

RESEARCH

# Lexia Aspire® Logic Model

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## Aspire Program Logic Model

Nationwide, only about 31% of eighth grade students are reading at a proficient level. Educators have the single greatest in-school impact on student learning, but according to the National Council of Teacher Quality, only 51% of higher education teacher preparation programs include content on reading science. Lexia Aspire® Professional Learning is grounded in the science of reading and designed to support all upper elementary and middle school teachers, including classroom teachers, ELA teachers, content-area teachers, interventionists, speech-language pathologists, teacher’s aides, and paraprofessionals. It is a flexible, self-paced digital solution that empowers educators to accelerate literacy skills for students in grades 4–8 by providing personalized instruction for adolescent readers who have varied skill profiles.

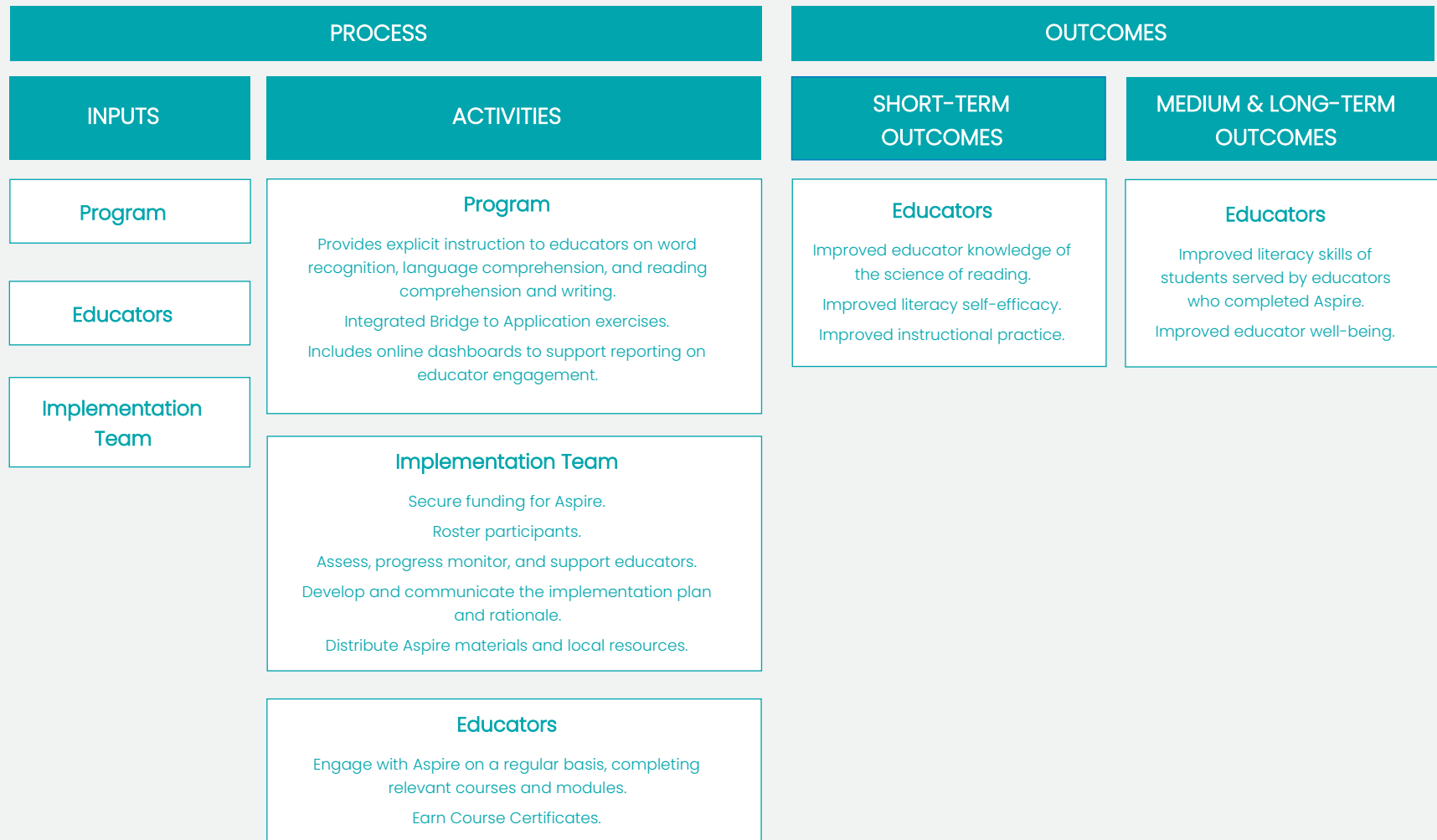
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Aspire is a professional learning course grounded in the science of reading and designed to support all upper elementary and middle school teachers.

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The Aspire Program Logic Model is a visual representation of how Aspire implementation is expected to affect educators, schools, and students. 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 Aspire planning and implementation efforts by identifying short, medium, and long-term goals related to program implementation. The logic model can also be used to inform evaluation efforts, but evaluators should also develop a theory of change that describes how factors outside of Aspire are expected to affect the program’s implementation, output, and outcomes.

# Aspire Program Logic Model



*The Aspire Program Logic Model* is divided into two main parts: process variables and outcome variables. The process variables are the inputs, activities, and outputs that constitute the essential components of an Aspire implementation. Most of the process variables can be measured using Aspire program data. The few exceptions, which are described below, should be measured using local data sources. The outcomes are the variables that Aspire is intended to change. Outcome variables are grouped into three phases: short-term, medium-term, 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.

## Aspire Inputs

Inputs describe the key components necessary to implement Aspire. Inputs can be broadly divided into two variable categories: the program itself, and the people involved in its use. In the case of Aspire, people include educators, a school/district implementation team, and implementation support. Each category of input variable is described in more detail below.

**Program.** Aspire is a professional learning course for upper elementary and middle school educators who aim to improve literacy outcomes for students. It provides educators with in-depth knowledge and tools that they can use with any core curriculum. The program is structured as follows:

- Two introductory prerequisite courses
- Three domains with ten courses each
- Knowledge checks at the start of each domain
- Domain prerequisite courses
- Two additional courses focusing on assessments
- “Check for Understanding” quizzes at the end of each course
- Bridge to Application and classroom resources in each course

Aspire licenses are currently available in one-year and two-year durations. Aspire courses take about one hour to complete. It is estimated that a typical user will spend about 3 hours on the Introductory material (i.e., one hour for each course plus about one hour for the Bridge to Application Resources). They will then have access to the Word Reading, Language Comprehension, and Reading Comprehension & Writing Domain courses, each of which takes between 11.25 and 15 hours to fully complete. However, completion time will vary substantially

across implementations and educators because districts will typically customize the learning pathway for each cohort.

**Educators.** Aspire is used by educators working with students in upper elementary and middle school. Educators bring various levels of experience, knowledge, and skill to the process of implementing the program. The Aspire Program Logic Model assumes that each educator's unique constellation of personal characteristics will contribute to program implementation and program outcomes in different ways. Effective evaluations of Aspire should seek to identify and potentially control for relevant educator characteristics.

**Implementation Team.** The Aspire Implementation Team consists of course manager(s) and school, district, and/or state leaders. The purpose of the Aspire Implementation team is to ensure local support for Aspire implementation and collaboration with Lexia team members. To reap the full benefit of Aspire, it is essential that the Aspire Team implements Aspire with fidelity. At a minimum, the Aspire Implementation Team should equip participants to use Aspire in accordance with Aspire implementation guidance. Lexia also offers role-specific pathway guidance and Professional Learning Community (PLC) guide companions.

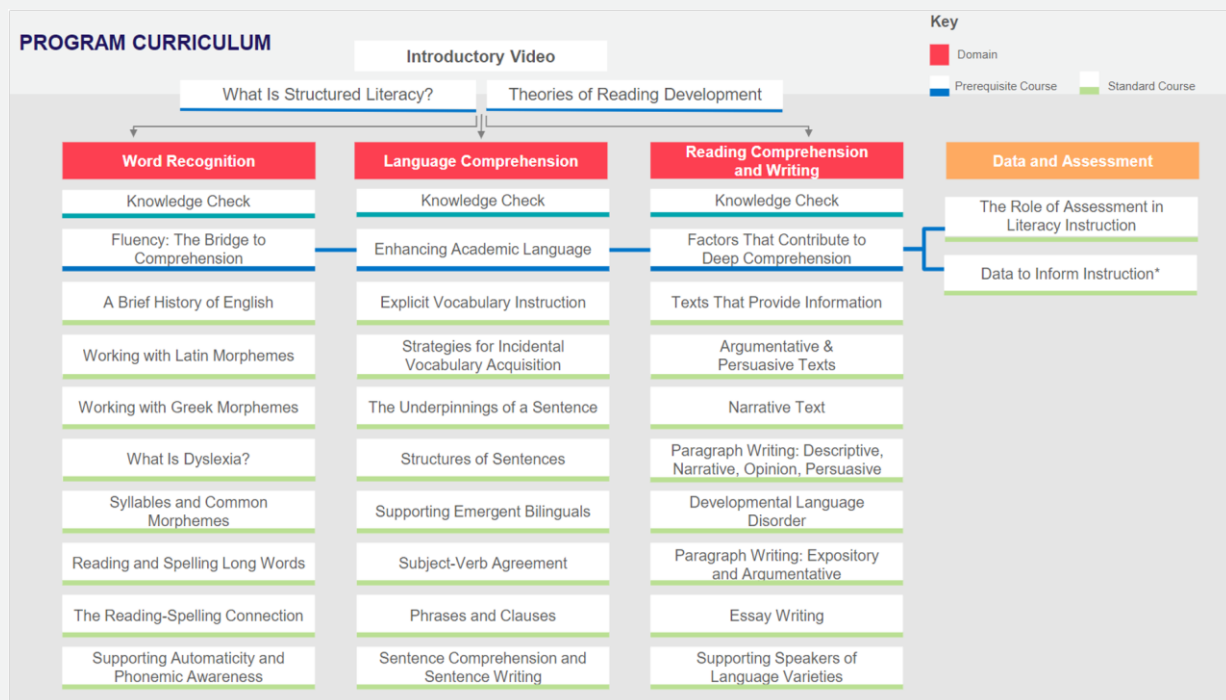
## Aspire Activities

The inputs identified above are necessary but insufficient to achieve Aspire's intended outcomes; achieving these outcomes is a process that depends upon specific activities. These activities specify what each input variable *does* to produce the intended short- and long-term outcomes. Activities are sometimes conceptualized as action variables, as they capture the actions necessary to achieve desired outcomes.

**Program.** Lexia Aspire is based on the principles of the science of reading and Lexia's expertise in literacy. The program is designed to address educators' needs for improving student achievement by helping educators support learners in how to read, comprehend, and articulate their ideas across various subjects. To accommodate educators' busy schedules, Aspire provides an on-demand, self-paced digital professional learning program that focuses on training for Word Recognition, Language Comprehension, Reading Comprehension, and Writing. To start, all participants complete the prerequisite requirements. Educators can then complete the domains and course sequence(s) that their district or organization has selected. There are a total of three domains, and currently, 31 courses. Additionally, there are PLC guides

and modeling videos embedded in the program for stronger classroom application. Throughout Aspire, Bridge to Application opportunities allow teachers to apply course concepts and best practices to daily classroom instruction. Explicit directions are provided as well as downloadable tools for support. Aspire also consists of 'Knowledge Check' at the start of each domain and 'Check for Understanding' quizzes after every course.

Finally, Aspire populates dashboards with data about educators' participation. The program gives participants and administrators the ability to measure participation and knowledge and the flexibility for teachers to have agency over their learning.



## Aspire Program Curriculum

**Implementation Team.** To implement Aspire, a local Aspire Implementation team will:

- Secure funding to purchase Aspire licenses for educators.
- Develop and communicate the implementation plan and rationale to educators and other relevant stakeholders.
- Roster participants into the Aspire Online Learning Platform and send onboarding communications to the participants.
- Distribute Aspire materials and local resources, including time for course completion, access to technology, and any relevant local materials that Aspire-completion is intended to enhance, such as valid, reliable, and research-aligned assessments and evidence-based curricular programs.

Once educators have begun Aspire, the Aspire Implementation Team will use the Aspire Online Learning platform to assess, progress monitor, and support educator course completion. The Aspire team should give careful thought to the implementation of program activities to maximize the extent to which educators complete the intended Aspire components. Generally, completing more courses is expected to lead to greater knowledge gains which in turn has greater potential to influence classroom instruction. However, Aspire allows customers to set their own learning objectives and pathways. Regardless of the local learning objectives, it is recommended that the local Aspire implementation team prioritize the completion of Aspire and create an enabling context for educators by providing the time and a rationale for completing the relevant courses. For example, creating Aspire-focused professional learning communities and having educators regularly meet to discuss their progress and learning may improve course completion and the translation of learning into practice.

Program implementers and evaluators should note that comprehensively measuring program activities requires access to local data sources, such as school or district records. Aspire program data will only describe the extent to which rostered participants completed Aspire courses. Course completion is important because positive outcomes depend on educators successfully completing Aspire courses.

**Educators.** Educators' core responsibilities include regular engagement with Aspire and completing all components of the selected courses. The primary output of Aspire is course completion, which can be described by the number of Aspire certificates earned (or courses completed) and the number and type(s) of educators impacted by the course. Scoring 80% or

higher on the “Check for Understanding” quizzes earns participant educators a certificate of proficiency for that course, while scores below 80% receive a completion certificate. As mentioned, users can return to courses in the future. However, they cannot retake Checks for Understanding. Evaluators should consider that the number of Aspire-trained educators may vary across schools and districts because of differing implementation plans and completion rates, which may have ramifications for program outcomes.

## Aspire Short-Term Outcomes

Short-term outcomes are the most immediate, measurable impacts of Aspire. These proximal effects indicate progress towards the long-term outcomes of Aspire and are appropriate targets for interim assessments of program impact and efficacy.

**Educators.** In the short-term, Aspire is intended to increase educator knowledge of reading content and pedagogy. Generally, educators will improve their knowledge in three domains:

- Word recognition
- Language comprehension
- Reading comprehension and writing skills

Knowledge gains in these areas are expected to help educators see the value of evidence-based reading interventions grounded in the science of reading, such as Lexia’s PowerUp. It will also prepare all educators to weave literacy skills and strategies into their instruction so they can support learners to read, comprehend, and articulate their ideas across various subjects. It is important to note that gains in educator knowledge are expected to vary across educators in accordance with their professional roles and background knowledge. Further, they are expected to occur in proportion to the number of courses that are successfully completed.

Improvements in educator knowledge will be accompanied by an increase in educator literacy self-efficacy. Educators will believe they can better deliver effective reading instruction as a result of their learning.

Improvements in educator knowledge and literacy self-efficacy will often be accompanied by improvements to instructional practice through the incorporation of course concepts. That



said, the degree to which instruction changes is expected to depend on improvements in educator knowledge and self-efficacy, as well as the local context. For example, educators who only complete five courses may learn less and change instruction less than educators who complete a greater number of courses. Similarly, educators in organizations that support their learning and its translation into practice are more likely to improve their instruction than educators in districts that take a more “hands off” approach or that do not set expectations about how Aspire learning should inform change to instruction.

## **Aspire Medium-Term and Long-Term Outcomes**

Expected long-term outcomes of Aspire reflect ultimate goals of the program. More distal in time, medium-term and long-term outcomes may emerge only after short-term outcomes are observed.

**Educators.** Aspire is intended to improve student literacy and educator well-being. Improvements in student literacy are expected to be observed across the three domains in proportion to the amount of coursework completed in each. 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. Long-term outcomes are expected to be contingent upon and proportional to change in the short-term outcomes. In other words, improved student reading and educator well-being may depend on educators first improving their knowledge, self-efficacy, and instructional practice. To the extent that short-term outcomes are not observed, medium-term and long-term outcomes may be attenuated. That said, the intensive and foundational nature of Aspire content is hoped to result in small but long-lasting benefits to even distal outcomes.

## Aspire Theory of Change

The Aspire theory of change describes how Aspire is hypothesized to work in a local or state context. It is intended to be used with the Aspire Program Logic Model to aid evaluators in the development of an informative research plan.

For experimental research, it is recommended evaluators use the Aspire Program Logic Model and Theory of Change to create an *evaluation logic model* that contrasts the use of Aspire with a counterfactual condition in which Aspire, or a component of Aspire, is not used. It is important for evaluators to develop an evaluation logic model based on the Aspire Program Logic Model and the Aspire Theory of Change to promote 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 wish to reference the Aspire Program Logic Model and the Aspire 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 an Aspire administration, or richly describe how a single input was implemented.

## Program Administration

Aspire is intended to be administered by organizations with an interest in the professional development of educators, such as education agencies. It is expected that organizations will use Aspire 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 Aspire will have different organizational contexts. They may differ in their missions and structures; resources and expenses; policies and purposes; administration plans; and overall capacity. These differences in organizational context are expected to influence the use and implementation of Aspire, and by extension, program outputs and outcomes (e.g., Højlund, 2014).

The program components of Aspire consist of Aspire inputs and the activities that facilitate their use. Educators progress through required introductory courses and optional domain courses in the online platform. The Aspire courses are intended to address critical knowledge about reading that is often not sufficiently taught in educator preparation programs, including language comprehension (Bos et al., 2001; Cervetti et al., 2020; Fielding-Barnsley, 2010; Moats, 1994, 2009, 2014; Oakhill et al., 2019; Schuele et al., 2011). The rationale for emphasizing this content is that knowledge and language drive reading comprehension in the later grades while basic skills remain important, especially for students with reading difficulties (Cervetti et al., 2020; Pearson et al., 2020). Aspire aims to provide educators the background knowledge necessary for teaching these skills, which is a research-driven objective (e.g., Cervetti et al., 2020; Lyon & Weiser, 2009; Pearson et al., 2020; Piasta et al., 2009).

Given the purpose and design of Aspire, it is expected that the local Aspire Implementation Teams will promote the use of adherence to Aspire implementation guidance documents, and ultimately, the completion of relevant courses. To achieve these ends, the Aspire Implementation Team is expected to communicate the implementation plan and rationale for adopting the program to participating educators. They are expected to roster participants into the Aspire Online Learning Platform, and inform participants that they have been enrolled, and distribute all resources needed for course completion, including time, access to technology, and any local curricular materials.

Once participants have begun Aspire, the Aspire Implementation Team is expected to assess, progress monitor, and support educator course completion to ensure that Aspire is implemented with fidelity. It is assumed that school systems will aim to have all enrolled educators complete Aspire in accordance with local objectives. To the extent possible, evaluators should describe the extent to which program activities occurred in accordance with the publisher's assumptions and expectations.

## Outputs

The primary output of Aspire is course completion. Course completion can be described in terms of the number of Aspire courses completed and educators trained. These outputs indicate the extent to which requisite activities for improving knowledge, reading self-efficacy, and instruction have taken place.

Course completion is a necessary but insufficient output for observing program outcomes. If courses are not completed with fidelity, there should be little expectation that improved outcomes will be observed. The number of courses completed is expected to vary across educators. Program outcomes are expected to improve in proportion to the number of courses completed. Similarly, the number of educators who complete Aspire is a necessary but insufficient output for improving outcomes that are measured at higher levels than the educator. Organizations will vary in the extent to which they enroll their educators in Aspire. To observe outcomes in units of analysis larger than the classroom (e.g., school, district, or state), a greater number of educators may need to complete Aspire. For example, it is unlikely that a single educator can improve average reading achievement for their entire school even if they successfully complete Aspire. Similarly, some outcomes, such as an improved core reading instruction, may require a coordinated effort among school personnel and changes to school infrastructure and resources, suggesting a benefit to training a greater number of educators in Aspire. Evaluation efforts should correspond to local implementation plans, which may or may not include all educators within an organization.

## Outcomes

Aspire is hypothesized to improve educator knowledge, reading self-efficacy, and instructional practice as proximal outcomes. Change in these proximal outcomes is hypothesized to improve distal outcomes, including student literacy and educator well-being.

**Proximal Outcomes.** Aspire is designed to improve educator knowledge of reading content, reading self-efficacy, and reading instructional practice.

- **Knowledge:** Aspire improves knowledge of word recognition, language comprehension, and writing and reading comprehension. In so doing, it equips educators with the knowledge and skills they need to identify evidence-based strategies derived from the science of reading to a classroom of students who have varying levels of literacy competencies.
- **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). Aspire is hypothesized to improve literacy self-efficacy. Literacy self-efficacy is in turn theorized to have a bidirectional relationship with the quality of classroom processes (Zee & Koomen, 2016).

- *Instructional Practice*: Aspire is expected to improve the ability of educators to weave literacy skills and strategies into their instruction so they can support learners to read, comprehend, and articulate their ideas across various subjects. Improvements in instruction will be proportional to improvements in knowledge and also be influenced by local contextual factors, such as the availability of curricular resources.

**Distal Outcomes.** If the proximal outcomes of Aspire are observed, student literacy outcomes and educator well-being should also improve.

- *Student Literacy Outcomes*: Aspire is intended to improve student literacy outcomes through primary improvements to educator knowledge. That said, if evaluators are primarily interested in improving student outcomes, they should consider implementing Aspire in conjunction with Aspire-aligned student-facing products, such as PowerUp and Language! Live. Causal effects may not be uniquely attributable to Aspire in such a study, but the logic model suggest this is a promising approach to improving student outcomes given that Aspire is primarily focused on improving educator knowledge.
- *Educator Well-Being*: Aspire is also hypothesized to improve educator well-being over the long-term. Educator well-being is thought to be bidirectionally related to educator self-efficacy, the quality of classroom processes, and student academics (Zee & Koomen, 2016). Because Aspire is expected to improve classroom processes (e.g., reading instruction), literacy self-efficacy, and student reading performance, it is also expected that Aspire has the potential to improve educator well-being. Educator well-being is a broad construct, but is often operationalized with measures of job commitment, job satisfaction, and retention, or reduced levels of stress and attrition (Zee & Koomen, 2016). As is the case with student reading outcomes, the effect of Aspire on well-being is expected to be modest and dependent on short-term and medium-term outcomes.

## Context and Population

The administration, implementation, output, and outcomes of Aspire will be affected by external factors, such as the context (e.g., locale, time period) and population (e.g., type of educator, student grade level) in which they are observed. Though it would be impractical to identify every external factor that could influence the use and impact of Aspire, evaluators should be cognizant of factors with a high likelihood of affecting impact:

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

**Educator Characteristics.** Educator characteristics will also affect the use and impact of Aspire. Prior to using Aspire, educators will differ in characteristics such as background knowledge, motivation, self-efficacy, instructional ability, decision-making authority, years of experience, and setting. These differences will likely affect the use and impact of Aspire (e.g., Cunningham et al., 2004; Piasta et al., 2009; Tschannen-Moran & Johnson, 2011). For example, educators with initially high ratings of background knowledge, self-efficacy, and instructional practice theoretically have less room to grow from Aspire; and educators with low levels of motivation may be less likely to complete the program with fidelity.

**School Characteristics.** Just as educator characteristics will affect the use and impact of Aspire, so too will school characteristics. Prior to using Aspire, schools will differ in the extent to which they use curricular materials that are aligned with scientific research, 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). These and other between-school differences imply that schools will differ in the extent to which they and the individuals within them stand to benefit from Aspire.

**Student Characteristics.** Finally, student characteristics will likely influence the impact and use of Aspire. Though research on the potential moderators of professional development's impact on student reading is still emerging (Didion et al., 2020), certain characteristics likely have implications for evaluation efforts (e.g., Baird & Pane, 2019). It is expected that student characteristics such as baseline reading level, disability status, grade level, and language status may influence both the likelihood and magnitude of positive effects on student reading because they predict student growth in reading even in the absence of Aspire.

## Conclusion

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

## References

- Baird, M. D., & Pane, J. F. (2019). Translating standardized effects of education programs into more interpretable metrics. *Educational Researcher*, 48(4), 217–228.  
<https://doi.org/10.3102/0013189X19848729>
- Berkeley, S., Scanlon, D., Bailey, T. R., Sutton, J. C., & Sacco, D. M. (2020). A snapshot of RTI implementation a decade later: New picture, same story. *Journal of Learning Disabilities*, 53(5), 332–342.  
<https://doi.org/10.1177/0022219420915867>
- Bills, B. (2020). *Teacher Knowledge, Beliefs, and Instructional Practices in Early Literacy: A Comparison Study* [University of Nebraska].  
<https://www.proquest.com/openview/0501ed674de721ae125ca0fc95ac0983/?pq-origsite=gscholar&cbl=18750&diss=y>
- Bos, C., Mather, N., Dickson, S., Podhajski, B., & Chard, D. (2001). Perceptions and knowledge of preservice and inservice educators about early reading instruction. *Annals of Dyslexia*, 51(1), 97–120.  
<https://doi.org/10.1007/s11881-001-0007-0>
- Brady, S., Gillis, M., Smith, T., Lavalette, M., Liss-Bronstein, L., Lowe, E., North, W., Russo, E., & Wilder, T. D. (2009). First grade teachers' knowledge of phonological awareness and code concepts: Examining gains from an intensive form of professional development and corresponding teacher attitudes. *Reading and Writing*, 22(4), 425–455.  
<https://doi.org/10.1007/s11145-009-9166-x>
- Cantrell, S. C., & Hughes, H. K. (2008). Teacher efficacy and content literacy implementation: An exploration of the effects of extended professional development with coaching. *Journal of Literacy Research*, 40(1), 95–127.  
<https://doi.org/10.1080/10862960802070442>
- Cervetti, G. N., Pearson, P. D., Palincsar, A. S., Afflerbach, P., Kendeou, P., Biancarosa, G., ... & Berman, A. I. (2020). How the reading for understanding initiative's research complicates the simple view of reading invoked in the science of reading. *Reading Research Quarterly*, 55, S161–S172.
- Cunningham, A. E., Perry, K. E., Stanovich, K. E., & Stanovich, P. J. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of Dyslexia*, 54(1), 139–167.  
<https://doi.org/10.1007/s11881-004-0007-y>



- Didion, L., Toste, J. R., & Filderman, M. J. (2020). Teacher Professional Development and Student Reading Achievement: A Meta-Analytic Review of the Effects. *Journal of Research on Educational Effectiveness*, 13(1), 29–66. <https://doi.org/10.1080/19345747.2019.1670884>
- Drake, G., & Walsh, K. (2020). *Teacher Prep Review: Program Performance in Early Reading Instruction*. National Council on Teacher Quality. [www.nctq.org/publications/2020-Teacher-Prep-Review-Program-Performance-in-Early-Reading-Instruction](http://www.nctq.org/publications/2020-Teacher-Prep-Review-Program-Performance-in-Early-Reading-Instruction).
- Fielding-Barnsley, R. (2010). Australian pre-service teachers' knowledge of phonemic awareness and phonics in the process of learning to read. *Australian Journal of Learning Difficulties*, 15(1), 99–110. <https://doi.org/10.1080/19404150903524606>
- Gearin, B., Petscher, Y., Stanley, C., Nelson, N. J., & Fien, H. (2021). Document analysis of state dyslexia legislation suggests likely heterogeneous effects on student and school outcomes. *Learning Disability Quarterly*, 073194872199154. <https://doi.org/10.1177/0731948721991549>
- Gearin, Turtura, J., Kame'enui, E. J., Nelson, N. J., & Fien, H. (2018). A multiple streams analysis of recent changes to state-level dyslexia education law. *Educational Policy*, 089590481880732. <https://doi.org/10.1177/0895904818807328>
- Greenberg, J., McKee, A., & Walsh, K. (2013). Teacher Prep Review: A Review of the Nation's Teacher Preparation Programs. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2353894>
- Højlund, S. (2014). Evaluation use in the organizational context – changing focus to improve theory. *Evaluation*, 20(1), 26–43. <https://doi.org/10.1177/1356389013516053>
- Joshi, R., Binks, E., Graham, L., Ocker-Dean, E., Smith, D. L., & Boulware-Gooden, R. (2009). Do textbooks used in university reading education courses conform to the instructional recommendations of the National Reading Panel? *Journal of Learning Disabilities*, 42(5), 458–463. <https://doi.org/10.1177/0022219409338739>
- Lyon, G. R., & Weiser, B. (2009). Teacher knowledge, instructional expertise, and the development of reading proficiency. *Journal of Learning Disabilities*, 42(5), 475–480. <https://doi.org/10.1177/0022219409338741>

- Malatesha Joshi, R., Binks, E., Hougen, M., Dahlgren, M. E., Ocker-Dean, E., & Smith, D. L. (2009). Why elementary teachers might be inadequately prepared to teach reading. *Journal of Learning Disabilities, 42*(5), 392–402. <https://doi.org/10.1177/0022219409338736>
- Mellard, D., McKnight, M., & Jordan, J. (2010). RTI tier structures and instructional intensity. *Learning Disabilities Research & Practice, 25*(4), 217–225. <https://doi.org/10.1111/j.1540-5826.2010.00319.x>
- Moats, L. C. (1994). The missing foundation in teacher education: Knowledge of the structure of spoken and written language. *Annals of Dyslexia, 44*(1), 81–102. <https://doi.org/10.1007/BF02648156>
- Moats, L. C. (2009). Still wanted: Teachers with knowledge of language. *Journal of Learning Disabilities, 42*(5), 387–391. <https://doi.org/10.1177/0022219409338735>
- Moats, L. C. (2014). What teachers don't know and why they aren't learning it: Addressing the need for content and pedagogy in teacher education. *Australian Journal of Learning Difficulties, 19*(2), 75–91. <https://doi.org/10.1080/19404158.2014.941093>
- Oakhill, J., Cain, K., & Elbro, C. (2019). Reading comprehension and Reading comprehension difficulties. In D. A. Kilpatrick, R. M. Joshi, & R. K. Wagner (Eds.), *Reading Development and Difficulties* (pp. 83–115). Springer International Publishing. [https://doi.org/10.1007/978-3-030-26550-2\\_5](https://doi.org/10.1007/978-3-030-26550-2_5)
- Pearson, P. D., Palincsar, A. S., Biancarosa, G., & Berman, A. I. (Eds.). (2020). *Reaping the Rewards of the Reading for Understanding Initiative*. Washington, DC: National Academy of Education.
- Peck, L. (2020). *Experimental Evaluation Design for Program Improvement*. Sage.
- Piasta, S., Connor, C. M., Fishman, B., & Morrison, F. (2009). Teachers' knowledge of literacy concepts, classroom practices, and student reading growth. *Scientific Studies of Reading, 13*(3), 224–248. <https://doi.org/10.1080/10888430902851364>
- Schuele, C., Melanie, K., Guillot, M., & Lee, M. (2011). Phonemic awareness skill of undergraduate and graduate students relative to speech-language pathologists and other educators. *Contemporary Issues in Communication Science and Disorders, 38*, 109–118. <https://pubs.asha.org/doi/pdf/10.1044/cicsd.38.F.109>

Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education, 27*(4), 751–761.  
<https://doi.org/10.1016/j.tate.2010.12.005>

Zee, M., & Koomen, H. M. Y. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational Research, 86*(4), 981–1015.  
<https://doi.org/10.3102/0034654315626801>

# Lexia®

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