		85-120 mins
	Total	3-3.5 hrs		1-1.5 hrs		17.5-18.5

Face-to-Face				2-days	
Course Total	13-15 hrs	3-5 hrs	3-5.5 hrs	12 hrs	32-37.5 hrs

Educators: Educators' core responsibilities include regular engagement with LETRS for Early Childhood Educators and completion of all components of the program. The primary output of LETRS for Early Childhood Educators is course completion. This is captured in terms of types of certificates earned, Bridge to Practice portfolios completed, and number of educators impacted by the course.

The table illustrates the course structure of LETRS for Early Childhood Educators, along with approximate amount of time required to complete components of the program under a guided learning model. Face-to-face sessions will ideally occur after educators have completed the corresponding online course content. The program begins with a pre-test and ends with a post-test that assesses knowledge of LETRS for Early Childhood Educators content.

Educators will receive one of two possible certificates after completing each unit in the online learning platform. A Certificate of Mastery is given to those who earn a unit score of 80% or higher, while a Certificate of Completion is given to those who earn a unit score of less than 80%. When finishing a unit, educators also complete Bridge to Practice portfolios which include classroom activities such as lesson plans, graph organizers, data checks, journal entries, student case studies and self- reflections on practice.

Measuring LETRS for Early Childhood Educators output requires access to LETRS program data, as well as local data sources. Currently, LETRS for Early Childhood Educators data show the number of educators who complete the program and the types of certificates they earned. However, the program data do not assess quality of the Bridge to Practice portfolios; this output must be assessed locally in accordance with applicable rules and regulations. Evaluators should keep in mind that the number and percentage of educators who complete LETRS for Early Childhood Educators may vary across schools/districts because of differing implementation plans, which may have ramifications for measuring program outcomes.

LETRS for Early Childhood Educators Short-Term Outcomes

Short-term outcomes are the most immediate, measurable impacts of LETRS for Early Childhood Educators. These proximal effects indicate expected progress toward the medium- and long-term outcomes and are appropriate targets for interim assessments of the program's effectiveness.

Educators: In the short term, LETRS for Early Childhood Educators is intended to increase educator knowledge of reading content and pedagogy based on the science of reading. Educators will learn:

- What the key components of early language and literacy instruction are
- Why intentional instruction can stimulate language, cognitive, social-emotional, and physical development
- How developmentally appropriate practice includes a balance of teacher-led and student-led activities
- How to interpret individual differences on assessments and differentiate instruction to meet student needs
- How to implement effective instructional routines and activities to assure that students are ready for kindergarten

Improvements in educator knowledge will be accompanied by an increase in educator literacy self-efficacy: Educators will believe they can deliver effective literacy instruction. These outcomes will also be accompanied by improved instructional practice. With minimal support from administrators, educators will make initial adjustments to their instruction to incorporate more evidence-based practices, such as explicit instruction on foundational reading skills.

LETRS for Early Childhood Educators Medium- and Long-Term Outcomes

Expected medium- and long-term outcomes of LETRS for Early Childhood Educators reflect the ultimate goals of the program. More distal in time, these outcomes should emerge only after short-term outcomes are observed.

Implementation team: As a medium-term outcome, LETRS for Early Childhood Educators is intended to improve a school's core preschool literacy program, providing a foundation for sustained school-level improvement in reading outcomes. With administrative support, educators will use their improved knowledge to advocate for and implement adequate assessments and evidence-based instructional interventions that meet the needs of all students. They will be better able to deliver comprehensive, integrated language and literacy instruction as defined by standards and research for preschoolers.

Educators: In the long term, LETRS for Early Childhood Educators is intended to improve student early literacy skills. Evaluators should consider assessments only after educators have

completed the program and provided instruction to their students in all content areas. For example, as print knowledge is not the focus of the course until Unit 4, it may not make sense to measure change in print knowledge instruction prior to Unit 4.

Educator well-being is a broad construct that encompasses measures of burnout, stress, job satisfaction, and job commitment. It is typically considered a distal outcome affected though changes in self-efficacy but may also require improvements to student reading performance. Improvements in educator well-being will are typically expected to lag improvements in student reading performance.

It is important to emphasize that short- and medium-term outcomes are considered necessary to improve long-term outcomes. That is, improved student reading performance and educator well-being depends on educators improving their knowledge, instructional practice and self-efficacy, and schools improving their core preschool literacy program. To the extent that short- and medium-term outcomes are not observed, long-term outcomes are likely to be attenuated. That said, the intensive and foundational nature of LETRS for Early Childhood Educators may result in small but long-lasting benefits in long-term outcomes. Pairing LETRS for Early Childhood Educators with LETRS for Administrators may improve results.

LETRS for Early Childhood Educators Theory of Change

The LETRS for Early Childhood Educators Theory of Change describes how LETRS for Early Childhood Educators is hypothesized to work in a local or state context. It is intended to be used with the LETRS for Early Childhood Educators Program Logic Model to aid evaluators in the development of an informative research plan.

For experimental research, evaluators should use the LETRS for Early Childhood Educators Program Logic Model and Theory of Change to create an *evaluation logic model* that contrasts the use of LETRS with a counterfactual condition in which LETRS for Early Childhood Educators—or a component of LETRS for Early Childhood Educators—is not used. It is important for evaluators to develop an evaluation logic model to strengthen the validity of their research. Studies that do not measure implementation, account for rival theories of change, or address possible sources of treatment variation due to external factors have a limited ability to promote accurate inferences about the efficacy of a given program (Peck, 2020).

Other evaluation strategies, such as correlational and qualitative research, may also wish to reference the Logic Model and Theory of Change to identify program components or mechanisms that warrant special consideration. For example, it may be informative to describe the local context of a LETRS for Early Childhood Educators administration, or richly detail how a single input was implemented.

Program Administration

LETRS for Early Childhood Educators is intended to be administered by organizations such as school districts with an interest in the professional development of educators. It is expected that organizations will use LETRS for Early Childhood Educators to remediate historical shortcomings in teaching preparation in the science of reading (e.g., Brady et al., 2009; Drake & Walsh, 2020; Greenberg et al., 2013; Joshi et al., 2009; Malatesha Joshi et al., 2009). Organizations that use LETRS for Early Childhood Educators will have different contexts. They may differ in their missions and structures, resources and expenses, policies and purposes, and overall capacity. These organizational differences are likely to influence the implementation of LETRS for Early Childhood Educators and, by extension, program outputs and outcomes (e.g., Højlund, 2014).

Program Components

The program components of LETRS for Early Childhood Educators consist of LETRS for Early Childhood Educators inputs and the activities that facilitate their use. There are two implementation models of LETRS for Early Childhood Educators: the guided learning model (which includes the online learning platform, the print manual, and live online or in-person sessions) and the self-directed model (which includes the online learning platform and the print manual). LETRS for Early Childhood Educators content is divided into four units intended to address critical knowledge about reading such as phonology and print knowledge which may not be taught adequately in educator preparation programs (Bos et al., 2001; Fielding-Barnsley, 2010; Moats, 1994, 2009, 2014; Oakhill et al., 2019; Schuele et al., 2011). The rationale for emphasizing this content is that certain reading skills are not acquired well by children unless they are explicitly taught (Olson et al., 2014; Seidenberg, 2013). LETRS for Early Childhood Educators aims to provide educators the background knowledge necessary for teaching these skills, which is a research-driven objective (e.g., Lyon & Weiser, 2009; Piasta et al., 2009).

Given the purpose and design of LETRS for Early Childhood Educators, it is expected that LETRS for Early Childhood Educators implementation teams will promote use of all components of their selected implementation model and adhere to the LETRS for Early Childhood Educators implementation guides, ultimately leading to the completion of all four units. To achieve these ends, the implementation team is expected to communicate the program adoption rationale and implementation plan to participating educators. In addition, they are expected to work with Lexia to roster participants into the LETRS Online Learning Platform, inform participants that they have been enrolled, and distribute all resources needed for course completion, including access to technology and local curricular materials. In the guided learning model, they are also expected to work with Lexia to schedule professional learning sessions.

Once participants have begun LETRS for Early Childhood Educators, the implementation team is expected to monitor and support educators as they work towards course completion. It is assumed that school systems will also aim to have the enrolled educators successfully complete the program. Whenever possible, evaluators should describe the extent to which program is being implemented in accordance with components of its Logic Model.

Outputs

The primary output of LETRS for Early Childhood Educators is course completion. Course completion includes type of LETRS for Early Childhood Educators certificate earned, completion of Bridge to Practice portfolios, and number of educators trained. These outputs indicate the extent to which requisite activities for improving educator knowledge, instruction and self-efficacy have taken place.

The course certificate and Bridge to Practice portfolios are necessary but insufficient outputs for observing program outcomes. If they are not obtained or completed with fidelity, there should be little expectation that improved outcomes will be observed. For most evaluations, LETRS for Early Childhood Educators unit post-test scores can serve as proxies for certificates because a certificate is always provided for successful course completion. As previously mentioned, scores of 80% or higher result in a Certificate of Mastery while scores lower than 80% result in a Certificate of Completion. The quality of LETRS for Early Childhood Educators Bridge to Practice portfolios is not currently assessed within the online learning platform. Rather, educators are simply asked to attest to their completion of the activities that comprise

the Bridge to Practice portfolios. Evaluators interested in understanding the Bridge to Practice portfolios should plan to collect the relevant data independently.

The number of educators who complete LETRS for Early Childhood Educators is a key output for improving student outcomes when measured at higher levels than educators (e.g., schools, districts). Organizations will vary in the extent to which they enroll their educators in LETRS for Early Childhood Educators. To observe outcomes at higher levels than individual educators, a greater number of educators may need to complete the program. For example, it is unlikely that one or two educators can improve average early literacy skills for an entire preschool, even if they earned a Certificate of Mastery. Similarly, outcomes such as improved average early literacy scores may require changes to school infrastructure and coordinated efforts among school personnel, suggesting benefits of administrators completing [LETRS for Administrators](#) leading to training of more educators. Evaluation efforts should align with local implementation plans, which may or may not include all educators within an organization.

Outcomes

LETRS for Early Childhood Educators is hypothesized to improve educator knowledge, reading self-efficacy, and instructional practice as proximal outcomes. Change in these proximal outcomes is hypothesized to improve core literacy programs—an intermediate outcome. Improvements in core reading programs are in turn hypothesized to improve distal outcomes, including student early literacy performance and educator well-being.

Proximal outcomes: LETRS for Early Childhood Educators is designed to improve educator knowledge of reading, literacy self-efficacy, and reading instructional practice.

- **Knowledge:** LETRS for Early Childhood Educators is intended to help educators understand early literacy and language, the processes involved, and the sequences by which these skills develop. Educators should also build an understanding of strategies and learning activities that are engaging and effective for preschools and how assessment procedures and data can be used to plan and implement instruction.
- **Literacy self-efficacy:** Literacy self-efficacy describes the self-referential judgments educators make about their capability for teaching literacy (e.g., Cantrell & Hughes, 2008; Tschannen-Moran & Johnson, 2011). LETRS for Early Childhood Educators is hypothesized to improve literacy self-efficacy, which in turn should have a bidirectional relationship with the quality of classroom processes (Zee & Koomen, 2016).

- **Instructional practice:** LETRS for Early Childhood Educators is expected to improve the ability of educators to deliver instruction that is aligned with the science of reading, such as explicit instruction in early literacy skills.

Intermediate outcomes: LETRS for Early Childhood Educators is intended to improve the core literacy program – or primary instructional tool – used to teach reading to preschoolers. After completing the program, educators will be better equipped to identify and implement assessments and curricular materials aligned with the science of reading. However, organizational characteristics may hinder them from translating their knowledge into practice. For example, not all schools use curricula that are aligned with the science of reading and not all school leaders will support changes to a school’s infrastructure. After completing LETRS for Early Childhood Educators, educators should be able to identify and advocate for curricular materials informed by reading research. However, the extent to which they can adjust their instruction may be limited by availability of curricular material and support from school leaders. In a similar way, schools with a solid core program will have curricular materials aligned with LETRS for Early Childhood Educators and thus have less need to grow.

For evaluation purposes, an increase in the number of educators who complete LETRS for Early Childhood Educators, along with completion of LETRS for Administrators by school leaders, should result in observed changes in core programming. Many aspects of core programming require a coordinated effort by school personnel (e.g., designing and implementing a research-based screening intervention protocol). Schools are likely to require both a critical mass of educators who complete LETRS for Early Childhood Educators and administrative support to show improvements in core programming.

Distal outcomes: If the proximal and intermediate outcomes of LETRS for Early Childhood Educators are observed, student reading outcomes and educator well-being should also improve.

Context and Population

The implementation, output and outcomes of LETRS for Early Childhood Educators will be affected by external factors, such as policy context and populations (e.g., types of educators). Though it is impractical to identify each external factor that could influence use and impact of LETRS for Early Childhood Educators, evaluators should be cognizant of factors with a high likelihood of affecting impact:

Policy context: The policy context will influence use and impact of LETRS for Early Childhood Educators. For example, many states have policies that require educators to receive professional development in the science of reading (e.g., Gearin et al., 2018, 2021). If LETRS for Early Childhood Educators is used to satisfy such a requirement, program implementation may be affected by other aspects of the policies, such as external pressures or incentives (e.g., teacher evaluation frameworks, student retention policies), required timelines for course completion, and use of the program beyond the intended audience. These factors may facilitate or hinder implementation of LETRS for Early Childhood Educators implementation and have corresponding effects on program outputs and outcomes.

School characteristics: The use and impact of LETRS for Early Childhood Educators will also be affected by school characteristics. Prior to use of the program, schools will differ in the extent to which they use curricular materials that are aligned with the science of reading and the extent to which they have effectively implemented an effective Multi-Tiered System of Support (e.g., Berkeley et al., 2020; Mellard et al., 2010). Thus, schools are likely to vary in the extent to which their members benefit from training with LETRS for Early Childhood Educators.

Educator characteristics: Analogous to school characteristics, educator characteristics will also affect use and impact of LETRS for Early Childhood Educators. Prior to using the program, educators will differ in characteristics such as background knowledge, years of experience, motivation, self-efficacy, instructional practices and decision-making authority. These differences will likely affect use and impact of LETRS for Early Childhood Educators (e.g., Cunningham et al., 2004; Piasta et al., 2009; Tschannen-Moran & Johnson, 2011). For example, educators with a strong background in the science of reading and corresponding instructional practices theoretically have less room to grow from the program, while educators with low motivation would be less inclined to complete the program with fidelity.

Student characteristics: Finally, student characteristics will likely influence the impact and use of LETRS for Early Childhood Educators. Though research on potential moderators of professional development's impact on student reading is still emerging (Didion et al., 2020), student characteristics are likely to have implications for evaluation efforts (e.g., Baird & Pane, 2019). Characteristics such as baseline reading level, language status and disability status may influence both the likelihood and magnitude of positive effects of LETRS for Early Childhood Educators on student reading because these characteristics predict student reading growth even in the absence of the program.

Conclusion

The primary purpose of the LETRS for Early Childhood Educators Program Logic Model is to guide planning and implementation of the program by identifying short-, medium-, and long-term goals related to implementation. The LETRS for Early Childhood Educators Theory of Change describes the rationale behind the model, as well as how factors outside of the program are expected to affect the program's implementation, output and outcomes. For experimental research, it is recommended that evaluators use both the Logic Model and Theory of Change to create an evaluation logic model that contrasts use of LETRS for Early Childhood Educators with a counterfactual condition in which the program — or a component of the program — is not used. These practices will promote the validity of the research findings.

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