DRAFT 3 EARLY LITERACY ALIGNMENT RECOMMENDATIONS 2023

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COLORADO
Department of Early Childhood

Prepared by
RMC Research Corporation

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EXHIBITS

EXECUTIVE SUMMARY

The importance of preschool cannot be argued. Decades of research suggests that students who completed preschool increase college enrollment by 18% (Gray-Lobe et al., 2023, p. 6). Research consistently suggests that emergent and early literacy predicts reading development through adolescence (National Institute of Child Health and Human Development, 2010; Suggate et al., 2018). This underscores the importance of developing strong emergent and early literacy skills during preschool; teachers play a critical role in helping children foster these skills. To do so, teachers must be equipped with the knowledge and skills necessary to provide high quality emergent and early literacy instruction that is aligned with the Science of Reading (Beecher et al., 2016).

> **"Preschool programs, even those designed specifically as interventions for children at risk of reading difficulties, should be designed to provide optimal support for cognitive, language, and social development, within this broad focus. However, ample attention should be paid to skills that are known to predict future reading achievement, especially those for which a causal role has been demonstrated" (Snow et al., 1998, p. 9).**

In 2022, the Colorado Department of Early Childhood (CDEC) was awarded funding to implement activities responsive to the Preschool Development Birth through Five Planning Grant (PDG B-5) for the 2023 calendar year. Activities undertaken pursuant to the new planning grant build upon work done in prior iterations of the PDG. To support those efforts, RMC Research, in collaboration with the CDEC and CDE, developed this report to promote the alignment of Colorado's Universal Preschool with the Science of Reading. Throughout, "Colorado's Universal Preschool" will be used to identify the program established with in the CDEC pursuant to section 26.5-4-204, C.R.S., and includes all participating preschool providers. When discussing universal preschool programming broadly, that is not specific to Colorado, the term "universal preschool program" will be used. The recommendations included in this report intend to support the earlier PDG work and Early Literacy Grant Preschool Expansion. This report is written with the understanding that Colorado's Universal Preschool is provided in a mixed delivery system. A mixed delivery system is defined

as a "system for delivering preschool services through a combination of school- and community-based preschool providers, which include family child care homes, child care centers, and Head Start Agencies, which are funded by a combination of public and private money" (p. 172, 26.5-4-203(12), C.R.S.). Throughout this report, entities refer to the following types of mixed delivery providers: family child care home, child care center, school district licensed to operate as a public preschool provider, a charter school licensed to operate as a public preschool provider, or a Head Start program as described by 26.5-4-203(14), C.R.S.

The focus of this report is specifically on the knowledge of the Science of Reading and evidence-based practices for early childhood literacy and its application to a mixed delivery universal preschool program. The literature base on the Science of Reading is substantial, but there is no unified method to apply it within the mixed delivery universal preschool. Nearly all universal preschool programs apply some level of mixed delivery. Thus, the recommendations and review focus on policy for ensuring equitable access to high-quality, evidence-based literacy instruction based on the Science of Reading that addresses the needs of all learners, including multilingual learners, learners with disabilities, and learners with exceptionalities.

At the time of drafting this report (fall 2023), Colorado's Universal Preschool is in its first year of implementation. It is in the preliminary stages of developing the long-term policies and procedures that will guide the vision and implementation of Colorado's Universal Preschool. The recommendations that follow are only recommendations, they are not mandates. Some of the recommendations are already codified in legislation, others are already in progress through various efforts in the Colorado Department of Early Childhood and the Colorado Department of Education. Following the recommendations is a crosswalk of the 22 recommendations to Colorado legislation, rule, and standards related to Colorado READS and Colorado's Universal Preschool. Some of the recommendations may be part of a long-term plan, while others Colorado may not decide to pursue based on the extent to which they support Colorado's long-term goals for Colorado's Universal Preschool. There are twenty-two recommendations across five categories.

- **Leadership.** These recommendations lay the foundation to Colorado's commitment to aligning the Science of Reading to a universal preschool program. Recommendations address: Developing a comprehensive operational definition of the Science of Reading for preschool in Colorado; Establishing a representative taskforce for policy development around the Science of Reading for preschool that is inclusive of the diverse learners in preschool and the diverse entities in a mixed delivery universal preschool program; Considering programmatic requirements to optimize language and literacy learning aligned

with the Science of Reading for preschool; and Exploring funding to support the Science of Reading for preschool.

- **Alignment and Coordination.** These recommendations ensure that the Science of Reading for preschool is well aligned with the Science of Reading for the K-12 system. Recommendations address: Streamlining standards and guidelines across systems so they are aligned with the Science of Reading; Assuring that curricula, assessments, and instructional practices in preschool are aligned with the Science of Reading; Providing professional development aligned with the Science of Reading; and Addressing licensure and credentialling so that it is aligned with the Science of Reading.
- **Teacher Education and Support.** These recommendations ensure that providers and instructions have the support they need to understand and implement the Science of Reading for preschool. Recommendations address: Developing a statewide professional development system with Science of Reading content accessible to all of Colorado's Universal Preschool providers and educators; Creating professional development requirements specific to the Science of Reading; Classroom observations and ongoing coaching specific to the Science of Reading; Developing lending libraries for preschool materials that support implementing the Science of Reading; Addressing the Science of Reading for preschool in educator preparation programs; and Developing relationships with institutes of higher education to support collaboration around the Science of Reading for preschool as well as for multilingual learners.
- **Instructional Approaches and Student Supports.** These recommendations provide guidance to preschool providers and educators on what and how preschoolers should be taught in alignment with the science of reading. Recommendations address: Providing students with systematic, explicit, differentiated, and individually scaffolded instruction in code- and meaning-focused skills, emphasizing oral language, vocabulary, phonological awareness, and print knowledge embedded in developmentally appropriate practices; Providing access to screenings in alignment with the Science of Reading; and collaborating with regional support systems to develop kindergarten transition programs focused on sustaining the language and literacy learned in preschool.
- **Family and Community Engagement.** These recommendations are for enhancing family and community engagement in language and literacy development for all preschoolers. The recommendations address: Increasing family outreach about language and literacy development; Fostering preschool-family partnerships around language and literacy; Best practice guidelines for supporting multilingual learners; Requiring home-language surveys and

providing support for communication in home languages; and Leveraging community resources to promote culturally inclusive materials related to language and literacy.

The ideas present in the recommendations are in alignment with recommendations across research, policy, and practice related to the Science of Reading for preschool, provided in a mixed delivery universal preschool program. There is no single resource that incorporates all these recommendations, and there is no single state that has Science of Reading policy that is directed specifically at mixed delivery universal preschool programs. Colorado has a unique opportunity to be a leader in its endeavors. In planning for next steps, it would be advisable to look closely at each recommendation, identify and prioritize the recommendations which resonate and align the most closely with the goals and priorities of Colorado's Universal Preschool, collect data to determine current implementation, and identify short- and long-priorities.

RECOMMENDATIONS

The intention of the recommendations is to provide suggestions for actions that the Colorado Department of Early Childhood may consider as they work to align Colorado's Universal Preschool with the Science of Reading and evidence-based practices. These recommendations will strength Colorado's support for the evidence of reading across the preschool through K-12 system. Some recommendations may mirror or apply to both the preschool and K-12 system.

These recommendations are intended to complement, not replace the substantial work carried out through the Colorado READ Act. Furthermore, these recommendations are intended to be flexible to meet the unique and evolving nature of providing universal preschool programs in a mixed delivery system.

Some recommendations apply specifically to state-level supports, regional level supports[1], and classroom implementations; other recommendations apply across areas.

The recommendations were developed based on recommendations found in the research, literature, and policies surrounding the Science of Reading and implementation in the mixed delivery universal preschool program. The support for these recommendations is summarized in the body of the report and described extensively in the appendix. Across the literature, policy, and state implementation documents reviewed on the Science of Reading, evidence-based practices, and mixed delivery preschool, several themes for recommendations were identified: Leadership, Alignment and Coordination, Instructional Approaches and Student Supports, and Family and Community Engagement.

> No single state has implemented every one of these recommendations. While the Science of Reading for preschool is clear, there is no sole source on successful implementation of the Science of Reading for preschool policy in a mixed delivery universal preschool program.

The recommendations are in alignment with recommendations across research, policy, and practice related to the Science of Reading for preschool, provided in

[1] Regional level supports may include, but are not limited to, Local Coordinating Organizations as defined in HB 22-1295 Section 26.5-2-103.

mixed delivery preschool system. There is no single resource that incorporates all these recommendations, and there is no single state that has Science of Reading policy that is directed specifically at mixed delivery universal preschool programs.

6 Action Steps & 22 Recommendations

Action Plan to Align Colorado's Universal Preschool with the Science of Reading for Preschool

Colorado has a unique opportunity to be a leader in its endeavors in aligning its universal preschool program with the Science of Reading for preschool. This is not an insignificant undertaking and will take years to fully carry out. An action plan to begin to address this process includes the following four steps.

1. Identify the key leaders to steer the Science of Reading for preschool for Colorado's Universal Preschool and engage in shared learning about the Science of Reading for preschool.
2. Review the twenty-two recommendations to identify and prioritize the recommendations which resonate and align the most closely with the goals and priorities of Colorado's Universal Preschool.
3. Explore existing data, or identify data that needs to be collected, to understand current practices and implementation related to the prioritized recommendations.
4. Analyze data to identify needs related to the prioritized recommendations.
5. Prioritize short- and long-term goals and action steps to meet the needs around the recommendations.
6. Implement and re-evaluate progress towards short- and long-term goals.

Leadership

L1. Create an **operational definition for the Science of Reading for preschool** that includes the critical components (oral language, vocabulary, phonological awareness, print knowledge) and evidence-based developmentally appropriate practices for emergent and early literacy.

- This definition should be the foundation of all related requirements, recommendations, and supports provided at the state, regional, and classroom levels for all Colorado's Universal Preschool entities.

- Emphasize that the Science of Reading applies to all learners, and some populations require additional supports. Specifically, address multilingual learners, learners with disabilities, and learners with exceptionalities.
- Colorado already has a robust definition of the Science of Reading via the Colorado READ Act and has content experts that can help guide the writing of this definition. Including leaders from the offices of Culturally and Linguistically Diverse Education, Special Education, and Gifted Education in writing the definition and guidelines may be beneficial as they have expertise in their respective populations and may have suggestions for application to Colorado's Universal Preschool entities.
- Ensure that leaders from all relevant offices, units, and divisions in the CDE and CDEC are understanding of the Science of Reading for preschool. The critical leaders should include those from the Colorado Universal Preschool Program and Early Learning Access and Quality program at the CDEC as well as all the regional support structures.
- Educate and empower preschool providers with knowledge of the Science of Reading from preschool through elementary.
- Develop clear messaging to all providers on the importance of developing language and literacy and Science of Reading for preschool and explain that it can be implemented in all of Colorado's Universal Preschool entities.
- Consider developing a public relations strategy around messaging the importance of language and literacy development for preschool children. This should be targeted at parents and providers.

L2. Create a **representative taskforce** for developing policy, guidelines, and supports for implementing the Science of Reading for preschool across all of Colorado's Universal Preschool entities.

- Subject matter experts should guide the taskforce so that it remains grounded in the Science of Reading. The basis of this taskforce may begin with developing shared learning around the Science of Reading for preschool.
- Ensure that providers for all of Colorado's Universal Preschool entities are part of conversations and decisions.
- Ensure that representatives for all student populations (e.g., multilingual, disabilities, exceptionalities) are part of conversations and decisions.
- Ensure that parents and preschool providers and educators are part of conversations and decisions. This could involve their participation in the taskforce or through surveys or interviews.

L3. **Consider special populations** and identify additional supports needed related to the Science of Reading for preschool multilingual learners to fully meet their needs in all of Colorado's Universal Preschool entities.

- Identify the number of multilingual learners in preschool and use this for policy decisions such as teacher preparation, curriculum, and location of programs.
- Explore ways to increase access to bilingual preschool for multilingual and monolingual speakers.

L4. **Consider the programmatic requirements** that facilitate optimal language and literacy learning as it relates to the Science of Reading for preschool.

- So that instruction can be individualized, differentiated, and appropriately scaffolded in preschool, it is important to maintain a low adult-to-child ratio and small class sizes; NIEER recommendations are staff-to-child ratio of 1:10 or better and a maximum class size of twenty or lower.
- Consider the total number of hours preschool children have access. The number of preschool hours per day offered should be enough to provide instruction consistent with the expected growth and development of language and literacy skills. Consulting with Head Start centers may be a place to anchor recommendations for the hours of preschool access.

L5. **Explore funding** and reprioritization of existing local, state, and federal funds to be inclusive of the Science of Reading for preschool.

- Understanding that implementing the Science of Reading requires a high level of knowledge and skill, providers should be compensated accordingly. Thus, it may be important to review current compensation structures across the mixed delivery preschool entities and public schools and identify strategies to address inequities.
- Consider ways to provide opportunities and incentivize Colorado's Universal Preschool providers across all entities to obtain, at minimum, specialized training and credentials related to the Science of Reading for preschool and evidence-based practices. Consider ways to provide additional, intensive opportunities and incentives to Colorado's Universal Preschool providers across all entities to receive additional training supporting multilingual learners (e.g.,

multilingual specialist preschool educators) and learners with disabilities or exceptionalities.

Alignment and Coordination

A6. Ensure the Science of Reading for preschool is included in academic standards, learning guidelines, and frameworks, and **streamline the number and types of standards and guidelines across systems.**

- For example, there are currently three sets of standards across Colorado's preschool: Colorado Academic Standards (pursuant to section 22-7-1005. C.R.S), Colorado Early Learning and Development Guidelines, and Head Start Early Learning Outcomes.
- Use the definition of the Science of Reading for preschool to ensure language alignment across all standards and learning guidelines to all systems reference the language the same.
- Include the Science of Reading for preschool in the Colorado Shines framework.
- Pursue ways to consolidate these sets of standards and documents.

A7. Provide **guidance and support on Science of Reading for preschool curricula, assessments, and instructional practices** that are well aligned horizontally (across all of Colorado's Universal Preschool entities) and vertically (preschool through elementary).

- Guidance and support should be based on evidence-based research such as the work of Herrera et al. (2021), Kosanovich et al. (2020). A resource such as this Reading League example or this Regional Educational Laboratory Southeast rubric may be adapted to reflect preschool Science of Reading.
- Put forth requirements or recommendations for curricula and materials that are aligned with the Science of Reading for preschool. This work can be informed by the processes Colorado already goes through at the K-12 level. Include recommendations for culturally responsive materials that support multilingual learners and can be scaffolded for learners with disabilities and exceptionalities. Consider creating a list of approved or recommended curricula. Consider developing checklists to help preschool providers make informed curricular decisions. For example, South Carolina reviewed 7 preschool curriculum in 2023.

- Consider creating a list of approved or recommended assessments (screeners). Ensure assessments are aligned with preschool standards and the Science of Reading for preschool. Ensure assessments are valid and reliable for preschool students. Consider developing checklists to help preschool providers make informed assessment decisions.
- Regional support structures should explore ways of creating resource libraries of preschool curricula and assessments that providers in any entity could access, explore, or borrow.
- Provide a system to support curriculum implementation. This may include technical assistance on instructional materials, observation of curriculum implementation, and ongoing coaching.

A8. Provide **professional development on the Science of Reading** for preschool.

- Training should include information on the Science of Reading both specifically for preschool and broad contextual information on the Science of Reading for elementary learners.
- Training should also include information on how to support children and families in the transition from preschool to kindergarten specific to the child's language and literacy development.

A9. Consider **licensure and credentialling** for preschool providers and educators as it relates to the Science of Reading for preschool.

- Consider credentialing that spans preschool through elementary to support the understanding of vertical alignment from preschool to kindergarten and beyond.
- Include the Science of Reading for preschool in any courses towards degrees, certifications, or licensures that address literacy.
- Explore opportunities to provide access to higher education, at minimum an early childhood related bachelor's degree (for example, pre-k through 3rd grade, child development) which includes content on the Science of Reading.

Teacher Education and Support

T10. Develop or identify a **statewide system for providing professional development** to Colorado's Universal Preschool providers on the Science of Reading for preschool.

- Develop an online repository of accessible training that all preschool providers and educators can access. For example, online modules, webinars, and a directory of resources for further learning.
- Build capacity in the regional support structures to provide state-developed training on the Science of Reading.
- Explore opportunities for professional learning communities that can reach a broad range of Colorado's Universal Preschool providers. For example, online professional learning communities that meet synchronously, asynchronously, or a hybrid.

T11. Establish **professional development requirements specific to the Science of Reading** for preschool for all of Colorado's Universal Preschool providers across all entities.

- Professional development must be accessible to all providers to prevent the requirement from being prohibitive for family child care providers.
- Consider using the Emergent Literacy Professional Learning Community materials developed by the Regional Educational Laboratory Southeast.
- Professional development should include content on culturally responsive teaching.
- Professional development should include ongoing coaching and mentoring with classroom observations on implementing the Science of Reading for preschool.
- Explore ways to support providers in having sufficient time and opportunity to engage in meaningful professional development. Encourage Regional support structures to develop a system of "leave for professional development" with substitute preschool providers and educators. For example, utilizing a licensed Substitutes on Standby Program such as Colorado Child Care Substitutes, LLC.

T12. Provide minimal guidelines (e.g., length, frequency, content) for classroom **observations specific to the Science of Reading for preschool**.

- Consider identifying and recommending specific classroom observation measures.
- Observations should be feasible across all of Colorado's Universal Preschool entities.
- Observations should be linked to ongoing professional development and coaching.

T13. Identify a system for providing **ongoing, job-embedded coaching** on the Science of Reading for preschool.

- Coaches must be experts in the Science of Reading and understand best practices in instructional coaching. Colorado has a robust coaching network for Early Childhood Educators. They could be used to support coaching on the Science of Reading for preschool.
- Provide professional development to coaches on the Science of Reading for preschool so they can sufficiently support Colorado's Universal Preschool providers.
- Coaches should be available to all preschool providers across all of Colorado's Universal Preschool entities. Consider flexible strategies such as in-person or virtual coaching.

T14. Develop a system of **state and regional supports** to which all of Colorado's Universal Preschool providers have access for **technical assistance** on the Science of Reading for preschool, dyslexia, multilingual learners, learners with disabilities, and learners with exceptionalities.

- Supports may include professional development materials, lending libraries for preschool providers and educators' own professional growth, and lending libraries of culturally responsive reading materials for students. For example, Michigan developed this brief guide for educators along with this website which includes videos of sample practices.

T15. Consider developing partnerships with institutions of higher education to **address educator preparation programs** and ensuring teacher candidates have the knowledge and skills to provide evidence-based practices aligned with the Science of Reading for preschool.

- Review course offerings or instructional approaches to align with the Science of Reading and evidence-based practices inclusive of preschool.
- Programs should explicitly address the Science of Reading for all learners, including multilingual children and children with disabilities and exceptionalities.
- Require pre-service teachers to demonstrate competency in teaching reading for their targeted age/grade band. Consider establishing consistent requirements across institutes of higher education for how competency is demonstrated (e.g., standardized performance assessment, standardized rubric for a portfolio, knowledge assessment) and age/grade band targeted. For example, early childhood educators may demonstrate competency focused on emergent and early literacy with some background on elementary readers, whereas elementary educators could demonstrate competency on Science of Reading in K-5 with some background on emergent and early literacy.

T16. Consider developing **partnerships with institutions of higher education** with specializations in the Science of Reading for preschool and multilingual learners.

- Explore opportunities for pre-service and in-service preschool providers and educators to obtain specializations related to the Science of Reading for preschool and for multilingual learners. For example, a certificate of completion for a specific set of courses or professional development experiences.

Instructional Approaches and Student Supports

I17. Preschool providers and educators should provide **daily instruction in code- and meaning-focused skills** that explicitly target the development of oral language, vocabulary, phonological awareness, and print knowledge to develop preschoolers emergent and early literacy skills.

- Instruction should be systematic, explicit, differentiated, and individually scaffolded across a range of learners. Instruction should be embedded in developmentally appropriate practices.
- Preschool providers and educators should provide students with ample and varied opportunities to practice emergent and early literacy skills and practice reading and writing in developmentally appropriate ways.

- Consider developing a guide on evidence-based practices for all preschool providers and educators.

I18. Develop guidelines and a system to ensure **all preschool children across all of Colorado's Universal Preschool entities have access to annual developmental screening** that includes vision, hearing, development, language, and literacy.

- Include the Colorado Universal Preschool Program and Early Learning Access and Quality program at CDEC, all the regional support structures, and the Office of Special Education, Culturally and Linguistically Diverse Education, and Gifted Education in conversations around universal screening.
- Consider screening for characteristics of dyslexia, including family history.
- Develop a system for parent notification and continued parent engagement when reading deficiency is identified. Consider requiring referral in addition to parent notification.
- Require home-language surveys. Screen and assess all children in their home languages.

I19. Districts should collaborate with regional support structures and all of Colorado's Universal Preschool providers to develop **systematic kindergarten transition programs with a focus on maintaining and building the language and literacy skills** developed during preschool.

Family and Community Engagement

F20. **Increase access, outreach, and participation** in preschool focused on developing language and literacy skills for all children, including multilingual learners and learners with disabilities and exceptionalities.

- Develop best practice guidelines for supporting multilingual preschool children and families and require programs to plan for meeting multilingual students' specific educational needs related to language and literacy development.
- Require home-language surveys and provide support for communication in home languages and to support the language and literacy development in both the school and home languages.

- Identify a system for timely translation services for teacher-parent communications.

F21. Preschool providers and educators should foster genuine **preschool-family partnerships around language and literacy development** in line with the Science of Reading for preschool.

- Family communication should include information on their preschooler's language and literacy skills and how to support their preschooler's language and literacy development at home.
- Develop training and support for preschool providers and educators on developing and fostering strong, regular, bidirectional communication with the family emphasizing the importance of language and literacy development.
- Create a state-wide parent Read-at-Home Plan for all students and guidance for developing individualized read-at-home plans (e.g., reading vetted online resource hubs for all parents to support literacy) for students identified with a delay in language or literacy skills.

F22. **Leverage libraries and other community assets** to promote students' language and literacy development.

- This is particularly important for accessing authentic materials in children's home languages and cultures to promote multilingualism and multiliteracy.

This helps provide access to reading materials across a range of reading levels, meeting the needs of emergent readers, and exceptional readers.

CONCEPTUAL CROSSWALK BETWEEN RECOMMENDATIONS AND COLORADO LEGISLATION, RULE, AND STANDARDS

The 22 recommendations are based on research and policy across the Science of Reading and preschool. The recommendations are specific to ensure that Colorado's Universal Preschool is aligned with the Science of Reading for preschool. Some of the recommendations may be long-range goals, while others Colorado may not decide to pursue. Moreover, the recommendations may support, or be supported by, current Colorado legislation, rules, and standards. That is, while the recommendation is not specifically stated in current legislation, rule, or standard, there may be legislation, rule, or standard that are conceptually related. Exploring these potential connections may be helpful in adapting, refining, clarifying, or adding to legislation, rule, or standards.

The recommendations were not designed to affirm or endorse Colorado's current legislation, rules, or standards. Likewise, the recommendations were not written in response to current legislation, rules, or standards. The recommendations were developed from an extensive review of current research and policy across the Science of Reading and preschool. The recommendations were designed to help align Colorado's Universal Preschool with the Science of Reading for preschool. Table E1 provides a cross-walk showing the conceptual connections between each of the 22 recommendations and Colorado specific language in legislation, rules, and standards, specifically:

- Colorado READ Act, which establishes the guiding philosophy, structure, and resources to get children reading at grade level by the time they enter the fourth grade;
- House Bill 22-1295 and Colorado Revised Statues 26.5, which establishes Colorado's Universal Preschool;
- Code of Colorado Regulations 8 CCR 1404-1, which provides Colorado's Universal Preschool rules and regulations; and
- Draft Colorado's Universal Preschool Quality Standards.

The cross-walk does not indicate absolute alignment or agreement between the recommendation and the cited policy. It is meant to help the reader understand

potential conceptual connections of how the recommendation may support, or be supported by legislation, rule, or standard.

For example, recommendation 1 is related to creating an operational definition of the Science of Reading for preschool. The Colorado READ Act has defined the Science of Reading as it applies to elementary learners (C.R.S. 22-7-1202 (1.5)(a)(II)). Creating an operational definition of the Science of Reading for Preschool may help inform the standards for instructional practice in preschool (C.R.S. 26.5-4-205(2)(g)), what is included in the Resource Bank (C.R.S. 26.5-4-205(3), 8 CCR 1404-1 4.104.KK), Learning Approaches (8 CCR 1404-1 4.111.A), or Quality Standard 1 Instructional Practice.

Table E1 Conceptual Crosswalk Between Recommendations and Colorado Legislation, Rule, and Standards

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
Leadership				
L1. Create an **operational definition for the Science of Reading for preschool** that includes the critical components (oral language, vocabulary, phonological awareness, print knowledge) and evidence-based developmentally appropriate practices for emergent and early literacy.	▶ Evidence based (22-7-1203(4)) ▶ Scientifically based (22-7-1203(14)) ▶ Early literacy education (22-7-1204) ▶ Public relations (22-7-1209(7))	▶ Standards for instructional practice (26.5-4-205(2)(g)) ▶ Resource bank (26.5-4-205(3))	▶ Program purpose (4.102.A) ▶ Resource bank (4.104.KK) ▶ Learning Approaches (4.111.A)	▶ Standard 1
L2. Create a **representative taskforce** for developing policy, guidelines, and supports for implementing the Science of Reading for preschool across all of Colorado's Universal Preschool entities.		▶ Early Childhood Councils (26.5-2-203) ▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK) ▶ Learning Approaches (4.111.A)	
L3. **Consider special populations** and identify additional supports needed related to the Science of Reading for preschool multilingual learners to fully meet their needs in all of Colorado's Universal Preschool entities.	▶ Multilingual learners 22-7-1202(3)(c)	▶ Equal opportunity (26.5-4-205(2)(b)) ▶ Standards for family and community engagement (26.5-4-205(2)(i)) ▶ Requirements for dual language learners (26.5-4-205(2)(j)) ▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK) ▶ Basic requirements – Equal opportunity (4.109.B) ▶ Preferences for multilingual learners (4.110.A.9)	▶ Standard 3

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
L4. **Consider the programmatic requirements** that facilitate optimal language and literacy learning as it relates to the Science of Reading for preschool.		▶ 10 hours (26.5-4-203(17)) ▶ Contact hours (26.5-4-205(2)(a)) ▶ Ratio (26.5-4-205(2)(c))	▶ Basic requirements - Contact Hours, Ratios and Group Size (4.104.RR; 4.109.A)	
L5. **Explore funding** and reprioritization of existing local, state, and federal funds to be inclusive of the Science of Reading for preschool.	▶ Per-pupil intervention money (22-7-1210.5) ▶ Early literacy fund (22-7-1210) ▶ Early literacy grant program (22-7-1211)	▶ Child care teacher salary grant program (26.5-3-806) ▶ Compensating Early Childhood Workforce (26.5-4-204(5)(e)) ▶ Preschool funding (26.5-4-208) ▶ Early Childhood Workforce (26.5-6-101)		
Alignment and Coordination				
A6. Ensure the Science of Reading for preschool is included in academic standards and learning guidelines and s**treamline the number and types of standards and guidelines across systems.**	▶ Reading standards (22-7-1005)	▶ Aligned standards (26.5-4-205(2)(f)) ▶ Standards for instructional practice (26.5-4-205(2)(g)) ▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK) ▶ Learning Approaches (4.111.A) ▶ Colorado Academic Standards (4.104.F) ▶ Colorado Early Learning and Development Guidelines (4.104.G)	▶ Standard 1

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
A7. Provide **guidance and support on Science of Reading for preschool curricula, assessments, and instructional practices** that are well aligned horizontally (across of Colorado's Universal Preschool entities) and vertically (preschool through elementary).	▶ Early literacy education (22-7-1204) ▶ Assessment in home language (22-7-1205(1)(a.7) ▶ Daily reading approaches (22-7-1206(5)(d)) ▶ Core and Supplemental Reading Curriculum (22-7-1208 (5)(a)(I)) ▶ Assessments (22-7-1208 (5)(a)(III) ▶ Advisory list (22-7-1209)	▶ Quality standards (26.5-4-205(2)) ▶ Standards for instructional practice (26.5-4-205(2)(g)) ▶ Screening (26.5-4-205(2)(k & l)) ▶ Resource bank (26.5-4-205(3))	▶ Early learning and assessment approach (4.104.O) ▶ Resource Bank (4.104.KK) ▶ Learning Approaches (4.111.A)	▶ Standard 1 ▶ Standard 2
A8. Provide **professional development on the Science of Reading** for preschool.	▶ Professional development (22-7-1208, 1209, 1210)	▶ Professional development (26.5-4-204(5)(e); 26.5-4-205(2)(e)) ▶ Standards for instructional practice (26.5-4-205(2)(g)) ▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK) ▶ Professional development (4.114)	▶ Standard 1 ▶ Standard 2

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
A9. Consider **licensure and credentialling** for preschool providers and educators as it relates to the Science of Reading for preschool.		▶ Increasing the qualifications (26.5-4-204(5)(d)) ▶ Qualifications (26.5-4-205(2)(d)) ▶ Early Childhood Workforce (26.5-6-101)	▶ Colorado's Competencies for Early Childhood Educators and Professionals (4.104.I; 4.114.A)	
Teacher Education and Support				
T10. Develop or identify a **statewide system for providing professional development** to Colorado's Universal Preschool providers on the Science of Reading for preschool.	▶ Professional development (22-7-1208, 1209, 1210)	▶ Professional development (26.5-4-204(5)(e); 26.5-4-205(2)(e)) ▶ Standards for instructional practice (26.5-4-205(2)(g)) ▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK) ▶ Professional development (4.114)	▶ Standard 1 ▶ Standard 2
T11. Establish **professional development requirements specific to the Science of Reading** for preschool for all of Colorado's Universal Preschool providers across all entities.	▶ Professional development (22-7-1208, 1209, 1210)	▶ Professional development (26.5-4-204(5)(e); 26.5-4-205(2)(e)) ▶ Qualifications (26.5-4-205(2)(d)) ▶ Standards for instructional practice (26.5-4-205(2)(g)) ▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK) ▶ Basic requirements - Teacher Qualifications (4.109.A.3) ▶ Professional development (4.114)	▶ Standard 1 ▶ Standard 2

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
T12. Provide guidelines (e.g., minimum length, frequency, content) for classroom **observations specific to the Science of Reading for preschool**.		▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK) ▶ On-Site Observations (4.111.B)	
T13. Identify a system for providing **ongoing, job-embedded coaching** on the Science of Reading for preschool.	▶ Funding for coaching (22-7-1210.5(4)(g))	▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK)	
T14. Develop a system of **state and regional supports** to which all of Colorado's Universal Preschool providers have access for **technical assistance** on the Science of Reading for preschool, dyslexia, multilingual learners, learners with disabilities, and learners with exceptionalities.	▶ Technical assistance (22-7-1209(6))	▶ IDEA and ECEA (26.5-4-204(3)(b)(I)) ▶ Equal opportunity (26.5-4-205(2)(b)) ▶ Requirements for dual language learners (26.5-4-205(2)(j)) ▶ Resource bank (26.5-4-205(3)) ▶ Preschool special education (26.5-4-206)	▶ Resource bank (4.104.KK) ▶ Basic requirements – Equal opportunity (4.109.B) ▶ Educating children with disabilities (4.109.D)	

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
T15. Consider developing partnerships with institutions of higher education to **address educator preparation programs** and ensuring teacher candidates have the knowledge and skills to provide evidence-based practices aligned with the Science of Reading for preschool.		▶ Early care and education recruitment and retention grant and scholarship program (26.5-3-805) ▶ Increasing qualifications over time (26.5-4-204 (5)(d)) ▶ Early Childhood Workforce (26.5-6-101)		
T16. Consider developing **partnerships with institutions of higher education** with specializations in the Science of Reading for preschool and multilingual learners.		▶ Early care and education recruitment and retention grant and scholarship program (26.5-3-805) ▶ Increasing qualifications over time (26.5-4-204 (5)(d))		
Instructional Approaches and Student Supports				

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
I17. Preschool providers and educators should provide **daily instruction in code- and meaning-focused skills** that explicitly target the development of oral language, vocabulary, phonological awareness, and print knowledge to develop preschoolers emergent and early literacy skills.	▶ Evidence based (22-7-1203(4)) ▶ Scientifically based (22-7-1203(14)) ▶ Early literacy education (22-7-1204) ▶ Daily reading approaches (22-7-1206(5)(d)) ▶ Core and Supplemental Reading Curriculum (22-7-1208 (5)(a)(I)) ▶ Advisory list (22-7-1209)	▶ Standards for instructional practice (26.5-4-205(2)(g)) ▶ Resource bank (26.5-4-205(3))	▶ Early learning and Assessment approach (4.104.O) ▶ Resource bank (4.104.KK) ▶ Learning Approaches (4.111.A)	▶ Standard 1
I18. Develop guidelines and a system to ensure **all preschool children across all of Colorado's Universal Preschool entities have access to annual developmental screening** that includes vision, hearing, development, language, and literacy.	▶ Body of evidence (22-7-1203(1) ▶ Reading assessments (22-7-1205) ▶ Assessments available in both English and Spanish (22-7-1209(2)(a)(II)(D))	▶ Requirements for dual language learners (26.5-4-205(2)(j)) ▶ Screening (26.5-4-205(2)(k & l)) ▶ Resource bank (26.5-4-205(3))	▶ Resource Bank (4.104.KK) ▶ Healthy Development Requirements (4.112)	▶ Standard 2

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
I19. Districts should collaborate with regional support structures and all of Colorado's Universal Preschool providers to develop **systematic kindergarten transition programs with a focus on maintaining and building the language and literacy skills** developed during preschool.	▶ Summer school literacy program (22-7-1212)	▶ Standards for family and community engagement (26.5-4-205(2)(i)) ▶ Resource bank (26.5-4-205(3))	▶ Resource bank (4.104.KK)	▶ Standard 3
Family and Community Engagement				
F20. **Increase access, outreach, and participation** in preschool focused on developing language and literacy skills for all children, including multilingual learners and learners with disabilities and exceptionalities.	▶ Language the parent understands 22-7-1205(2)(a)	▶ IDEA and ECEA (26.5-4-204(3)(b)(I)) ▶ Equal opportunity (26.5-4-4205(2)(b)) ▶ Standards for family and community engagement (26.5-4-205(2)(i)) ▶ Requirements for dual language learners (26.5-4-205(2)(j))	▶ Basic requirements – Equal opportunity (4.109.B) ▶ Educating children with disabilities (4.109.D) ▶ Preferences for multilingual learners (4.110.A.9) ▶ Family and Community Engagement Requirements (4.113)	▶ Standard 3
F21. Preschool providers and educators should foster genuine **preschool-family partnerships around language and literacy development** in line with the Science of Reading for preschool.	▶ Parent partnership (22-7-1202(1)(e),(f)); 22-7-1202(2)) ▶ Parent involvement (22-7-1205)	▶ "Family support and parent education" (26.5-3-101(5)) ▶ Standards for family and community engagement (26.5-4-205(2)(i))	▶ Family and Community Engagement Requirements (4.113)	▶ Standard 3

Recommendation	Conceptually related to			
	CO READ Act[1] SB 19-199 CRS 22-7-12	CO Early Childhood Programs and Services[2] HB 22-1295 CRS 26.5	CO Universal Preschool Rules and Regulations[3] 8 CCR 1404-1	CO Universal Preschool Quality Standards[4]
F22. **Leverage libraries and other community assets** to promote students' language and literacy development.	▶ Partner with public libraries (22-7-1208(7))	▶ Standards for family and community engagement (26.5-4-205(2)(i)) ▶ Resource bank (26.5-4-205(3))	▶ Resource Bank (4.104.KK)	

Source: (1) CO READ Act SB 19-199: https://leg.colorado.gov/sites/default/files/2019a_199_signed.pdf; https://www.cde.state.co.us/coloradoliteracy/crsreadact2022;
(2) CO HB 22-1295: https://leg.colorado.gov/sites/default/files/2022a_1295_signed.pdf; https://leg.colorado.gov/sites/default/files/images/olls/crs2022-title-26.5.pdf;
(3) CO Universal Preschool Program Rules and Regulations 8 CCR 1404-1: https://www.coloradosos.gov/CCR/GenerateRulePdf.do?ruleVersionId=11087&fileName=8%20CCR%201404-1 and Redline draft: https://drive.google.com/file/d/19jC4oAi-tziX6VJXuvUiGZ2itJScBFMG;
(4) [1] Draft Universal Preschool Colorado Quality Standards: https://docs.google.com/document/d/1sQYxn5Ooc04e-Wf2Z3IjguqZn9qowvdBlDrJawCL3Dk

SCIENCE OF READING FOR PRESCHOOL

The Science of Reading is the accumulated knowledge about reading development and best practices for reading instruction according to research and understanding of the brain (Petscher et al., 2020). Language and literacy are highly connected, but learning language and learning to read are quite different.

 Speaking is natural. Human brains are naturally wired to speak. Language learning develops naturally, without specific instruction or intervention.	 Reading and writing are not natural. Human brains are not naturally wired to read and write. Learning to read and write requires specific instruction that is systematic and explicit.

Source: Moats & Tolman (Moats & Tolman, 2009)

At least five decades of research have been conducted around the world in multiple languages to understand how reading and writing develop. Much of what is known about the Science of Reading and evidence-based practices comes from research on preventing and intervening in reading difficulties. One of the greatest prevention strategies for reading difficulty is early identification, instruction, and intervention. In preschool, the focus is on developing oral language skills. The Science of Reading is consistent across languages, disability status, and exceptionalities. It is this knowledge that informs the instruction and intervention needed to ensure equitable access to written language.

What is known about reading development, instruction, and intervention is appropriate for all students, including multilingual learners, learners with disabilities, learners with exceptionalities, and learners that fall into multiple categories, for example, multilingual learners with disabilities.

Reading can be understood as an equation, known as the Simple View, of decoding multiplied by language comprehension, to equal reading comprehension (Gough & Tunmer, 1986). For reading comprehension to happen, one must have the ability to decode and have language comprehension. Another way to look at this is **code-focused** and **meaning-focused** skills. Code-focused skills are those that help the reader go from text to words; meaning-focused skills are those that help the reader go from words to meaning. Skilled readers must have both sets of skills.

There are five foundational skills of reading at the elementary level which can be categorized as **code-focused** (phonological/phonemic awareness, alphabet knowledge/phonics, and sometimes fluency) or **meaning-focused** (vocabulary, comprehension, and sometimes fluency. In preschool, the goal is to develop key foundational skills found in emergent and early literacy that are precursors to those five components. Reading readiness is used to describe a child's readiness to learn to read; it is not a specific skill. It is a combination of emergent and early literacy. Each of these individual skills are related to the development of skilled readers.

At the preschool level, the focus is not specifically on teaching reading or even reading readiness. The focus is on developing emergent and early literacy skills that lead to reading.

Emergent Literacy
is the basic building block for learning to read and write. It begins developing in early infancy and early childhood through participation with adults in meaningful activities involving *talking, sounds, and print.*

Early Literacy
includes everything a child knows about reading and writing before they can read. These skills include *print motivation, print awareness, letter knowledge, vocabulary, phonological awareness, and narrative skills.*

Reading
is making meaning from print. It involves many skills to fluently decode words and attach meaning to the words. The foundational skills are *phonological/phonemic awareness, phonics, fluency, vocabulary, and comprehension.*

The foundational skills of emergent and early literacy are:
Oral language, vocabulary, phonological awareness, and print knowledge.

Figure sources: Baker et al., (2017); Colorado Libraries for Early Literacy (2023); and Kosanovich et al., (2020).

Research further suggests four critical foundational skills for preschool aged students: oral language, vocabulary, phonological awareness, and print knowledge. Those skills can also be categorized as **code-focused** (phonological awareness and print knowledge) or **meaning-focused** (oral language and vocabulary).

Table 1

Foundational skills in preschool are related to later reading skills.

Foundational Skill	Definition	Related Reading Skill
Code Focused		
Phonological awareness 	The ability to detect, manipulate, or analyze the auditory aspects of spoken language (including the ability to distinguish or segment words, syllables, or phonemes) independent of text or meaning.	Phonological / Phonemic awareness
Print knowledge 	A combination of elements of alphabet knowledge (knowledge of the names and sounds associated with printed letters), concepts about print (print conventions such as left-right, front-back, cover, author, text), and beginning letter and name writing.	Phonics / Alphabetic knowledge Fluency
Meaning Focused		
Oral language 	The ability to produce or comprehend spoken language, including vocabulary and grammar. This also includes narrative skills.	Vocabulary Comprehension Fluency
Vocabulary 	Knowing what words mean (receptive) and how to say and use them correctly (expressive).	Vocabulary Comprehension

Table sources: Burchinal et al. (2022); National Institute of Child Health and Human Development (2010); S. Herrera et al. (2021); Kosanovich et al. (2020); National Reading Panel (2000); and Snow et al. (1998)

Evidence-Based Practices

The Science of Reading helps us understand the instruction preschool students must receive to eventually become proficient readers. Evidence-based practices that are aligned with the Science of Reading for preschool include instruction and activities

related to both code- and meaning-focused skills. **Regardless of where preschool students are served, these practices can be incorporated into daily activities.**

Table 2

Evidence-based instruction includes code- and meaning-focused instruction.

Code-focused instruction	
Instruction on the structure of spoken words includes phonological and phonemic awareness instruction, which is both embedded throughout the day and explicitly taught using the phonological to phonemic awareness continuum.	
Emergent phonics instruction builds children's knowledge of sounds and letters, including frequent regular spelling-sound relationships and understanding of how sounds are represented alphabetically.	
Children engage in exploratory writing to learn about the nature of the alphabetic writing system.	
Meaning-focused instruction	
Building interest and motivation to read for a variety of purposes and includes comprehension instruction to obtain meaning from print.	
Print referencing during dialogic reading (interactive reading) - Use shared book reading to develop children's language, knowledge of print features (print knowledge), and knowledge of the world.	
Intentionally planned vocabulary instruction and activities to build children's vocabulary and (oral) language. Vocabulary instruction includes explicit instruction for specific words with a well-thought-out scope and sequence determining which words to teach.	
A variety of language development occurs regularly, including multi-turn conversations, peer-to-peer language interactions, embedded brief language interactions, building a network of words, encouraging decontextualized language, and recasts and expansions on what students say.	

Table sources: Burchinal et al. (2022); National Institute of Child Health and Human Development (2010); S. Herrera et al. (2021); Kosanovich et al. (2020); National Reading Panel (2000); and Snow et al. (1998)

Beyond the "what" of instruction, it is important to consider the "how" of instruction. Evidence-based practices can and should be embedded into developmentally appropriate routines and follow a developmental continuum. These instructional practices can be incorporated into any preschool entity. Again, what is known about evidence-based practices is appropriate for all students, including

multilingual learners, learners with disabilities, learners with exceptionalities, and learners who fall into multiple categories.

Table 3

Developmentally appropriate evidence-based instructional practices.

Evidence-Based Instructional Practices	
Literacy Development and Print-Rich Environments: Centers on fostering literacy through various strategies, such as providing print-rich environments, engaging in daily high-quality book reading, and offering opportunities for phonemic awareness development, vocabulary expansion, and incorporating literacy tools into play. For example: ▶ Access to a wide range of text levels, from "baby books" to elementary ▶ Access to a wide range of topics, including narrative and expository text structures	
Intentional and Purposeful Instruction: Emphasizes the significance of intentional, planned instruction and learning experiences, which are carefully designed to meet specific learning goals and objectives. This includes continuously assessing children's progress and making instructional adjustments accordingly. For example: ▶ Small-group explicit instruction ▶ Explicit instruction is overtly teaching each step and making the learning goal obvious to the children, making the skill or concept obvious to the child ▶ Differentiated instruction matches instruction to each child's unique needs and abilities	
Sequential and Developmentally Appropriate Learning: Focuses on the importance of lessons building sequentially, attending to learning progressions in curriculum and teaching methods, and providing experiences that help children reach challenging yet achievable goals. For example: ▶ Play-based interactions with teacher guidance and scaffolding ▶ Systematic instruction that is carefully thought out, builds on prior learning, and moves from simple to complex ▶ Scope and sequence show the full range of content to be taught and the order ▶ Scaffolded instruction provides feedback to help children demonstrate a skill or concept when they could not otherwise have done so on their own	
Inclusive and Culturally Responsive Practices: Stresses recognizing and valuing everyone's background and experiences, including the use of high-quality books that reflect children's identities, home languages, and cultures. For example: ▶ Parent and home programs ▶ Connections to home cultures	

Table sources: Burchinal et al. (2022); National Institute of Child Health and Human Development (2010); S. Herrera et al. (2021); Kosanovich et al. (2020); National Reading Panel (2000); and Snow et al. (1998)

Additional Considerations for Special Populations

Although everything already described is appropriate for all students, including multilingual learners, learners with disabilities, learners with exceptionalities, and learners that fall into multiple categories, there are some additional considerations for special populations. It is important for all preschool providers, regardless of entity, to understand that they will serve a diverse population. Additionally, it is important, regardless of language, disability, or exceptionality status, to have consistent expectations for all learners. Expectations should be standards-aligned, developmentally appropriate, and equitable. Therefore, it is important to understand some of the unique considerations for these populations beyond what has already been written.

Multilingual Learners

10.5%

of Colorado public school students are multilingual learners[2]

Science of Reading and Multilingual Learners

The Science of Reading and evidence-based instructional practices are appropriate for both mono and multilingual learners. The **focus is on developing multilingualism and multiliteracy**—being able to speak and read in all school and home languages. **Developing oral language in home and school languages** is especially important. **A wide variety of materials** should be available for students to read in all school and home languages. Materials should be culturally and linguistically responsive.

Access to dual-language instruction is encouraged to build foundational literacy skills and positive literacy outcomes in both languages. Instructional practices that **connect the home language and English** benefit language and literacy development. **A strong home-school-community connection** is important to foster.

[2] Source: National Center for Education Statistics (2023)

Not all teachers can teach in all languages, but all teachers can learn specific strategies that support the maintenance of all languages (National Academies of Sciences, Engineering, and Medicine, 2017, p. 199).

Table 4

Additional considerations for multilingual learners

Evidence-Based Practice for Multilingual Learners	
Supporting and Maintaining Home Language in Early Education: Acknowledge and support the importance of developing and maintaining the home languages while facilitating English language development in the preschool environment.	
Cultural Inclusivity: Create an inclusive environment in preschool that supports diverse cultural and linguistic backgrounds, valuing home languages, culture, and bilingualism to foster emergent and early literacy.	
Language Development: Emphasize explicit and intentional language instruction focusing on vocabulary, grammar, and oral language development crucial for emergent and early literacy. Explicit instruction includes modeling, practice opportunities, and scaffolding to support language development.	
Tailored and Individualized Instruction: Provide individualized instruction that respects and reflects the experiences of young multilingual learners. This includes the use of visuals and realia to make new language, concepts, or skills easier to learn.	
Integrated Literacy Approach: Support the development of language and print knowledge in all languages. Integrate literacy development into classroom activities, using high-quality, culturally responsive materials that foster cross-linguistic connections and metalinguistic awareness.	
Comprehension and Meaning-Making: Prioritize comprehension, meaning-making, and proper expression in reading over speed and accuracy to support emergent and early literacy in preschoolers.	
Early Childhood Collaborative Learning: Encourage interactive activities, group work, and pair work to facilitate collaborative language learning.	

Sources: Council of the Great City Schools (2023); Genesee (2016); S. G. Herrera et al. (2022); National Academies of Sciences, Engineering, and Medicine (2017)

Learners with Disabilities

Children aged 3 through 5 with a disability[3]:

6%

Most common disabilities in children aged 3 through 5:

- 45% developmental delays
- 36% speech or language impairment
- 12% autism
- 7% other disabilities

Science of Reading and Learners with Disabilities

Much of the foundational knowledge on the Science of Reading was formed around the notion of preventing later reading difficulties or reading disabilities. The Science of Reading and evidence-based instructional practices are appropriate for learners with disabilities. **Emphasis should be placed on oral language skills, phonological/phonemic awareness, and letter knowledge.**

Identification of disabilities and eligibility for preschool special education is guided by IDEA Part B. Special education is not a place; it is a service. Inclusive education is encouraged for children with disabilities. **Instruction should be embedded in the routines of the preschool classroom, focusing on individualized goals, and incorporated into natural moments.** Including students with disabilities in the general education classroom does not negatively impact peers' development. It supports positive attitudes and perceptions of peers with disabilities.

> *Reading disability identification typically does not occur in preschool. Accurately predicting reading disabilities is difficult because of the need to balance individual developmental differences and exposure to instruction with known risk factors and diagnostic criteria.*

Early intervention is a resilience factor against later reading difficulties or disabilities, therefore screening is a critical step in identifying students who may need additional support. These supports vary in scale from providing additional information and support to parents, to additional scaffolding and instruction provided by the preschool

[3] Source: U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs (2023)

instructor, to referrals to formal evaluation and potential early childhood special education or other related services. Even if screening over identifies students that may need additional support, the risk of providing unneeded additional support far outweighs the risk of not providing needed support.

Although identifying and predicting reading difficulties is difficult, particularly difficult with multilingual learners and learners from low socioeconomic backgrounds, screening for challenges with emergent and early literacy skills, is still recommended.

Screening based on known risk factors may include:

- Specific language impairments,
- Family history of dyslexia,
- Early struggles with letter-sound correspondence, the ability to automatically retrieve the name of objects, letters, or colors, and
- Deficits in oral language comprehension and receptive and expressive vocabulary.

Learners with Exceptionalities

Colorado school-aged children with an exceptionality[4]

7.4%

Colorado school-aged children with exceptionalities are also

- Multilingual – 5.1%
- Twice exceptional – 8.4%

Science of Reading and Learners with Exceptionalities

Learners with exceptionalities, sometimes referred to as "gifted" students, are those with exceptional abilities or potential, including multilingual students and students with disabilities (including difficulties with language and literacy). These children are **from all socioeconomic, racial, ethnic, and cultural populations.** Historically, students from minority and lower socioeconomic status have been underrepresented. Therefore, it is important for all preschool teachers to understand some of the early signs of exceptionality and provide adequate support to prevent underachievement and promote hidden talents.

[4] Source: Colorado Department of Education Office of Gifted Education (2021)

Support for exceptional learners focuses on **understanding their interests, preferences for learning, and expression style**. Some research supports advanced placement into kindergarten.

Table 5

Preschool teachers should be aware of the following signs of exceptionality.

Signs of exceptionality	
 Advanced Language Skills	▶ Accelerated language development (e.g., speaking, listening) ▶ Enjoyment of self-expression, especially in discussions ▶ Large vocabulary and understanding of abstract concepts ▶ Early reading and writing abilities
 Cognitive Abilities and Learning Traits	▶ Interest in word games, challenging activities, and problem-solving ▶ Fascination with a variety of books, atlases, encyclopedias, calendars, clocks, and puzzles ▶ Extraordinary memory, rapid learning, attention span, and observation skills ▶ Inquisitive nature, asking many questions

Source: Bayraktar (2017); Chamberlin et al. (2007)

SCIENCE OF READING POLICY AND IMPLEMENTATION IN PRESCHOOL

States implementing a universal preschool program[5]

10

States with a universal preschool program and Science of Reading legislation that includes preschool[6]

2

Key findings

There has also been considerable advancement in creating universal preschool programs, currently 10 states have universal preschool program legislation (Friedman-Krauss et al, 2023). Mixed delivery preschool is the standard in early childhood education. It is complex with the coordination of various entities such as state-/district-run public schools, Head Start, early childhood special education, private schools, child care centers, private providers, and family child care providers.

Finding the balance between funding streams, various regulatory oversight, ensuring quality preschool education, removing barriers to becoming a qualified preschool provider, and meeting the urgent and flexible need for child care is a nationwide challenge. Unlike K–12 systems, preschool providers may also be child care providers, which means they are expected to be available when families need them, including families working non-traditional schedules.

Across the nation, the Science of Reading has been an increasingly popular area of policy reform. Some 46 states including DC have Science of Reading legislation; 31 of which mention preschool in the same piece of legislation (Neuman et al., 2023). This does not translate to true integration of preschool in Science of Reading policy

[5] Source: Florida, Iowa, Oklahoma, Vermont, West Virginia, Wisconsin, and DC are fully implementing universal preschool programs. Georgia, Illinois, Maine, and New York have universal preschool program policies, but they are not fully implemented. Source: Friedman-Krauss et al. (2023)

[6] Source: Authors analysis.

or implementation. Most states that include preschool in Science of Reading legislation address it from an alignment of standards approach—assessing for vertical alignment between preschool early learning guidelines and K–3 standards.

There has been little true cross-over or direct implementation of the Science of Reading in the universal preschool program system. In our analysis of the 10 states with universal preschool programs, only two extensively include preschool in their Science of Reading legislation.

A note to our approach.

RMC looked to six states as comparisons for implementation of mixed delivery preschool and the Science of Reading. The states of Alabama, Kansas, Massachusetts, Michigan, South Carolina, and Wisconsin were chosen based on demographic factors, universal preschool program experience, and commitment to the Science of Reading. Table 6 provides high-level contextual information on the states included in this analysis.

The results presented here are a high-level overview of Science of Reading policy and implementation in preschool. These results provide a broad overview of information with potential relevance to the Science of Reading for preschool in a universal, mixed delivery system. It is important to note the following three assumptions.

First, our analysis includes information from policy implementation of the Science of Reading at large, not just in preschool due to the lack of cross-over into preschool. It is our belief that the lessons learned from elementary legislation and policy can be used to inform considerations for the Science of Reading for preschool.

Second, we did not limit our analysis to only universal preschool programs, we investigated any state-funded preschool program. It is our belief that the lessons learned from any publicly funded preschool programming can be used to inform considerations for universal preschool programs.

Third, we used the most currently available public data at the time of drafting this report (fall 2023). In most cases, the data reflects the 2021-22 school year which is before Colorado's Universal Preschool was implemented; some findings may reflect the Colorado Preschool Program (CPP). We acknowledge that this difference is far beyond a language difference and is an entirely different approach and system. It is our belief that lessons learned during the CPP can be used to inform considerations in the universal preschool program.

States vary in how they support their preschool programs, specifically their teachers and students (Friedman-Krauss et al., 2023). All states, in their mixed delivery systems, have designated administration and oversight within the state education agency; some are within the department of education, and others are their own entity. Further, they all have regional support structures. For example, Wisconsin has a true universal preschool program for all age-eligible preschoolers. Their system is

run through the public schools who subcontract and collaborate with community providers. Michigan has a similar approach where their intermediate school districts are the regional support structures that distribute funds to districts and local providers in community-based settings.

Table 6 Overview of States Included in Policy Review

	AL	KS	MA	MI	SC	WI
Universal preschool program progress	Progress towards a universal preschool program without legislative mandate	State Pre-K, no specific commitment to a universal preschool program	State Pre-K, no specific commitment to a universal preschool program	Governor support for a universal preschool program with some progress towards it	State Pre-K, no specific commitment to a universal preschool program	Universal preschool program
Preschool delivery?	Mixed delivery	Mixed delivery	Public Schools	Mixed delivery[7]	Mixed delivery	Mixed delivery[8]
Child eligibility?	All age-eligible	Individual child or family characteristics	All age-eligible	Individual child or family characteristics	Individual child or family characteristics	All age-eligible
Science of Reading for preschool?	Science of Reading laws do not specifically address preschool	Science of Reading laws do not specifically address preschool	Science of Reading laws do not specifically address preschool	Science of Reading laws clearly address preschool	Science of Reading laws clearly address preschool	Science of Reading laws do not specifically address preschool

Source: Authors analysis, Friedman-Krauss et al., 2023, Neuman et al., 2023

Preschool Policies with Potential Connection to the Science of Reading

Though not specific to the Science of Reading, all states have comprehensive early learning development standards in preschool that are aligned with K–3 standards, are considered culturally sensitive, and include multilingual learners. It is important that these standards are also aligned with the Science of Reading for preschool and all grades. All states have curriculum approval processes for their preschools, though they vary on the supports provided for implementation (Friedman-Krauss et al.,

[7] The intermediate school district distributes funds to districts and local providers in community-based settings.
[8] Public Schools may subcontract and collaborate with community providers.

2023). Though not necessarily inclusive of preschool, Alabama and Wisconsin address the content of materials specifically in their Science of Reading laws (ExcelinEd, 2022a; National Center on Improving Literacy, 2023); understanding curriculum approval and materials supports and the intersection of the Science of Reading and preschool may be beneficial to consider. Though not specific to the Science of Reading, all states have mandated screening in preschool (Friedman-Krauss et al., 2023). Alabama is an exemplar in including vision, hearing, psychosocial, behavioral, and developmental screening. Alabama also requires referrals if screening indicates it is necessary. It is worth considering aligning preschool screening with the Science of Reading, particularly as it relates to dyslexia.

Though not specific to the Science of Reading, Alabama, Kansas, Massachusetts, Michigan, and South Carolina all have dedicated processes for supporting transition to kindergarten activities (Friedman-Krauss et al., 2023). This may be an area to explore for incorporating the Science of Reading in transition supports through family-home collaborations. Additionally, ensuring that preschool through K-12 data systems are aligned and connected for ease of sharing student data may support smooth transitions. The Education Commission of the States has a special report on effective transition supports (Atchison & Pompelia, 2018). For example, in Alabama's Transition to Kindergarten Toolkit, the first recommendation is for preschool and kindergarten staff to support home learning by encouraging families to read to the child every day. This recommendation is also echoed in the Michigan's Essential Practices for Successful Child Transitions. Michigan's Great Start Readiness Program Implementation Manual has extensive guidelines for transitioning families that include home visits, orientations, and ongoing family communication. Kansas has a Kindergarten Transitions Toolkit with a template for creating community based transition teams. One of the recommendations includes data sharing activities. In Massachusetts, transition plans are part of the evaluation of effectiveness of early education and care programs. Massachusetts has a free program, Summer Explore Kindergarten Transition program, for those children who may benefit the most from summer learning opportunities, for example, multilingual learners, and children in low-income families (Atchison & Pompelia, 2018). South Carolina, through their Early Childhood Advisory Council and with technical assistance from the Education Commission of the States, developed a comprehensive transition plan focusing on family engagement in 2021. Included in this work was the Pre-K to Kindergarten Transition Toolkit for Families which includes a detailed description of the language and literacy skills of the "ready kindergartener." Additional resources on school readiness have been developed by the Institute for Education Sciences Regional Educational Laboratory Southeast.

Colorado's K-3 Science of Reading Policy

Colorado is a leader in Science of Reading policy and implementation in the K–3 realm with the *Colorado READ Act*. Importantly, Colorado's HB 22-1295 addresses the importance of aligning early childhood and Colorado's Universal Preschool with the Science of Reading comparable to the Colorado READ Act. Colorado can use its approach to Science of Reading via the Colorado READ Act to inform and guide how it approaches supports for the preschool level and be a leader in the Science of Reading for preschool. Among the analysis of Science of Reading and dyslexia laws and policies, Colorado meets most of the benchmarks in K-3 (ExcelinEd, 2022a; National Center on Improving Literacy, 2023; Neuman et al., 2023). It is also a leader across the states in considering oral language as part of Science of Reading laws, this is important as oral language is one of the critical emergent and early literacy skills for preschoolers.

Understanding the components of the Colorado READ Act that have met or exceeded the benchmarks established by national experts can help inform considerations around creating policies and guidelines for implementing the Science of Reading for preschool.

- **Science of Reading support in K-3 includes** training, coaches, teacher preparation, funding, universal screener, dyslexia screener, parent notification, state education agency guidance on curriculum, reading plans, progress monitoring, intervention during non-school hours, and parent engagement.
- **Science of Reading laws include** preschool, evidence, Science of Reading, phonemic awareness, phonological awareness, phonics, vocabulary, fluency, comprehension, writing, oral language, teacher preparation, professional development/coaching, curriculum/materials, principal, assessment, reading plan, Multi-Tiered Systems of Support (MTSS), instruction/intervention, summer school, tutoring, dyslexia, multilingual learners, culturally relevant, family engagement, community engagement, and teacher certification/licensure renewal.
- **Dyslexia legislation includes** IDEA definition, screening, notification, list of screeners, state education agency annual report, Response to Instruction/Intervention (RTI) for eligibility/significant discrepancy prohibited, in-service requirement, intervention requirement (evidence-based, MTSS/RTI), literacy state-identified measurable result.

How Do States Address the Science of Reading for Preschool?

The next section provides an overview of how each state is addressing the Science of Reading for preschool either in legislation or through guidance documents.

Alabama

Progress to a universal preschool program without legislative mandate

Mixed delivery

All age-eligible

Alabama does not have a clear overlap in their Science of Reading legislation with preschool. However, it includes preschool extensively in its *Action Plan for Literacy: Birth Through Grade 12* (Alabama Committee on Grade-Level Reading, 2020). It emphasizes literacy as a fundamental right starting from birth. The action plan has a strong focus on professional development and support for preschool through Grade 3 teachers, including certifications for dyslexia therapists. It also addresses higher education through Science of Reading coursework for initial teacher certification. All regional Alabama Reading Initiative staff undergo advanced coursework on the Science of Reading. The Alabama Department of Early Childhood Education provides education and professional learning for families, teachers, and community partners. In its priority Action plan, it outlines three actions for birth through pre-K for the Alabama Department of Early Childhood Education: (1) Communicate to parents and childcare providers on how to help children develop language skills and the advantages of Pre-K and Kindergarten; (2) Publicly report data on access to Pre-K; and (3) Train 100% of Pre-K teachers in science of reading, including new teachers (p. 16).

Kansas

No universal preschool programs

Mixed delivery

Eligibility requirements

Kansas does not have a clear overlap in their Science of Reading legislation with preschool. Kansas does include preschool in its *Dyslexia Handbook* (Kansas State Department of Education, 2023). It includes a list of characteristics as risk-factors associated with dyslexia at different ages, including preschool. For preschool, it lists the following risk-factors: "Delays in learning to talk; Difficulty learning to pronounce new vocabulary; Difficulty following multistep directions; Difficulty retelling a familiar story in order; Difficulty with rhyming; Difficulty pronouncing words; Poor auditory memory for knowing rhymes or chants; Inability to recall the right word when speaking; and Trouble learning and/or remembering the letters in his/her name" (p. 8). Throughout the handbook, preschool is noted as a window for initial universal screening.

Massachusetts

No universal preschool programs

Public schools

All age eligible

Massachusetts does not have a clear overlap in their Science of Reading legislation with preschool. It includes preschool extensively in its *Growing Literacy Equity Across Massachusetts* program, which is part of the federal Comprehensive Literacy State Development grant funding (Massachusetts Department of Elementary and Secondary Education, 2023). In both the first and second cohort, preschool activities include: Selection and implementation of preschool literacy screening assessments; Selection and implementation of core and supplemental curricular materials for English-language arts; Strengthening community partnerships to build comprehensive, evidence-based, inclusive, and culturally responsive, preschool literacy plans; and Professional learning for district and EEC-licensed community partner educators to support evidence-based preschool literacy practices, use of preschool data in instructional decision-making, and foundation skills.

Massachusetts includes preschool in it Dyslexia Guidelines (Massachusetts Department of Elementary and Secondary Education, 2020). Specifically, preschool is addressed in regards to screening and states that “the most effective developmental screening processes include a range of skills across all major domains of development: cognitive, language, social-emotional / behavioral, physical (gross and fine motor), comprehensive health (including perceptual motor, vision, hearing, and medical history), general knowledge and approaches to learning. In the context of identifying concerns related to dyslexia, developmental screenings could include, but are not limited to, gathering data on a child’s phonological awareness, verbal working memory, name recognition and letter knowledge” (p. 22).

Michigan

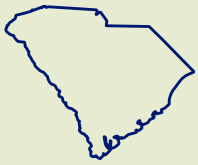
Governor supported universal preschool program

Mixed delivery

Eligibility requirements

Michigan's MI SB 0927, MI SB 845, and MI HB 4411 identify reading proficiency by the end of 3rd grade as one of the goals of early childhood funding for programs from birth through age 8. There is a clear overlap between preschool and elementary Science of Reading provisions. For example, it provides allocations for reading screening in preschool to grade 3, professional development for preschool to grade 3 educators on research-based training programs for literacy standards as well as on diagnostic data interpretation. It specifically includes phonemic awareness, phonics, fluency, comprehension as the key components of reading from preschool to 3 and identifies 5 fundamental building blocks of reading instruction as phonics, phonemic awareness, fluency, vocabulary and comprehension and content knowledge. Additionally, it has language allowing AmeriCorp Pre-K Reading Corp members to implement research-based early literacy intervention strategies in GSRP/Head Start blended programs. MI SB 845 specifically prioritizes preschool through first grade teachers for professional learning on the Science of Reading via the LETRS professional learning.

Additionally, Michigan includes dyslexia screening in preschool in its Michigan Dyslexia Handbook: A Guide to Accelerating Learner Outcomes in Literacy (Michigan Department of Education, 2022). It lists the following as potential reading difficulties in preschool: "Talks later than most children who are the same age; Deletes initial or final speech sounds in words; Stutters; Recognizes a limited number of letter names, colors, or shapes after being provided with quality instruction; Forgets words that were thought to be a part of an existing oral vocabulary; Needs support in following multi-step directions or following common routines; Has trouble recognizing and producing rhyming words" (p. 15).



South Carolina

No universal preschool programs

Mixed delivery

Eligibility requirements

South Carolina's Read to Succeed Act requires evidence-based reading instruction starting in preschool. Teachers are required to include "evidence-based reading instruction in prekindergarten through grade twelve, to include oral language, phonological awareness, phonics, fluency, vocabulary, and comprehension; administer and interpret valid and reliable assessments; analyze data to inform reading instruction; and provide evidence-based interventions as needed so that all students develop proficiency with literacy skills and comprehension" (2014 Act No. 284, Section 3, Section 59-155-10 (1)). Districts' annual reading proficiency plans must include preschool. Reading readiness assessments must be administered in prekindergarten. Within the Read to Succeed website is a direct link to Early Learning information, which reinforces the connection between early learning and literacy and preschool programs. It also includes resources for early learning literacy resources.

Wisconsin

Universal preschool program

Mixed delivery

All age eligible

Wisconsin does not have a clear overlap in their Science of Reading legislation with preschool. Wisconsin does include 4-year-old preschool literacy in reading readiness assessments, requires screening of dyslexia, and requires assessments to evaluate phonemic awareness and letter-sound knowledge (General School Operations, 2023). Wisconsin code specific to reading instruction (118.015) does not address preschool (General School Operations, 2023). However, it does include 4-year-old preschool and literacy in reading readiness assessments and characteristics of dyslexia (118.016); it requires screening in 4-year-old kindergarten. It does specify that the assessment must evaluate phonemic awareness and letter-sound knowledge.

Supporting Multilingual Learners

Although not specific to preschool, no states discuss multilingual learners extensively in their Science of Reading laws (Neuman et al., 2023). All states except for Wisconsin allow for bilingual instruction in preschool (Friedman-Kraus et al., 2018). However, states vary in the selection of services provided, particularly in preschool.

Kansas is the only state with extra funding for preschool multilingual learners. It has the most comprehensive selection of supports for preschool multilingual learners, including policies to support preschool families; written support plans; bilingual instruction permitted; monitoring of bilingual instruction; screening/assessment in home language; preschool multilingual learners placed in classes with other students with the same home languages; recruitment, enrolling, and outreach for preschool is done in home language; and home language surveys.

During CPP, Colorado was noted to have policies to support preschool families; bilingual instruction permitted; and recruitment, enrolling, and outreach for preschool done in home language(s). Lessons learned from CPP can be used to support efforts in Colorado's Universal Preschool.

Supporting Learners with Disabilities

Preschool students with identified disabilities are served through IDEA Part B. States have a certain amount of discretion as to how and where these students are served. In Colorado, 4–7% of Colorado's preschoolers had an Individualized Education Plan (IEP; Friedman-Krauss et al., 2023). Because IEP goals should be aligned with academic standards, and Colorado includes reading, writing, and communicating in its preschool academic standards, this is an opportunity to ensure goals and related specially designed instruction are related to the Science of Reading for preschool and evidence-based instructional practices.

Prior to Colorado's Universal Preschool, CPP included 96% of preschoolers with IEPs in the regular preschool classroom (Friedman-Krauss et al., 2023). In contrast, other states ranged from including only 16.2% to 43.7%. This is commendable, as research suggests that best practice for students with disabilities is to receive their instruction in their natural environment with their typical peers. The lessons learned from including students with disabilities in the CPP should be used to inform and support preschool students with IEPs in Colorado's Universal Preschool.

Supporting Learners with Exceptionalities

Considering that early reading may be an indicator of exceptionality, it is important to ensure that exceptional learners are provided the support they need to develop their reading skills through instructional practices aligned with the Science of Reading. Like the previous sections, much of the policy and data around exceptional learners is focused on school-aged children. However, understanding how exceptional learners are supported in the K-12 system may be helpful in understanding how to support them in preschool. Only Alabama, Colorado, Kansas, South Carolina, and Wisconsin have definitions for learners with exceptionalities (Rinn et al., 2022). Some states have dedicated funding for learners with exceptionalities: Alabama, Colorado, and South Carolina. Alabama has the most comprehensive selection of supports for learners with exceptionalities across grade levels. Specific to preschool/kindergarten, they have options for whole grade skipping and subject matter acceleration, differentiation in the general education classroom, push-in programming, cluster classrooms, and consultation. Although Alabama has a mixed delivery preschool system, it is likely that these services are provided in the public-school preschools.

Colorado has established a robust program for gifted students in the K-12 system and had provided some support to exceptional learners in the CPP. Relying on the expertise used to develop and support this system may be helpful in considering how to support exceptional preschoolers in Colorado's Universal Preschool.

Supporting Teachers

The Science of Reading, whether for preschool or elementary learners, is complex and requires a specific set of knowledge and skills to implement. Teaching children to read is both a science and an art. It is more than talking with children, reading books, and teaching alphabet songs, though it certainly is inclusive of those practices.

All providers, regardless of the entity, need to be equipped with the knowledge of the Science of Reading to meet the emergent and early literacy needs of developing readers before they enter kindergarten. Additionally, all providers, regardless of the entity, need to be supported in developing the skills and evidence-based practices aligned with the Science of Reading for preschool.

Supporting providers in gaining both the knowledge and skills is critical to ensuring preschool children enter kindergarten ready to learn to read. There are a variety of ways to support providers in gaining this knowledge including, but not limited to pre-

service coursework, initial and ongoing professional development, and integrated coaching and mentoring.

With the understanding that in Colorado's mixed delivery universal preschool program, providers come with a range of educational backgrounds and lived experiences, it is still important to consider how all providers can gain the knowledge and skills necessary to support their students and align their practices with the Science of Reading for preschool.

Though the focus of this report is on preschool and the intention is to inform Colorado's Universal Preschool alignment with the Science of Reading for preschool, it is important to understand that best practice in aligning preschool to elementary systems includes cross training both in preservice and in-service development (Stipek et al., 2017). For example, Alabama, Massachusetts, South Carolina, and Wisconsin's teacher credential options span from Pre–K through elementary. Alabama, Massachusetts, Michigan, South Carolina, and Wisconsin require teachers to have a BA and specialized training relevant to Pre–K (Friedman-Krauss et al., 2023). Specific to the Science of Reading, Alabama, South Carolina, and Wisconsin address teacher preparation in their Science of Reading Laws (ExcelinEd, 2022a).

Regardless of educational credential requirements, all states require professional development for their preschool providers (Friedman-Krauss et al., 2023). The content of this varies greatly. However, Alabama, Kansas, Massachusetts, Michigan, and South Carolina provide specific funding for curriculum implementation training (Friedman-Krauss et al., 2023). This may be an avenue to consider for providing professional development around the Science of Reading for preschool in alignment with the curriculums that are available to all providers.

All states have some system for preschool site visits, quality rating and improvement system, observations, and/or structured observations of preschool classroom quality (Friedman-Krauss et al., 2023). Colorado has a robust coaching system in place, which might be used to provide professional learning and support in the implementation of evidence-based practices in the Science of Reading for preschool.

Spotlight on Alabama

Alabama has a comprehensive system of supports for its preschool teachers. The state provides support for selecting curricula, ensuring it is aligned with the Early Learning and Development Standards (ELDS), professional development on ELDS, provides technical assistance for curriculum, and aligning assessments. Alabama requires 30 hours a year of professional development with individual professional

development plans and monthly coaching. Alabama requires preschool site visits more than once a year, uses structured classroom observations for the Quality Rating and Improvement System (QRIS), and all classrooms are observed at least annually using the Classroom Assessment Scoring System (CLASS). Alabama also provides funding for curriculum implementation training.

Spotlight on South Carolina

South Carolina provides extensive support from the state. South Carolina provides state education agency support for selecting curricula and ensuring they are aligned with ELDS; it provides a list of state-approved and recommended curricula. It provides technical assistance for the curriculum and professional development on ELDS. It has identified readiness assessments for preschool that are in compliance with the South Carolina Read Act. Additionally, South Carolina requires two types of classroom observation. One focused on language and literacy (Early Language and Literacy Classroom Observation Tool [ELLCO]), and one on social-emotional wellbeing (Teaching Pyramid Observation Tool [TPOT]).

SCIENCE OF READING AND STANDARDS

3

Sets of Language and Literacy Standards across CO's preschool programming

CO Early Learning and Development Guidelines

CO Academic Standards

Head Start Early Learning Outcomes Framework

Key Findings

A complexity with mixed delivery preschool is different sets of standards and early learning guidelines. For example, Head Start has guidelines set at the national level, and early childhood providers in Colorado have two sets of standards: Early Learning Guidelines and Preschool Standards. While aligned, providers in a mixed delivery system may not know which applies to them specifically, and they may not address the other set of standards/guidelines.

Colorado conducted a crosswalk of quality standards between Colorado's Universal Preschool legislative requirements and existing standards in 2023 (Colorado Department of Education, 2023a). Colorado's ELDG focuses on birth through age 8 and are aligned with the preschool-3rd grade portion of Colorado's P-12 Academic standards, and the Head Start Child Development and Early Learning Framework. Colorado revised their P-12 Academic Standards for reading, writing, and communication standards in 2020 to include preschool to reflect the progression from preschool through 5th grade.

Across Colorado's Early Learning and Development Guidelines, Academic Standards, and Head Start Early Learning Outcomes Framework, the Science of Reading as it applies in preschool is well aligned and represented (see Table A21). The guidelines and standards are representative of Reading readiness, Oral language, Vocabulary, Phonologic and Phonemic awareness, and Print knowledge. The guidelines and standards provide evidence of evidence-based practices of providing a print rich environment, intentional and purposeful instruction, sequentially and developmentally appropriate learning, and inclusive and culturally responsive practices. There are considerations for multilingual learners. Though not included

in the standards and guidelines, there are policies and guides for students with disabilities and exceptionalities.

APPENDIX

This appendix includes the following sections with details that support the findings and recommendations of this report:

- Methods
- Literature review
- Policy review
- State summaries
- Standards alignment review
- Data tables

METHODS

Literature Review

The literature review focused on seminal and critical reports that included systematic review and meta-analysis of research that meet the highest level of scientific rigor. As needed, supplemental research findings were added to support and provide more detail and context to the current landscape. To the fullest extent possible, supplemental literature was limited to what has been produced in the last decade. The topics included were broad in scope, this report is intended to provide a high-level overview of the following topics:

- Science of Reading and preschool language and literacy
- Evidence-based practices in preschool
- Application of the Science of Reading with diverse populations
  - multilingual learners
  - learners with disabilities and dyslexia
  - learners with exceptionalities

Policy Review

The policy review and state summaries focused on the most current reports and data available from reputable research and policy organizations that have a track record of high-quality dissemination. The specific topics included in the policy review are:

- Preschool to K-3 alignment
- Mixed delivery preschool
- Science of Reading and dyslexia legislation
- Considerations for diverse populations
  - Multilingual learners
  - Learners with disabilities and dyslexia
  - Learners with exceptionalities

Most states have some legislation or policy around the Science of Reading and/or dyslexia. However, the focus is predominantly on elementary aged students. Nonetheless, the lessons learned from elementary legislation and policy can be used

to inform considerations for the Science of Reading for preschool. Therefore, we did not limit the policy scan to preschool only.

Likewise, most states have some type of state funded preschool in addition to Head Start and early childhood special education. Very few states have true universal preschool program legislation or policies. It is our belief that the information gathered from any publicly funded preschool programming can be used to inform considerations for a universal preschool program. Therefore, we did not limit the policy scan exclusively to mixed delivery universal preschool program.

It is important to note that the most current, publicly available data at the time of report writing (fall 2023) was used. In most cases, the most recent data was based on the 2021-22 school year. Colorado's Universal Preschool began in the 2023-24 school year, therefore the data available for Colorado were based on the Colorado Preschool Program (CPP), which was not a universal preschool program and was not a mixed delivery model. Report authors acknowledge that this difference is far beyond a language difference and is an entirely different approach and system. However, lessons learned during the CPP can be used to inform considerations in Colorado's Universal Preschool.

Standards Crosswalk

RMC cross-walked the relevant language and literacy sections of Colorado's Early Learning and Development Guidelines, Preschool and Kindergarten Academic Standards, and Head Start Early Learning Outcomes Framework with:

- The main components of The Science of Reading for preschool
    - Oral language
    - Vocabulary
    - Phonological awareness
    - Print knowledge
    - Reading readiness
- Evidence-Based Instructional Content
    - Code-focused instruction
    - Meaning-focused instruction
- Developmentally Appropriate Evidence-Based Instructional Practices
    - Literacy development and print-rich environments
    - Intentional and purposeful instruction

- Sequential and developmentally appropriate learning and inclusive and culturally responsive practices

Recommendations

The final recommendations were produced by finding common themes across the literature and policy reviews and exemplars of states' implementation of these recommendations. It is important to note that although this report focuses on the Science of Reading for preschool, much of the current information on policy and implementation is targeted at early elementary grades. Therefore, the lens of interpreting the reports came though the question of *How does, or might, this relate to a mixed delivery universal preschool program?* Thus, in some cases, the recommendations provided in this report are conjectures based on what is known from the Science of Reading, evidence-based practices, and effective implementation in elementary, and how that may translate to mixed delivery for Colorado's Universal Preschool.

Recommendations Crosswalk

The final recommendations were cross-walked against:

- Colorado READ Act, which establishes the guiding philosophy, structure, and resources to get children reading at grade level by the time they enter the fourth grade;
- House Bill 22-1295 and Colorado Revised Statues 26.5, which establishes Colorado's Universal Preschool;
- Code of Colorado Regulations 8 CCR 1404-1, which provides Colorado's Universal Preschool rules and regulations; and
- Draft Colorado's Universal Preschool Quality Standards.

The intent of this cross-walk was to show the connections between each of the 22 recommendations and Colorado specific language in legislation, rules, and standards that may conceptually relate. Because the recommendations are specific to the Science of Reading for preschool it was not expected to find direct matches or alignment with current legislation, rules, and standards. Indeed, the intent of this report was to find ways to promote the Science of Reading for preschool within Colorado's Universal Preschool.

Partner Input

Throughout the process, internal and external experts on the Science of Reading, policy, and mixed delivery preschool were consulted for direction and clarification. RMC met regularly with members from the Colorado Department of Education and Colorado Department of Early Childhood Education to update the staff members on progress, ask questions, and address concerns.

The draft report will be presented to two of Colorado's high-stakes partner groups for feedback. A summary of feedback and responses will be included in the final draft of this report.

LITERATURE REVIEW

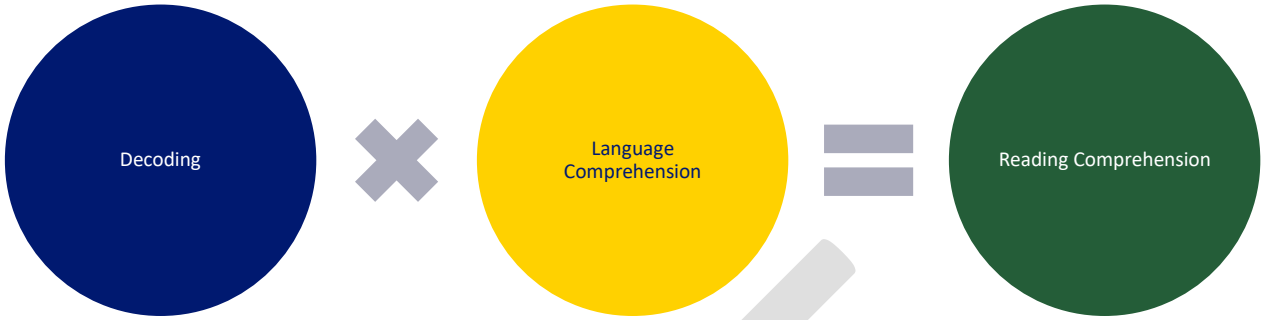
Reading is making meaning from print. It involves many skills to fluently decode words and attach meaning to the words (Baker et al., 2017).

Early literacy includes everything a child knows about reading and writing before they can read. These skills include print motivation, print awareness, letter knowledge, vocabulary, phonological awareness, and narrative skills (Colorado Libraries for Early Literacy, 2023).

Emergent literacy is the basic building block for learning to read and write. It begins developing in early infancy and early childhood through participation with adults in meaningful activities involving talking, sounds, and print. The core components of emergent literacy are oral language, vocabulary, phonological awareness, and print knowledge (Kosanovich et al., 2020).

Prior to the writing of this report, the Colorado Department of Education (CDE) developed a series of resources on the Science of Reading[9]. These resources are grounded in the Simple View of Reading (Gough & Tunmer, 1986), which has framed what is understood about reading for nearly four decades. The Simple View of Reading states that reading comprehension is the product of decoding and language comprehension. It concludes that to become proficient readers, children need instruction and practice in both major areas of reading: decoding and language comprehension. In this equation, *Decoding* is the ability to apply sound-symbol relationships to read words and *Language Comprehension* is the ability to understand spoken language. This is not an additive equation – reading comprehension cannot happen if one only has decoding or language comprehension.

[9] Source: https://www.cde.state.co.us/coloradoliteracy/scienceofreadingresources



While the Simple View was first established in 1986, a recent meta-analysis that incorporated advanced statistical modeling replicated the model (Hjetland et al., 2020). Yet, some argue that the Simple View may be an oversimplification of the definition of reading. Another more comprehensive visualization of reading is Scarborough's Reading Rope, which deconstructs the skills involved in word recognition (decoding) and language comprehension (Scarborough, 2001).

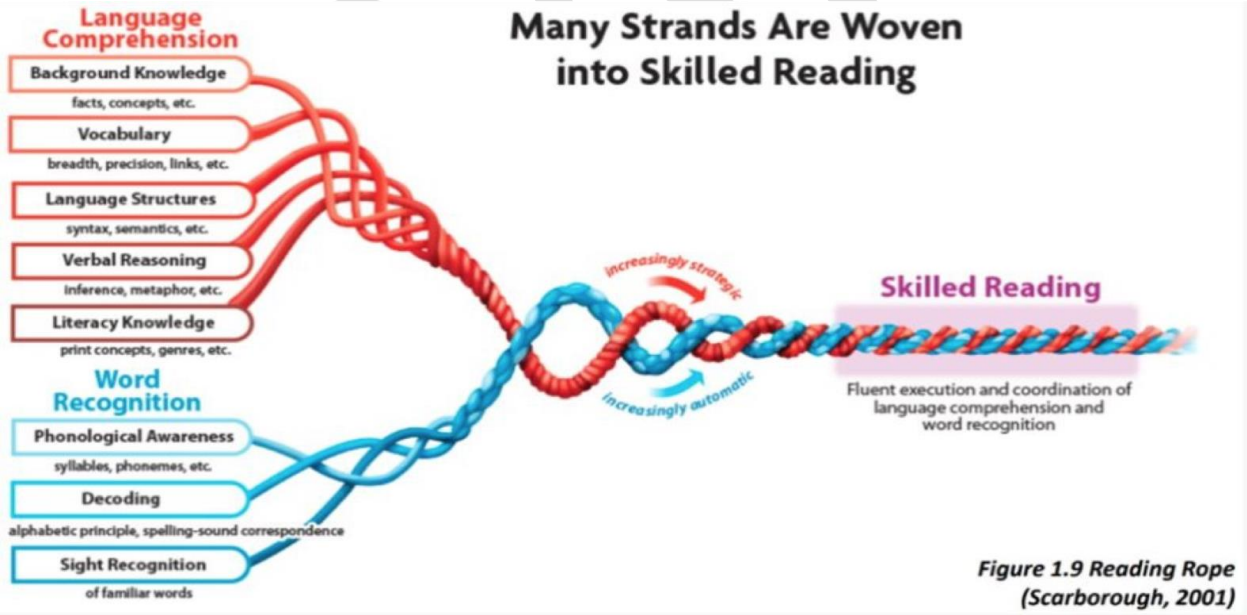


Figure 1.9 Reading Rope (Scarborough, 2001)

In this model, *word recognition* aligns with *decoding* from the Simple View of Reading. Scarborough highlights three strands or subskills that support word recognition:

- Phonological awareness is hearing and manipulating individual sounds and syllables in words. This skill is taught in preschool. Phonological awareness is a

foundational skill that children will need when, in later grades, formal reading instruction begins.

- Decoding is translating a word from print using letter-sound correspondence. The groundwork for this subskill is taught at the preschool level through print knowledge, letter-name knowledge, and letter-sound knowledge. Children who have good print knowledge skills and well-developed phonological awareness can quickly understand the connection between the phonemes (the sounds) and the graphemes (the letters). This will help them benefit from phonics instruction in later grades.
- Sight recognition is recognizing words automatically. Decoding skills support the development of reading fluency, and reading fluency is a bridge to reading comprehension.

Language comprehension in the Scarborough model aligns with language comprehension in the Simple View of Reading but provides more detail about each strand or subskill. At the preschool level, all these skills are taught through frequent language interactions, read-alouds, and play-based interactions.

- Background knowledge is the experiences that make up our background knowledge.
- Vocabulary is the knowledge of words and word meanings. Background knowledge, strong oral language skills, and vocabulary knowledge support reading comprehension. Hearing lots of words and knowing the meanings of words will make children more likely to understand what they read in later grades.
- Language structures are a set of rules about how to put words together to make phrases and sentences, including grammar and syntax.
- Verbal reasoning is problem-solving, making inferences, and monitoring understanding.
- Literacy knowledge is the understanding of different types of texts and concepts of print.

Both the Simple View and the Reading Rope support and are supported by what we now understand as the Science of Reading. A recent meta-analysis confirmed these theoretical models showing the impact of preschool skills on later reading comprehension (Hjetland et al., 2020). These models show the complexity of what it takes to become a skilled reader and the significant role educators and caregivers play in providing the foundation for children to become skilled readers. At the preschool level, teachers and caregivers are building the foundational knowledge that children need for later reading instruction. The foundational skills that support

decoding at the preschool level include phonological awareness, print knowledge, letter-name knowledge, and letter-sound knowledge. The foundational skills that support language comprehension include oral language development, background knowledge, and vocabulary knowledge (Kosanovich et al., 2020).

Science of Reading and Emergent and Early Literacy

While there is not one definition, the Science of Reading is "a phrase representing the accumulated knowledge about reading, reading development, and best practices for reading instruction obtained by the use of the scientific method" (Petscher et al., 2020, p. 2). At least five decades of research have been conducted around the world in multiple languages to inform how reading and writing develop. It is this knowledge that informs the instruction and intervention needed to ensure equitable access to written language (The Reading League, 2021).

The first comprehensive synthesis of research on reading development was the National Research Council's (NRC) report (Snow et al., 1998). This report explored empirical research on reading development and provided evidence-based strategies and practices for educators and policymakers to identify and address potential reading difficulties in early childhood. After the NRC report, congress commissioned the National Reading Panel report (NRP; National Reading Panel, 2000), which is one of the most referred-to sources on the Science of Reading and has led to significant legislation, such as the Colorado Read Act. The experimental research reviewed in the NRP report led to a body of evidence-based skills essential for all readers: phonemic awareness, phonics, fluency, vocabulary, and comprehension.

While the NRP report focused primarily on kindergarten to 3rd grade students, a subsequent report, the National Early Literacy Panel (NELP) report, focused on early literacy skill development in birth through five-year-olds and included the best available evidence of early predictors and instructional practices (National Institute of Child Health and Human Development, 2010). The NELP report identified six variables—precursor skills, or emergent and early literacy skills—that "not only correlated with later literacy as shown by data drawn from multiple studies with large numbers of children but also maintained their predictive power even when the role of other variables, such as IQ or socioeconomic status, were accounted for (p. vii)." The NELP report also highlighted five additional emergent and early literacy skills the panel determined to moderately correlate with later literacy skills. It is these 11 variables that set the foundation for young children to develop the essential skills identified in the NRP that form the foundation of successful reading with comprehension. Table A1 shows the alignment between the NELP variables and NRP essential skills that form the basis of the Science of Reading.

Table A1

Foundational skills in preschool are related to later reading skills.

NELP Variable	Definition	NRP Skill Link
Critically important skills		
Alphabet knowledge	Knowledge of the names and sounds associated with printed letters	Phonics
Phonological awareness	The ability to detect, manipulate, or analyze the auditory aspects of spoken language (including the ability to distinguish or segment words, syllables, or phonemes), independent of meaning	Phonemic awareness
Rapid automatic naming of letters, digits	The ability to rapidly name a sequence of random letters or digits	Phonics Fluency
Rapid automatic naming of objects or colors	The ability to rapidly name a sequence of repeating random sets of pictures of objects or colors	Fluency
Writing letters or writing name	The ability to write letters in isolation on request or to write one's own name	Phonics
Phonological memory	The ability to remember spoken information for a short period of time	Phonemic awareness
Potentially important skills		
Print knowledge	A combination of elements of alphabet knowledge, concepts about print, and early decoding	Phonics Comprehension
Concepts about print	Knowledge of print conventions (e.g., left-right, front-back) and concepts (cover, author, text)	Phonics Comprehension
Reading readiness	A combination of alphabet knowledge, concepts of print, vocabulary, memory, and phonological awareness	Phonemic awareness Phonics Vocabulary
Oral language	The ability to produce or comprehend spoken language, including vocabulary and grammar	Phonemic awareness Vocabulary

Visual processing	The ability to match or discriminate visually presented symbols	Vocabulary Comprehension

According to research on literacy development during preschool to kindergarten, the following developmental continuum is expected (see Table A2; Kelley, 2021; Snow, 2006):

Table A2

Emergent and early literacy skills for 3-, 4-, and 5-year-olds look different.

3-year-old	4-year-old	5-year-old
Knows how to hold books upright and turn pages	Recites alphabet	Recognizes text features, including titles and authors
Listens when read to	Recognizes many letters	Names and writes most letters
Understands most pictures in books	Makes connections between stories and life	Recognizes and spells simple words
Distinguishes print from pictures	Produces rhymes or alliterations	Engages with stories through questioning and connections
Recognizes some letters	Pretend writes or draws to communicate ideas	Uses invented spelling to communicate ideas in writing

Evidence-Based Practices for Emergent and Early Literacy Skills

Understanding the emergent literacy skills that develop into early literacy skills which then build a successful reader is important so that evidence-based instructional practices can be identified and implemented at the preschool level. Unlike spoken language, which can develop through naturally occurring exposure and modeling, emergent and early literacy skills, including more sophisticated oral language and vocabulary, must be taught. Twenty years ago, researchers suggested the following essential emergent and early literacy teaching strategies:

1. Rich teacher talk
2. Storybook reading
3. Phonological awareness activities
4. Alphabet activities
5. Support for emergent reading

6. Support for emergent writing
7. Shared book experience
8. Integrated, content-focused activities (Roskos et al., 2003)

These strategies hold true today. A recent report summarized 20 years of experimental research, including 132 interventions and their impact on emergent and early literacy development with children not yet in kindergarten (S. Herrera et al., 2021). This report was developed in tandem with a series of intensive professional learning modules specifically on evidence-based instruction for emergent and early literacy; modules focus on print knowledge, phonological awareness, vocabulary, and oral language (Kosanovich et al., 2020). More recently, a What Works Clearinghouse (WWC) Practice Guide reviewed experimental research on preparing preschool-aged children for kindergarten (Burchinal et al., 2022). While this report included research that investigated outcomes beyond emergent and early literacy, the relevant findings are included in Table A3 along with other evidence-based practices included in large-scale research synthesis.

Table A3

Evidence-based instruction includes code- and meaning-focused instruction.

Practice	Snow et al.	NRP	NELP	Herrera et al.	Kosanovich	Burchinal et al.
Code-Focused Evidence-Based Interventions						
Instruction on the structure of spoken words includes phonemic awareness instruction, which is both embedded throughout the day and explicitly taught using the phonological awareness continuum to inform instruction	✓	✓	✓	✓	✓	
Emergent phonics instruction builds children's knowledge of sounds and letters, including frequent regular spelling-sound relationships and understanding of how sounds are represented alphabetically	✓	✓	✓	✓	✓	✓
Children engage in exploratory writing to learn about the nature of the alphabetic writing system	✓			✓		
Meaning-Focused Evidence-Based Interventions						

Building interest and motivation to read for a variety of purposes and includes comprehension instruction to obtain meaning from print	✓	✓				
Print referencing during dialogic reading (interactive reading) - Use shared book reading to develop children's language, knowledge of print features (print knowledge), and knowledge of the world	✓	✓	✓	✓	✓	✓
Intentionally planned vocabulary instruction and activities to build children's vocabulary and (oral) language. Vocabulary instruction includes explicit instruction for specific words with well thought out scope and sequence determining which words to teach	✓	✓	✓	✓	✓	✓
A variety of language development occurs regularly, including multi-turn conversations, peer-to-peer language interactions, embedded brief language interactions, building a network of words, encouraging decontextualized language, and recasts and expansions on what students say	✓		✓	✓	✓	
Evidence-Based Instructional Practices						
Small-group explicit instruction				✓	✓	
Play-based interactions with teacher guidance and scaffolding					✓	
Systematic instruction that is carefully thought out, builds on prior learning, and moves from simple to complex					✓	
Scope and Sequence shows the full range of content (scope) to be taught and the order (sequence)					✓	
Explicit instruction is overtly teaching each step and making the learning goal obvious to the children, makes skill or concept obvious to the child					✓	
Scaffolded instruction provides feedback to help children demonstrate a skill or concept when they could not otherwise have done so on their own.					✓	
Differentiated instruction matches instruction to each child's unique needs and abilities					✓	
Parent and home programs			✓			

Importantly, regardless of the content of instruction, there are several documents supporting specific types of instructional practices (Table A4) that are developmentally appropriate for preschool (Burchinal et al., 2022; Kosanovich et al., 2020; "Learning to Read and Write: Developmentally Appropriate Practices for Young Children," 1998).

Table A4

Language and literacy instruction should be provided in developmentally appropriate instruction.

	Burchinal	NAEYC	Learning to Read and write
Intentional and Purposeful Instruction: Emphasizes the significance of intentional, planned instruction and learning experiences, which are carefully designed to meet specific learning goals and objectives. This includes continuously assessing children's progress and making instructional adjustments accordingly.	✓	✓	
Interaction, Conversation, and Responsive Relationships: Highlights the importance of fostering positive, nurturing relationships with adults who engage in responsive conversations and model reading and writing behavior. It stresses the significance of interaction, both child-guided and teacher-guided, in small-group and large-group settings.	✓	✓	✓
Sequential and Developmentally Appropriate Learning: Focuses on the importance of lessons building sequentially, attending to learning progressions in curriculum and teaching methods, and providing experiences that help children reach challenging yet achievable goals.	✓	✓	✓
Literacy Development and Print-Rich Environments: Centers on fostering literacy through various strategies, such as providing print-rich environments, engaging in daily high-quality book reading, and offering opportunities for phonemic awareness development, vocabulary expansion, and incorporating literacy tools into play.		✓	✓
Inclusive and Culturally Responsive Practices: Stresses the recognition and valuing of everyone's background and	✓	✓	

experiences, including the use of high-quality books that reflect children's identities, home languages, and cultures.			

The Science of Reading and Multilingual Learners

The knowledge of the Science of Reading, emergent and early literacy is not limited to monolingual learners; the research noted in the previous section applies to multilingual learners (MLs[10]) as well. Akin to the seminal work of the NRP and the NELP is the seminal work of the National Literacy Panel on Language-Minority Children and Youth (August & Shanahan, 2006). Like the NRP, this report focused on school-aged children. Nonetheless, the findings are important for preschool children as well. The major findings from the report are as follows:

- The same key components identified in the NRP for monolingual learners (phonological awareness, phonics, fluency, vocabulary, and text comprehension) apply to multilingual learners.
- Instruction in the key components is necessary but not sufficient; oral proficiency in English is critical for learning to read in English.
- Proficiency in the first language (L1) is useful in English literacy development.
- Individual differences contribute significantly to English literacy development.
- Most assessments do a poor job of gauging individual strengths and weaknesses.
- Home language experiences have a positive impact on literacy achievement, more so than other sociocultural variables.

In March 2023, The Reading League, and the National Committee for Effective Literacy, two preeminent organizations dedicated to literacy and MLs, held a joint summit discussing the literacy needs of emergent MLs. The conclusions made at that summit were based on decades of research on the reading development of mono- and MLs. Together, they issued a joint statement regarding the implementation of the Science of Reading for ML students (The Reading League, 2023). Broadly, the statement indicated that the Science of Reading and evidence-based instructional practices are appropriate for both monolingual learners and MLs. Developing oral language in both languages is important; instructional practices that connect home language and English benefit language and literacy development. When possible, access to dual-language instruction is encouraged to build foundational literacy skills

[10] Throughout research and policy literature, multilingual learners may also be referred to as English language learners, dual-language learners, or bilingual learners. For the purposes of this document, they will be referred to as multilingual learners unless a source is quoted directly; in a quote the terminology from the source will be used.

and positive literacy outcomes in both languages. A wide variety of materials should be available for students to read; materials should be culturally and linguistically responsive. Table A5 organizes additional instructional practices for MLs.

Table A5

Additional instructional practices to considerations for multilingual learners.

Instructional Practices	NCELA Early Childhood	SEAL Framework Preschool	Council of the Great City Schools
Complex, Expressive, Precise Vocabulary and Discourse Development in the Socio-emotional and academic realms	✓	✓	✓
The simultaneous development of English and home language is sought whenever possible	✓	✓	✓
Support for Student Talk and Structured Oral Interaction	✓	✓	✓
Exposure to and Engagement with Rich Literature and High-Level Informational Text	✓	✓	✓
Purposeful, Interactive Read-Alouds and Meaningful Text Engagement	✓	✓	✓
Authentic Writing for Purpose	✓	✓	✓
Dramatic Play and Hands-On, Inquiry-Based Learning	✓	✓	
Graphic Organizers and Visuals	✓	✓	✓
Collaborative Practice and Skills of Teamwork	✓	✓	
Language Development Through Arts Infusion	✓	✓	
The World in the Classroom	✓		

Language of Instruction

Within the past decade, three systematic reviews have agreed that children can learn two languages simultaneously during the preschool years and that continuous and regular exposure to both languages is best to ensure full reading development (Byers-Heinlein & Lew-Williams, 2013; Genesee, 2015, 2016). A review of extant research identified no evidence that using Spanish at home affected children's abilities to learn English, and knowing more Spanish at the beginning of preschool was associated with having higher skills in English at the end of the school year (Hammer et al., 2020).

Several studies have investigated the role of reading development among bilingual learners, with a particular interest in the role of language of instruction. Research has found that MLs in English-only preschool programs do not show any significant advantage in English compared to MLs in bilingual programs, and those in bilingual programs also show superiority in the native language (Genesee, 2016). Comparable results were reported by others (Barnett et al., 2007; Lindholm-Leary, 2014). Specifically, researchers have determined that MLs who received bilingual instruction at preschool through first grade scored significantly higher in Spanish than children in English programs; there was no significant impact on English (Lindholm-Leary, 2014). Using data from Head Start, researchers found that Spanish-speaking ML children instructed in Spanish scored higher in English-receptive vocabulary compared with Spanish-speaking ML children who attended Head Start but were not instructed in Spanish (Miller, 2017).

> "All reviews of research on effective instructional strategies for promoting language and literacy development in ELLs [English language learners] also point to the importance of incorporating ELLs' home languages, where feasible and useful, into instruction; this is particularly true when it comes to pre- and early literacy" (Genesee, 2016, p. 35).

Staff language can also influence the learning of young MLs. Based on the Classroom Assessment of Supports for Emergent Bilingual Acquisition observation tool, which is more effective at capturing language supports for MLs compared to the Early Childhood Environment Rating Scale - Revised, researchers determined that classrooms where the lead teacher speaks English and the assistant teacher speaks Spanish score significantly lower than classrooms where both lead and assistant teachers speak Spanish (Figueras-Daniel & Li, 2021).

Evidence-Based Practices for ML Students

Although this report focuses on preschool learners and emergent and early literacy, it is important to note that there are resources aligned with the Science of Reading and

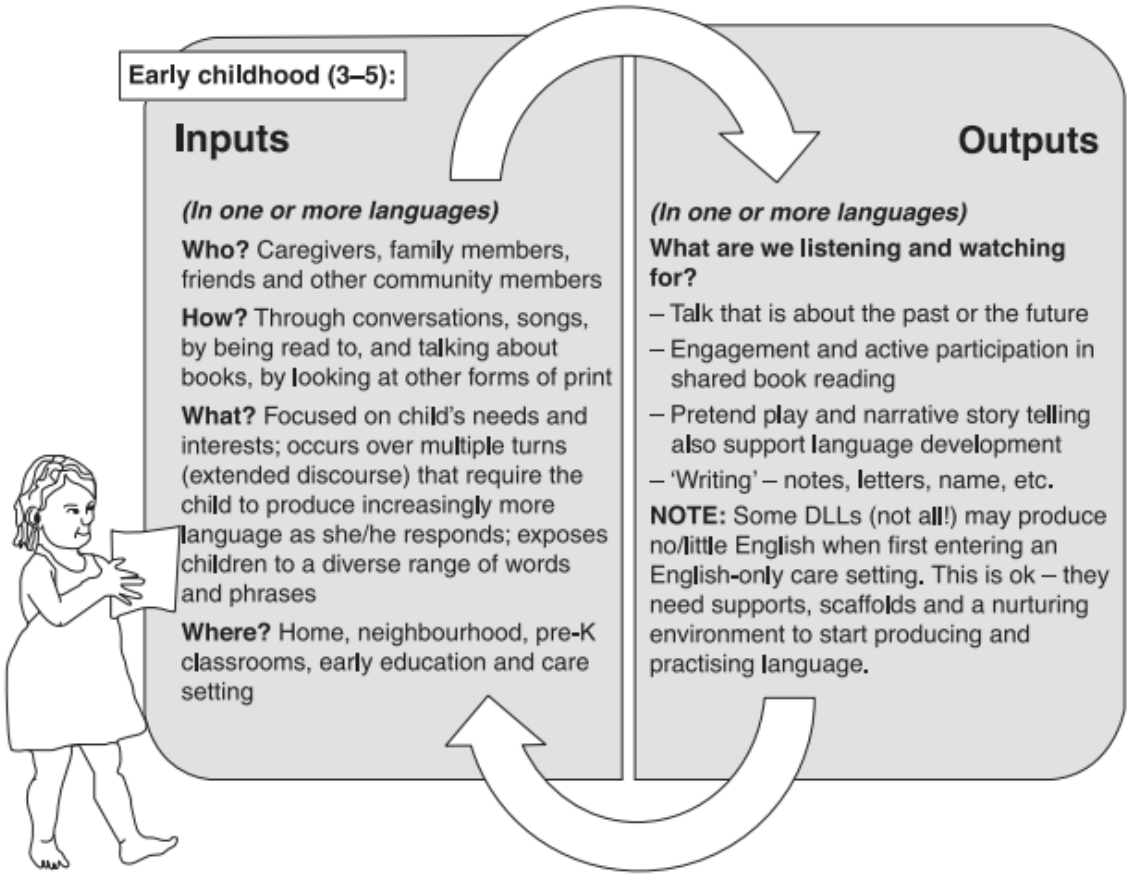
evidence-based practices for MLs in grade school. A WWC practice guide has four recommendations for teaching MLs (Baker et al., 2014). The four recommendations in the guide are relevant for English language academic instruction regardless of the approach a school or district takes toward language instruction (e.g., dual immersion, structured immersion, or transitional bilingual education). The guide focuses on learning academic content in English, not the student's primary language. There are two supporting resources that accompany this work. The first is a practice guide that includes a collection of activities that families and caregivers can use with young English learner children at home to leverage cultural and linguistic assets and knowledge to strengthen language development in either the home language or English (van Houten et al., 2020). The second is a supporting document that addresses key policies and practices for bilingual programs (The Meadows Center for Preventing Educational Risk, 2021).

Another resource worth highlighting is the recent framework developed by the Council of the Great City Schools (2023). The report does not focus on a specific age or grade range; rather, it focuses on literacy development for MLs. The report acknowledges that "those who enroll in later grades may also need foundational literacy skills development as they acquire English" (2023, p. 12). The report highlights the relationship between language-based and code-based skills and relies heavily on the consensus report Promoting the Educational Success of Children and Youth Learning English (National Academies of Sciences, Engineering, and Medicine, 2017). Specifically, it highlights that foundational literacy skills are built on (1) language discrimination and speech patterns, (2) early word learning, (3) early vocabulary development, and (4) morphosyntactic development. The report also points out that while it is important for MLs to develop code skills because they are developing English oral language, they have smaller English vocabularies and less phonological awareness than their peers. Therefore, it is critical to teach code-based skills in conjunction with language-based skills.

While it is recognized that there are challenges in identifying curriculum and assessments that exploit the special resources of multilingual students (Pearson et al., 2020; Wackerle-Hollman et al., 2013), there are many ways to support multilingual students. A common call for educators of MLs is to be aware of their MLs' literacy-related skills to individualize instruction building on their existing skills (Friedman-Kraus et al., 2018; Genesee, 2016; Nores et al., 2018; Pearson et al., 2020).

Based on studies on oral language development, Genesee (2016, p. 35) identified nine language-related modifications for MLs. Genesee's strategies are well aligned with other research reviews on best practices for early childhood teachers. For example, researchers point out that during the preschool years, the focus is on both

multilingual and multiliterate development; therefore, oral language, phonological awareness, and print knowledge are key skills for instruction (Galloway & Lesaux, 2017). Specifically, Zheng et al. (2021) identified the following four strategies for supporting the language development of MLs: (1) translanguaging, (2) interaction-promoting strategies, (3) linguistics-based strategies, and (4) culture-based strategies.



Language inputs and outputs that support language and literacy development during early childhood for MLs. Source: Phillips & Lesaux (2017), p. 32, Figure 3.2.

More recently, the National Committee for Effective Literacy compiled the most recent research available on effective emergent and early literacy instruction for dual language learners (S. G. Herrera et al., 2022) and identified five minimal components of evidence-based literacy instruction. They also identified three conditions to facilitate motivation and development of emergent and early literacy skills among MLs. These are well aligned with the Guiding Principles from the Council of Great City Schools (2023) and recommendations from NASEM (2017). The evidence-based practices for MLs are synthesized in Table A6. Additional research exists on MLs with

disabilities and MLs as exceptional learners, the two subgroups discussed next (see National Academies of Sciences, Engineering, and Medicine, 2017).

Table A6

Instructional practices for preschool multilingual learners.

Evidence-Based Practice for Multilingual Learners	Genesee	NCEL	Council of Great City Schools	NASEM
Supporting and Maintaining Home Language in Early Education: Acknowledge and support the importance of developing and maintaining the home languages while facilitating English language development in the preschool environment.	✓	✓	✓	✓
Cultural Inclusivity: Create an inclusive environment in preschool that supports diverse cultural and linguistic backgrounds, valuing home languages, culture, and bilingualism to foster emergent and early literacy.	✓	✓	✓	✓
Language Development: Emphasize explicit and intentional language instruction focusing on vocabulary, grammar, and oral language development crucial for emergent and early literacy. Explicit instruction includes modeling, practice opportunities, and scaffolding to support language development.	✓	✓	✓	✓
Tailored and Individualized Instruction: Provide individualized instruction that respects and reflects the experiences of young multilingual leaners. This includes the use of visuals and realia to make new language, concepts, or skills easier to learn.	✓			
Integrated Literacy Approach: Integrate literacy development into classroom activities using high-quality, culturally responsive materials that foster cross-linguistic connections and metalinguistic awareness. Support the development of language and print knowledge in all languages.		✓	✓	
Comprehension and Meaning-making: Prioritize comprehension, meaning-making, and proper expression in reading over speed and accuracy to support emergent and early literacy in preschoolers.			✓	✓

Early Childhood Collaborative Learning: Encourage interactive activities, group work, and pair work to facilitate collaborative language learning.	✓			

The Science of Reading and Children with Disabilities

Much of the foundational knowledge on the Science of Reading was formed around the notion of preventing later reading difficulties or even reading disabilities. Moreover, much of what is known about evidence-based instruction and intervention is also based on the premise of preventing later reading difficulties. One of the greatest prevention strategies is early identification, instruction, and intervention. Preschool emergent and early literacy instruction has been identified as a salient prevention strategy (Snow et al., 1998). Specific interventions in preschool should promote oral language skills and phoneme awareness to provide a solid foundation for later literacy development (Hulme & Snowling, 2016).

The collective body of research conducted by IES-funded studies underscores the significance of early interventions for children at risk of language and reading disabilities (Connor et al., 2014). Providing preschoolers with ample exposure to complex oral language can notably enhance their language outcomes. The research also highlights the pivotal role of oral language development in preschool, as it sets the foundation for effective reading comprehension. Moreover, early identification of students at risk for reading disabilities in preschool can trigger timely interventions, setting them on a path toward proficient reading.

Nevertheless, accurately predicting reading disabilities in preschool children has proven to be a complex task. Promisingly, studies suggest the potential for universal screening of reading disability risk among preschool children. Profiling the skills of preschoolers reveals variations, with these profiles serving as predictors of their kindergarten performance. Students with or at risk for reading disabilities tend to exhibit weaknesses across various skill areas, including decoding, word knowledge, oral language, and fluency. In fact, some advocate for screening as young as four years old in the clinical setting (Sanfilippo et al., 2020).

Identification of Dyslexia or Reading Disabilities Rarely Occurs in Preschool.

In fact, regarding the identification of reading disabilities based on a response to instruction framework, the more widely accepted model for identification considers kindergarten and first grade as early identification (Catts et al., 2015). Among students that may later be classified as having a learning disability, a specific learning

disability, or dyslexia, many may not yet be identified as having any disability in preschool. Or, they may be identified as having developmental delays or speech or language impairments. Indeed, research has found low agreement among various identification methods and definitions of reading-related learning disabilities among preschool children (Milburn et al., 2017). It is important to note that while teachers' reports may provide a valid representation of children's skills, the diagnostic accuracy of these reports is low (Cabell et al., 2009). However, it is possible to screen preschool children for the potential to develop dyslexia based on known risk factors (Gaab, 2017).

> "Since research has shown the rapid growth of the brain and its response to reading instruction in the primary years, the critical time for initial universal screening would be when a student is in preschool or kindergarten" (Kansas State Department of Education, 2023).

There is a consensus that preschool children with speech or language impairments (SLI) are at risk for dyslexia (Helland et al., 2017; Hulme & Snowling, 2016). Understanding family risk for dyslexia is important, as research suggests that family risk was a stronger predictor of dyslexia than low language in preschool (Hulme & Snowling, 2016; Snowling & Melby-Lervåg, 2016; Thompson et al., 2015). In a study on family risk for dyslexia and the overlap of SLI, roughly 50% of children with family risk for dyslexia already had a phonological deficit in preschool, and a third of preschool children with family risk of dyslexia met diagnostic criteria for SLI (Nash et al., 2013). Because of the high heritability of dyslexia, estimated to be about 30-60% of children born to a dyslexic parent will develop dyslexia, an often-cited screener for dyslexia in preschool is based on parental reading history (Lefly & Pennington, 2000; see https://dyslexiaida.org/screening-for-dyslexia/dyslexia-screener-for-preschoolers/). Other risk factors for dyslexia in preschool include deficit in phonological memory, delayed language development, poor letter knowledge, Rapid Automatized Naming (RAN), deficits in broader language skills such as grammar and vocabulary, lower nonverbal ability, weakness in auditory process, and limitations in verbal short-term memory (Snowling & Melby-Lervåg, 2016).

Protective factors include letter-naming skills developing early, good phonological awareness, or efficient RAN (Snowling & Melby-Lervåg, 2016). While there is an understanding of protective factors and evidence-based practices for general literacy development, there are no studies specific to dyslexia interventions in preschool. A recent meta-analysis covering 40 years of intervention research for dyslexia did not include students younger than kindergarten (Hall et al., 2023).

What are states doing about dyslexia in preschool? Several states have dyslexia handbooks to help inform and guide the identification and services of students with

dyslexia. Some states include characteristics of children with dyslexia in preschool (Kansas State Department of Education, 2023; Michigan Department of Education, 2022), such as:

- Delays in learning to talk
- Difficulty pronouncing words, stutters, deletes initial or final speech sounds in words
- Difficulty learning to pronounce new vocabulary
- Forgets words that were thought to be a part of an existing oral vocabulary
- Difficulty following multistep directions or following common routines
- Difficulty retelling a familiar story in order
- Difficulty with rhyming
- Poor auditory memory for knowing rhymes or chants
- Inability to recall the right word when speaking
- Trouble learning and/or remembering the letters in his/her name
- Recognizes a limited number of letter names, colors, or shapes after being provided with quality instruction

Inclusive Preschool for Children with Disabilities

So, which children are identified with disabilities (CWD) in preschool? **CWD in preschool are those who are eligible for special education services and are served through the rules and regulations of IDEA Part B.** Specifically, in Colorado, to qualify as an appropriate preschool program for students served under IDEA, the program must meet the standards of the Colorado Department of Education (Colorado Department of Education, 2023b). Students may be served in a preschool program that is administered in the public school system, Head Start, or non-public preschool programs.

In 2020-21, approximately 6% of children aged 3 through 5 were identified as having a disability (U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs, 2023). Of that 6%, the majority of CWD had developmental delays (45.1%), followed by speech or language impairment (35.8%), autism (12.2%), or other disabilities (6.8%), which includes deaf-blindness, emotional disturbances, hearing impairments, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, traumatic brain injury, and visual impairment. Although the percentage of preschool children identified with a disability according to IDEA is 6% of the population, among school-aged children, 12% have a disability (Friedman-Kraus &

Barnett, 2023). This suggests that the number of *identified* students with disabilities is less than the *actual* number of students with disabilities in any given preschool classroom due to students not being identified until they are older. In Colorado, 96.2% of those students were served in a regular early childhood program. Therefore, it is important for all preschool providers to understand that there is a strong likelihood they will serve CWD.

In 2009, leading experts in special education in the Division for Early Childhood of the Council for Exceptional Children (DEC) and early childhood education in the National Association for the Education of Young Children (NAEYC) crafted a joint statement on early childhood inclusion (DEC/NAEYC, 2009). This statement specifically defined inclusion by access, participation, and supports. Specifically, they recommended the following:

1. Create high expectations for every child to reach their full potential.
2. Develop a program philosophy on inclusion.
3. Establish a system of services and supports.
4. Revise program and professional standards.
5. Achieve an integrated professional development system.
6. Influence federal and state accountability systems.

A recent meta-analysis of research on CWD determined that embedded instruction is an evidence-based practice for CWD and supports inclusive education in preschool (Gulboy et al., 2023). Importantly, research also suggests that when CWD are served in an inclusive setting, there is a positive effect on the attitudes and perceptions of their peers and does not impact peers' developmental gains. In inclusive preschools, CWD are best supported by naturalistic approaches such as incidental teaching, transition-based teaching focusing on pre-academic skills, and embedded instruction, which teaches language and communication in natural environments (Hebbeler & Spiker, 2016). This is preferable over activity-based interventions or segregated one-on-one instruction that focuses specifically on target skills (Gulboy et al., 2023). Embedded instruction in an inclusive preschool classroom is based on four procedural components:

- What to teach – identifying the target skills to meaningfully participate in instruction.
- When to teach – identifying developmentally appropriate tasks within already occurring activities, routines, and transitions in which target skills can be taught.
- How to teach – implementing embedded learning using intentional and systematic instruction for meaningful participation.

- How to evaluate – evaluation implementation and its impact on learning.

A 2016 review of research on improving inclusive preschool programs suggests naturalistic approaches and embedded instruction, including embedded direct instruction, are helpful in language and emergent and early literacy skill development. Other effective strategies are peer-mediated strategies for language development and teacher-led interventions using stories (Lawrence et al., 2016). Specifically, the research suggested that embedded direct instruction was more effective than activity-based interventions for phonological awareness.

Literacy Instruction and Interventions for CWD

Early intervention, focusing on key literacy components such as oral language, phonological awareness, and letter knowledge, proves essential in addressing early deficits and mitigating the challenges posed by chronically low reading achievement (Connor et al., 2014). It is not surprising that the components of instruction identified as high-quality for CWD in preschool include oral language, phonological awareness, print awareness, and letter knowledge. However, researchers do note that CWD often need instructional practices that are more intense or longer in duration than for typically developing peers (Hebbeler & Spiker, 2016). For example, when given intensive instruction in phonemic awareness and structured book reading, preschool children at risk for reading disabilities required more teaching sessions than their peers to reach criterion (Hindson et al., 2005).

> "Practices that support early literacy for typically developing children apply equally well to young children with disabilities—reading books, for example, and teacher-child interactions that focus on asking questions and making predictions to facilitate language development" (Hebbeler & Spiker, 2016, p. 194).

Nearly three decades ago, researchers documented the emergent and early literacy of preschool children with disabilities and concluded that when immersed in a literature-rich environment with multiple daily readings and encouragement to interact with books, "literacy development of children with disabilities, like youngsters without disabilities, can be influenced through classroom curriculum and procedures" (Katims, 1994, p. 58). In Hebbeler and Spiker's (2016) review on supporting CWD, they noted that preschool curricula created for typically developing children have not been well studied for their effectiveness with CWD. Additionally, very few have been developed specifically for CWD. At the time of the review, only two had been noted as having empirical evidence: Teaching Early Language and Literacy (TELL) and The Incredible Years. TELL focuses on building oral language and early literacy; The Incredible Years focuses on social skills.

A common evidence-based practice for preschool children is storybook reading, or, more specifically, dialogic reading. A meta-analysis that reviewed research on storybook read-aloud interventions for children with reading difficulties in preschool to 3rd grade found positive effects on children's language, phonological awareness, print concepts, comprehension, and vocabulary (Swanson et al., 2011). When specifically investigating students with disabilities, an experiment revealed that dialogic reading was significantly more effective than storybook reading in developing vocabulary (Towson et al., 2016).

The most common disability diagnosis among preschoolers is the broad category of developmental delays. Recently, in a study where preschool students with developmental and intellectual disabilities were taught letter-sound correspondences, research confirmed that students with low-incidence disabilities can acquire the emergent and early literacy skills that their non-disabled peers can achieve (Wright et al., 2022). Other research suggests that children with Down syndrome can use the alphabetic principle to decode words and may benefit from learning to decode words (Næss et al., 2012). Students with Down syndrome benefit from repeated exposure to direct language and vocabulary instruction and experiences rather than indirect learning. As with typically developing learners, students with Down syndrome benefit from both code- and meaning-focused instruction.

The second most common disability served in preschool is SLI. However, many CWD, even those without SLI as the primary disability identified under IDEA, struggle with language and communication. Based on the Science of Reading and the understanding of the connection between language and reading, poor language development is particularly problematic. Therefore, many interventions target communication skills, including teaching sounds and words to improve the quantity and quality of language. This also includes interventions on social skills through the above-mentioned incidental teaching and through peer-directed interventions (Hebbeler & Spiker, 2016). Relatedly, a meta-analysis of social interventions for children with developmental disabilities found family-implemented social and communication interventions to be particularly helpful for preschool CWD (Heidlage et al., 2020; Hong et al., 2016). This underscores the importance of including families in interventions for CWD.

The third most common disability served in preschool is autism spectrum disorder (ASD). Research suggests that children with ASD are at risk of reading difficulties, particularly in reading comprehension rather than word recognition (Westerveld et al., 2016). This is likely due to their challenges in oral language comprehension and production, including semantics, syntax, morphology, and pragmatics. Specifically, preschool children with ASD show oral language difficulties even at the sentence

level. In a review of research on preschool children with ASD and their emergent and early literacy skills, it was determined that at least some children with ASD develop skills at the same level as their peers regarding alphabet knowledge and early phonological awareness. However, most children were challenged with print concepts and definitional vocabulary. A comprehensive review of reading comprehension instruction for grade-level students with ASD determined that the instructional methods of the NRP were as effective for students with autism (Chiang & Lin, 2007).

It is outside of the scope of this report to address each disability category and the evidence-based literacy instruction and interventions. That is why it is paramount that early childhood special education teachers are included in discussions around the instruction of CWD in mixed delivery universal preschool program. Among all disabilities, research supports the notion of systematic, explicit, and individualized instruction for preschool students including those with visual impairments (Chen & Dote-Kwan, 2018), hearing impairments (Karasu, 2014), deaf-blind (McKenzie & Davidson, 2007), emotional disturbances (Nelson et al., 2005), developmental disabilities and delays (Pears et al., 2016), multiple disabilities (Kemp et al., 2016), and orthopedic impairments (Heller & Swinehart-Jones, 2003). Broadly, these instructional practices are included in the 66 recommended practices by the Division of Early Childhood of the Council for Exceptional Children (Division for Early Childhood, 2014). There are practices specific to leadership and to practitioners. For practitioners, the topics are aligned with assessment, environment, family, instruction, interaction, teaming and collaboration, and transition.

A Note About MLs with Disabilities

Research suggests that there is no empirical evidence to justify restricting children with developmental disorders from learning two languages starting in preschool (Byers-Heinlein & Lew-Williams, 2013; Genesee, 2015, 2016). Additionally, in teaching English to MLs with developmental disorders, researchers suggest there is no evidence that bilingualism causes cognitive or academic disadvantages for ML children diagnosed with a developmental disorder (Paradis, 2016). Moreover, there is evidence that multilingualism supports the social-emotional development of MLs, especially those with developmental disorders. Early childhood educators should encourage parents of ML children to speak to them in the language they are most proficient in. Early childhood educators should support and encourage both the home language and English within the classroom environment. Special educators and clinicians should give parents language therapy activities and language use strategies in the native language to practice at home.

The Science of Reading and Children with Exceptionalities

Students with exceptionalities, often referred to as "gifted students," include typically developing students, multilingual students, students with disabilities (i.e., twice exceptional), or any student with exceptional abilities or potential from all socioeconomic, ethnic, and cultural populations. From a theoretical perspective, exceptionality is not limited by gender, race, ethnicity, or socioeconomic status. However, from a historical perspective, substantial discrepancies exist (Mendoza, 2023); recently, researchers have attributed this to systemic racism (Pearman & McGee, 2022). For the purposes of this report, we define exceptionality according to the Colorado Department of Education, Office of Gifted Education, which defines children with exceptionalities as children "whose aptitude or competence in abilities, talents, and potential for accomplishment in one or more domains are so exceptional or developmentally advanced that they require special provisions to meet their educational programming needs…. Children under five who are gifted may also be provided with early childhood special educational services. Gifted students are capable of high performance, exceptional production, or exceptional learning behavior by virtue of any or a combination of these areas of giftedness:

- General or specific intellectual ability
- Specific academic aptitude
- Creative or productive thinking
- Leadership abilities
- Visual arts, performing arts, musical or psychomotor abilities" 12.01(16).

Mooij (2013) discusses the interaction between a person's innate potential abilities and their environment, which shapes various dimensions of personal identity, including cognitive, social, emotional, and sensorimotor aspects. Self-regulation is highlighted as a key concept, particularly in children with exceptionalities (CWE). These children, through environmental cues, may learn to read and write even before entering preschool. As they exert more control over their learning processes, their self-regulated learning competence increases, motivating them to tackle more complex tasks. However, if a CWE's learning environment significantly lags their abilities, they can become disinterested, seek more challenging activities, or become socially isolated, a phenomenon known as "expertise reversal." This effect is observed in reading, writing, and mathematics, and it demonstrates the importance of providing appropriate and stimulating learning environments for exceptional preschoolers. Therefore, it is vital for preschool teachers to understand the characteristics of CWE.

There are several characteristics and traits that are often associated with CWE in preschool. Specific to this report, the most notable characteristics are related to language and learning and are highlighted in Table A7 (Bayraktar, 2017; Chamberlin et al., 2007).

Table A7

Preschoolers with exceptionalities may display some of the following traits.

	Chamberlin et al. 2007	Bayraktar 2017
Advanced Language Skills: ▶ Accelerated development in language (speaking, listening, reading, and writing skills) ▶ Early speaking and reading abilities ▶ Large vocabulary and understanding of abstract concepts	✓	✓
Cognitive Abilities and Learning Traits: ▶ Extraordinary memory and rapid learning ▶ Advanced language proficiency and observation skills ▶ Greater than average attention span ▶ Inquisitive nature, asking many questions ▶ Interest in challenging activities and problem-solving	✓	✓
Interest in Books and Learning Tools: ▶ Fascination with books ▶ Enjoys word games ▶ Interest in diverse types of books, atlases, encyclopedias, calendars, clocks, and puzzles	✓	
Self-Expression and Discussion ▶ Enjoyment of self-expression, especially in discussions	✓	✓

However, it is important to note that not all CWE exhibit the same characteristics, and early language development varies among individuals. Additionally, it is crucial to provide specific support for CWE's language and emergent and early literacy skills to help them reach their full potential, as these skills are indicative of their future success. Teachers can support this development through activities that encourage rich language use, story completion, and communication with children in a manner that promotes expressive and complex language.

Instruction and Intervention

It has long been argued that exceptional children, particularly those in preschool, are the most under-researched and underserved children in education (Chamberlin et al., 2007). In 2012, only 11 empirical studies on interventions for preschool exceptional learners were identified (Walsh et al., 2012). This continues to be the case, as evidenced in a 2018 meta-analysis of exceptional learners that specifically excluded preschool students (Hodges et al., 2018). More recently, a review of twice-exceptional children revealed no studies that included students in preschool (Gierczyk & Hornby, 2021).

The education of CWE focuses on nurturing strengths and talents. Research shows that interactive early childhood environments promote cognitive growth and establish lifelong learning patterns. Early identification of exceptionality is particularly important for children from low socioeconomic backgrounds, as challenging activities that leverage their skills lead to higher performance (Mendoza, 2023).

As with CWD, CWE also benefit from integration in regular classrooms (Papadopoulos, 2017). Research suggests that successful integration requires a small number of students, flexible teaching methods that promote autonomy and problem-solving, cognitive training to foster critical thinking and creativity, and teachers with knowledge and motivation for creative teaching. Enrichment programs are viewed as a positive support for CWE, aiming to develop higher cognitive functions, creativity, research skills, metacognition, and autonomy. Differentiation, which involves adjusting the curriculum and teaching materials to meet students' readiness, interests, and learning profiles, is considered a beneficial approach not only for CWE but for all students. The education of CWE plays a crucial role in providing deeper knowledge, enhancing thinking skills, personality development, and relationship skills for CWE in preschool and elementary grades.

A study exploring the multifaceted aspects of early reading and writing development among CWE underscores that early reading and writing are intricate processes involving various developmental areas such as fine motor skills, gross motor skills, language, and cognitive processes (Ateş & Afat, 2018). Cognitive development plays a significant role in all stages of reading and writing, as children acquire language rules. Exceptional children tend to choose materials aligned with their interests. Noticeable early differences in the CWE may be early understanding of print-text concepts such as how to handle a book, early identification of letters and understanding of letter-sound-word connections, understanding the role of text (e.g., address books, recipes), early identification of logos, and/or paying close attention to the text in a classroom. It is worth noting that young children may experience cognitive boredom in preschool if they are not sufficiently challenged by their environment.

Because of the concern that some children may experience boredom in preschool, some advocate for accelerating grade progression and starting kindergarten early. Acceleration in education, as described by Colangelo et al. (2004), involves moving students through an educational program at an advanced rate or at a younger age than typical. Notably, the State of the States Gifted and Talented Education Report (Rinn et al., 2022) revealed that many states lack explicit policies regarding early entrance to school. Starting school early can prevent under-challenged children from experiencing boredom, and parents often observe bright students naturally gravitating toward older peers with similar interests. The Iowa Acceleration Scale (IAS), widely utilized across the United States, Australia, Canada, and New Zealand, serves as a valuable tool for parents, teachers, and principals to assess and make informed decisions about acceleration.

A highly cited model for supporting CWE is the Enrichment Triad and the Schoolwide Enrichment Model, which has four decades of implementation support for grade school learners (Reis & Peters, 2021). More recently, the model has been extended to reading and preschool. For example, Saranlı (2017) focused on implementing the model as an early intervention model for CWE in preschool. The study stressed the unique attributes of CWE, emphasizing the importance of early intervention to prevent underachievement and support hidden talents. Saranlı's research emphasizes the need to recognize and support the distinctive development of CWE, even in preschool. A key component of this model is creating a unique profile for the CWE to analyze interests, preferences for learning, and expression styles. This assists in creating the individualized learning plan for the CWE. It is not surprising that this may be beneficial to all students, not just CWE.

Regarding the development of preschool programs for CWE, some research highlights the benefits of implementing these programs in two main categories: educational/developmental and business/marketing (Kettler, Oveross, & Bishop, 2017; Kettler, Oveross, & Salman, 2017). While a small portion of participants opposed CWE education, the majority expressed a desire for more responsive education services in preschools. However, challenges were identified, including the lack of formal policies, and understanding of exceptionalities, difficulties in screening and identification, and a lack of public funding for preschool CWE programs. Overcoming opposition from teachers and administrators within the program was also recognized as a significant challenge. Despite these barriers, there was a clear call for enhanced education services for CWE.

It is important to also recognize that children may be twice exceptional. That is, they have a disability along with exceptional learning. Twice exceptional disabilities may include autism spectrum disorders, emotional or behavioral disorders,

learning disabilities, dyslexia, dysgraphia, dyscalculia, attention deficit hyperactivity disorder, visual and auditory processing disorders, or sensory integration disorders. As such, it is important to use multiple measures for assessing disability and exceptionality so that a full profile of the child can be obtained (Chamberlin et al., 2007). There is research to support the use of the Schoolwide Enrichment Model to support twice exceptional learners (Reis & Peters, 2021).

According to parent reports, over 40% of children identified as exceptional and 34% of children identified as twice exceptional were first evaluated between the ages of 4 and 5, though the identification of exceptionality was most likely to occur in kindergarten (Mollenkopf et al., 2021). However, most parents were able to clearly identify their child as exceptional around age 2. This underscores the importance of a strong parent-teacher collaboration in preschool, as parents may identify exceptionality – and the additional support needed at preschool entry.

Professional Development

A common theme across evidence-based practices for all students, including ML, CWD, and CWE, that has not yet been addressed is the need for professional development in understanding the Science of Reading and evidence-based practices. While extensive research has been conducted, reviewed, synthesized, and distributed over the course of the last several decades, it has not always translated into changes in instructional practices. Indeed, researchers and policymakers have made the call for professional development that supports educators in understanding and applying the Science of Reading and evidence-based practices in their classrooms (Cunningham et al., 2009; Gillis & McCombes-Tolis, 2016; Teale et al., 2010).

This also applies to teachers supporting MLs, where researchers note that classroom talk is a key component of a language-building approach for MLs, and that to implement this, teachers need professional development that stresses the importance of classroom instruction to student achievement and instructional materials that emphasize the use and instruction of complex academic language (Galloway & Lesaux, 2017). More specifically, the Council of the Great City Schools (2023) identified that teachers of MLs need to understand the following: language development; cross-linguistic comparisons and metacognitive processes; sentences and discourse; stress patterns; vocabulary and principles of word formation; syllabic system; and phonemes and sounds.

"All early care and education teachers of dual-language learners can learn and implement strategies that systematically introduce English during the infant, toddler, and preschool years while simultaneously promoting maintenance of the home language—an important principle.

Not all teachers can teach in all languages, but all teachers can learn specific strategies that support the maintenance of all languages" (National Academies of Sciences, Engineering, and Medicine, 2017, p. 199).

Among students with disabilities, researchers note that to create a positive language-learning environment, particularly for children from higher poverty communities, training preschool and kindergarten teachers in areas like group size, activity structure, and language stimulation holds significant promise (Connor et al., 2014). Given the substantial variation in state qualifications for preschool educators, improving teachers' education levels emerges as a potent strategy to enhance early reading outcomes. Notably, the combination of online coursework with coaching and instructionally linked feedback for preschool teachers has resulted in higher-quality teaching practices and stronger early reading gains (Connor et al., 2014). The call for improving teacher understanding of CWE is also pointed in the research (Kettler, Oveross, & Bishop, 2017; Kettler, Oveross, & Salman, 2017). Advocates such as the International Dyslexia Association have developed extensive knowledge and practice standards for teachers of reading and note that "Effective classroom instruction delivered by a knowledgeable teacher, especially in the early grades, can prevent or at least effectively address and limit the severity of reading and writing problems. Potential reading failure can be recognized as early as preschool and kindergarten, if not sooner" (Knowledge and Practice Standards for Teachers of Reading - International Dyslexia Association, 2014, p. 3).

Aligning Preschool and K-3

Researchers have long identified that while high-quality preschool participation can enhance young children's readiness for elementary school, the long-term benefits of preschool may not always persist due to factors like limited follow-up, lack of family support, or the quality of subsequent elementary education (see Drummond et al., 2016). Recent research suggests that there continues to be an ongoing gap in the alignment between preschool and kindergarten, though less so between kindergarten and Grades 1–3 (Justice et al., 2022; Vitiello et al., 2020).

Early childhood experts argue that sustaining the effects of preschool and capitalizing on early education investments can be achieved through well-aligned curricula and instructional strategies spanning from preschool to Grade 3. This alignment can provide greater continuity and improved organization of services for students, along with stronger school-family partnerships. Unlike the Science of Reading research, there are few data-based studies on P–3 alignment; thus, many of the recommendations come from theory and policy considerations.

Stipek reminds us that "Although it seems reasonable to expect that continuity in instruction between preschool and the early elementary grades will promote learning, we do not have direct evidence on whether continuity has value over and above the value of high-quality instruction, continuous or not. And we also see hardly any empirical evidence on whether—or under what conditions—typical structural and policy changes such as those mentioned above actually lead to greater continuity in children's educational experience" (Stipek et al., 2017, p. 3). Yet, based on the evidence that does exist and conjectures based on practices that are likely to support instructional continuity, the following guidelines (Table A8) have been suggested across the works of several researchers (Atchison & Pompelia, 2018; Drummond et al., 2016; Manship et al., 2016; McCormick et al., 2019; Stipek et al., 2017; Strickland & Riley-Ayers, 2006):

Table A8

There are many considerations when aligning preschool and K-12 policies and systems.

	Atchison & Pompelia	Drummond et al.	Manship et al.	McCormick et al.	Stipek et al.	Strickland & Riley-Ayers
Alignment and Coordination involves aligning standards, curricula, instructional practices, assessments, and environments both horizontally (within grades) and vertically (across grades). It includes joint professional development, small class sizes, and utilizing assessment instruments for alignment.	✓	✓	✓	✓	✓	✓
Teacher Education and Support encompasses recommendations related to the education, qualifications, and professional development of teachers. It involves advocating for preschool teachers to have equivalent credentials and compensation as elementary teachers, establishing certification programs, and supporting teachers through instructional coaches and professional learning communities.		✓	✓		✓	✓

Data-Driven Instruction and Administrative Leadership involves using data for instructional planning, developing longitudinal data systems, involving administrators in planning initiatives, and maintaining high standards through accountability, and setting high expectations for student benchmarks.	✓	✓				
Instructional Approaches and Student Support: Focuses on pedagogical strategies, including differentiated instruction, small group activities, developmentally appropriate experiences, evidence-based curricula, emphasis on emergent and early literacy skills, and attention to both social-emotional development and academic skills.	✓		✓	✓	✓	✓

Along with these recommendations, the researchers also identified potential challenges to alignment initiatives, including lack of a unified and stable funding stream; resistance to aligning preschool to K–3 due to significant philosophical differences; and organizational challenges such as building capacity, enrollment, and staffing (Drummond et al., 2016).

Mixed Delivery Preschool and Policy Approaches

Whereas the literature base on the Science of Reading and emergent and early literacy skills is substantial, there is not a unified method to apply it within a mixed delivery universal preschool program. This is particularly true because the governance of early child care education systems is complex, with multiple agencies overseeing several programs from various funding streams at the local, state, and federal levels. The three most predominant entities of the early childhood education system are Head Start, Individuals with Disabilities Education Act, Child Care Development Funds, and State Preschools (Education Commission of the States, 2023). Understanding effective state offices to coordinate early learning is outside of the scope of this report; however, in a 2021 report, four states—Alabama, Michigan, New Jersey, and West Virginia—were noted for the high performance in this arena (Connors-Tadros et al., 2021). Based on an in-depth analysis of four high-performing state offices of early learning, the following lessons were learned:

- Emphasize a state offices of early learning (SOEL) governance structure that provides sufficient authority.
- Focus on the horizontal and vertical aspects of child well-being and early childhood education.

- Identify a set of priorities, with quality at the core, and pursue them relentlessly.
- Regularly assess whether SOEL performance is meeting its goals.
- Create a data culture that improves decision-making and influences funding.
- Use organizational capacity to replace a program mentality with a systems approach.
- Build on the expertise and experience of leaders and staff.
- Ensure adequate SOEL capacity.
- Build collective capacity within and across sectors and systems.
- Authorize SOEL leaders to cultivate political will.
- Gather diverse perspectives to augment effectiveness and build sustained collective support.
- Establish a coalition of key champions and unlikely allies.

Since January 2022, early care and education governance bills have been introduced in 30 states (Education Commission of the States, 2023). State-funded universal preschool program is a policy that offers educational opportunities to children aged three to four. For purposes of reporting and consistency with other national reports, this report uses the guidelines from the National Institute for Early Education Research (NIEER) for defining state preschool programs. In the 2021-22 school year, there were 62 state-funded preschool programs across 45 states that enrolled 6.4% of 3-year-olds and 32% of 4-year-olds across the nation (Friedman-Krauss et al., 2023).

Nearly every state with public preschool has included a mixed delivery system (Weiland et al., 2022). Mixed delivery preschool is a policy that allows the provision of preschool services by multiple agencies, including public schools, private schools, Head Start, faith-based organizations, and family daycare providers. Specific definitions and policies impact the provision of preschool services. The first challenge is to understand the several types of providers and their differences.

Public schools: Traditional public schools may expand services to offer preschool classrooms. Since these programs are run by the state education authority or the local education authority, there is a more seamless integration to program management, such as contracting, payment, and quality control. Public schools enjoy economies of scale over other providers because the local education agency can consolidate human resources, support, and purchasing. There is reason to believe that public schools enjoy a strong reputation advantage because higher-performing teachers and students have been found at public schools (Weiland et al., 2022). On the other hand, parents who depend on preschools as a form of daycare may have to transport children from

preschool to daycare providers. Other organizations may offer preschool and daycare services and be more attractive to working parents.

Head Start: Head Start quality programs are designed to help break the cycle of poverty by providing educational opportunities to children and families experiencing poverty (Head Start History, 2023). Head Start has well-established standards and federal oversight. In 1998, Head Start programs were allowed to expand to full day and full year, creating a valuable service to parents in addition to the education opportunity. Around 97% of Head Start programs are center-based, the majority of which are funded for 1,020 or more hours, meaning full-day services (Head Start Program Facts: Fiscal Year 2021, 2021). While Head Start provides similar services described by most states' preschool programs, the regulatory and funding structures usually stay separate (Reid et al., 2019).

Private schools and faith-based: Private and faith-based schools can operate preschools in most states. Currently operating private schools or community centers may expand programs to become qualified preschools. In the same way, local churches may elect to use current meeting spaces as qualified preschools. Some of these schools may serve a subsection of the population more effectively. These schools may become popular due to a sense of community created between the schools and the population they serve (Akaba et al., 2022). Schools' religious affiliations are treated differently. For example, Michigan and New Jersey allow faith-based organizations to run preschool programs without religious content. Alabama, New York, and West Virginia do not include the limitation (Garver et al., 2023). Some states do not distinguish between faith-based preschools and private schools, though may restrict what can be taught during time that is funded by state or federal monies.

Family Centers: The introduction of universal preschool programs came within the framework of another system of parental support. Traditional daycare centers (often in family homes) have been a necessary resource for working families. Children may stay in the same location for daycare and preschool. Preschools offer a new line of business to support traditionally low-profit daycare. These programs are more likely to hire teachers of color and may be closer to the children's homes, especially in rural areas (Bassok et al., 2014; Reid et al., 2019). At the same time, family-centered programs are more likely to be impacted by choices for state preschool programs. According to the National Survey of Early Care and Education, in 2019, an estimated 5.2 million home-based providers existed for children aged birth through 12. Of the 44 states operating a state-funded preschool program, 24 states allowed family child care homes to receive funding. Of those 24 states, most served less than 1% of

preschool students; in fact, 7 states had no family child care homes participate in the state-funded preschool program (Harmeyer et al., 2023).

> "The research base on early learning and particularly on publicly funded Pre-K in homebased settings is sparse compared to the research base on Pre-K in school- and center-based settings, making the development of FCC specific research-based Pre-K program standards challenging" (Harmeyer et al., 2023, p. 3).

Family child care homes offer valuable assets for children and families. Children in Family child care homes tend to engage in community outings more than those in center-based programs, emphasizing the authentic instructional activities promoted in home-based environments. Notably, over 50% of low-income children under six have a parent working non-standard hours, making traditional preschool schedules challenging for these families. Family child care home educators, already working extended hours, present an opportunity to embed high-quality preschool within a system well-suited for the diverse needs of low-income and working families. With the acknowledgement that these centers may reach a traditionally underserved population, NIEER has developed recommendations and conditions for success for including Family child care homes in universal preschool programs. The recommendations include:

1. The state has an integrated and aligned system tailored to family child care home educators and the home-based learning environment, which includes guidance and resources in the following areas:
   a. selecting or developing and implementing a curriculum that is connected to a system of professional learning and supports and is appropriate for a home-based setting.
   b. aligning instruction with the state's ELDS, which outline age-appropriate expectations for learning and development across multiple domains.
   c. using authentic child assessments aligned with the state ELDS and the curriculum.
   d. accessing professional development, which includes formal on-site coaching, training and peer-to-peer networks and mentoring; and
   e. participating in a continuous improvement system that is appropriate to the home-based setting.
2. The state provides funding and opportunities for family child care home educators to obtain, at minimum, a bachelor's degree with specialized training in effective practices in home-based settings.
3. The state supports family child care home educators in offering a program appropriate for and tailored to mixed ages.

4. The state sets group size, ratios, and environmental recommendations appropriate for home-based settings and mixed age groups and supports implementation of these recommendations.
5. The state has a system that allows educators offering publicly funded preschool (including family child care home educators) to receive equitable compensation/benefits.
6. The state's system supports family child care home educators in ensuring children obtain yearly vision, hearing, and developmental screenings.
7. The state's system provides guidance and support to family child care home educators in facilitating strong relationships with families, which includes regular, bidirectional communication and facilitation of family engagement in children's learning.
8. The state provides guidance and support to family child care home educators with fiscal and business management and sustainability, such as in navigating the financial requirements of contracted seats, completing administrative and business tasks, and connecting educators with business supports.
9. The state develops cost estimates of providing high-quality early education that are specific to family child care home settings and considers the unique nature of family child care homes when dispersing payments.

Additional consideration

Universal preschool programs require a massive expansion in service providers, more than traditional K–12 programs. Smaller class sizes, part-time programs, and parental preferences make choices more complex. Several issues need to be considered as a state creates a universal preschool program, broadly including management/contracting, student assignment, quality control, and school funding. States have taken different approaches to these issues.

Management and contracting: In states with more control at the state education agency, the process of identifying and contracting local preschool providers and educators may be centralized. Centralization provides more consistent oversight, and the state education agency can monitor for problems that may not be evident to the local education agency. Local education agencies may be a practical choice in states where local control is strong. Local education agencies are more sensitive to local issues and can serve to recruit preschools in areas of need. At the same time, some states have had trouble getting local education agencies to provide this oversight. For example, state education agencies control contracting and funding in Alabama and New York, while Michigan, New Jersey, and West Virginia use more local school agencies (Garver et al., 2023). The problem may occur with local education agency

control. For example, in New Jersey, some local education agencies are not willing to create contracts with non-local education agency providers.

Assigning students to schools: Assigning students to individual preschools cannot be left to chance. Some preschools receive more applications than seats. New York has used a lottery to determine placement in some public schools (Gray-Lobe et al., 2023). The management of student assignments is also the management of the funding, as funding sources are tied to qualifying students. Sometimes, multiple sources are provided to schools based on the students served (Garver et al., 2023). Most important is the assignment of qualified students to Head Start, separate from other programs. States may also consider the balance between public and non-public schools. If students are siphoned off from family schools, these centers may not be able to continue service.

Quality control: As a state creates a universal preschool program, it is necessary to define the parameters of preschool quality. Safe environments, teacher/student ratio, and necessary parental support are only the beginning. NIEER publishes ten benchmarks for high-quality preschool, including lead and assistant teacher qualifications with professional development, class size restrictions with staff-child ratio, health screenings and referrals, and a continuous quality improvement program (National Institute for Early Education Research, 2017).

The biggest issues involve teacher qualifications and teaching quality (Gray-Lobe et al., 2023). What are the educational qualifications required of the teachers and lead teachers? Are educational qualifications consistent across all school levels? Head Start already has strict quality standards enforced by federal contracts. Community/family preschools may not be able to recruit, train, and retain teachers who meet state standards. At the same time, if standards are different between preschools, do parents understand the differences? What effort will be made to improve quality at all schools?

A big part of quality is enforcement. States must determine minimum qualifications and methods of review. The first step is to review education transcripts and background checks. Site visits help to review health/safety issues, available educational materials, the people who are teaching, and the quality of that instruction. Coaching, professional development, and support materials can also be provided by qualified individuals. Teacher quality expectations must be transparent, especially to existing teachers. Akaba et al. (2022) found that teachers in community/family schools felt frustrated by what they perceived as changing requirements as New York City moved to universal preschool program.

Payment: All the elements above combine to the cost of providing preschool programs. Some costs are borne by the state education agency and local education

agencies, such as the selection and contract review processes, professional development, and support materials. Other costs must be calculated in the business model for the individual preschools. Public preschools may enjoy economies of scale through combined purchasing and management. K–12 classes with larger class sizes can underwrite the cost of the smaller preschool classes. Head Start funding is strong, with strict rules of federal oversight, but those rules must be followed carefully. The biggest issue is the community/family schools. Because they tend to be smaller programs with less external support, they may have a higher cost per child. Equitable support may require funding to be dependent on costs (Garver et al., 2023).

One of the biggest issues for preschool costs is teacher pay. Some states have required all teachers to get paid equitably based on experience and qualifications. Other states have allowed the schools to determine teacher pay. A teacher at a community/family school may earn significantly less than those at public schools. This has been reflected by less experienced teachers and increased retention/training issues in these schools (Bassok et al., 2014; Reid et al., 2019).

Bassok et al. (2014) investigated the impact of the change on existing child care options. The study found differences by state. In Georgia, the total number of children served by all preschool providers increased. As such, the introduction of state preschools had insignificant impact on community/family providers. In Oklahoma, the size of the child care sector remained stable as measured by the number of employees. As a result, it was found that public preschool took students from the private daycare sector. The authors theorized that the method of government subsidization encouraged the private sector in Georgia more than in Oklahoma.

Management and contracting: The long-term effect of preschools on students is an important consideration. For example, researchers investigated students who completed preschool (K1, 4-year-old) in the city of Boston (Gray-Lobe et al., 2023). The subjects were placed by lottery in public school preschools (K1, 4-year-old), including elementary schools, early learning centers, and special school facilities covering early grades. Teachers held at least a bachelor's degree and required certification. The study found that participation in preschool increases one-time college enrollment by 18% and supports a possible increase in college graduation. Other academic and disciplinary measures were hopeful but inconclusive due to data issues.

Access: Across state legislations and regulations regarding access to preschool, often, acceptance is based on risk factors related to poverty, home languages, disability, or sometimes parent education level. While some preschool students who fall into these risk categories are served through Head Start or through Early Childhood Special

Education, others are served within the mixed delivery preschool system. However, barriers to access exist.

Stephens (2023) found that while one in four center-based programs and one in five listed and unlisted home-based providers in the U.S. serve a high proportion (25% or more) of Hispanic children, few providers offered services during the evening, overnight, and weekend hours, especially among center-based programs. Stephens and colleagues state that this low availability of nonstandard care hours suggests potential areas of unmet child care needs for working Hispanic parents. This is consistent with data on the percentage of 3- to 5-year-old children enrolled in school, which shows that Hispanic children have the lowest percentages of school enrollment among 3 to 5 years old (55.7%), 3 and 4 years old (41.8%), and 5 years old (82.2%) (U.S. Department of Commerce, 2022).

POLICY REVIEW

Given the complexities of the Science of Reading and the child-level individual differences that impact learning to read, it may seem daunting or far-removed to consider policies that can ensure Grade 3 reading success. However, given what we know about the Science of Reading and evidence-based practices, there is plenty of information to guide what might be considered from a policy level. For example, Foorman (2020) recommends four steps:

1. Accelerate language development for all three- and four-year-olds.
2. Implement evidence-based practices in K–3 classroom reading instruction.
3. Provide opportunities to practice reading in the classroom and in intervention, summer reading camps, and home literacy programs.
4. Assess for risk, growth, and outcome and translate data to instruction.

To accomplish those four steps, Foorman recommends policy levers at multiple levels, including organizing state education agencies to focus on literacy, districts and schools' focus on literacy, and teacher preparation and prekindergarten. However, Foorman also acknowledges that preschool and teacher preparation reforms may be the most challenging because they are not fully under state education agency control.

> "Investment in prekindergarten may entail a legislative appropriation, closer structural ties between the state education agency and the department serving young children, and development of early learning standards. Providing all teachers of three- and four-year-olds with free professional development—whether in public prekindergarten, Head Start, or private centers is an efficient and equitable way to build knowledge of evidence-based practices. Providers of prekindergarten services can be held accountable by gathering data on kindergarten readiness and mapping it back to provider" (Foorman, 2020, p. 4).

Policymakers are heading the calls for reforms to impact reading achievement. In July of 2023, EdWeek reported data on Science of Reading laws implemented since 2013 and noted that thirty-two states and the District of Columbia have passed laws or implemented new policies related to evidence-based reading instruction (Schwartz, 2022). They specifically investigated the presence of language regarding teacher preparation, teacher certification or license renewal, professional development or coaching, assessment, and materials. These findings are reported in Table A9.

Table A9

Many states have started to enact Science of Reading laws.

Category	Definition	Number of States
Teacher preparation	Requires institutes of higher education and/or teacher preparation programs to review their course offerings or instructional approaches; requires changes that would bring instructional approaches in line with evidence-based practices; requires courses to cover certain topics related to early reading.	19
Teacher certification or license renewal	Requires pre-service teachers to pass a test demonstrating their knowledge of how to teach reading to receive a teaching certificate or requires in-service teachers to earn a credential or pass a test to renew their teaching license.	17
Professional development or coaching	Requires teachers and/or other educators to undergo professional development in evidence-based reading instruction and/or institutes a program of instructional coaching.	28
Assessment	Puts forth requirements for the type of assessments that schools can use to identify reading difficulties or measure reading progress, or mandates that schools undergo a review process when selecting these assessments.	19
Materials	Puts forth requirements for the type of curricula and other materials that schools can use to identify reading difficulties or measure reading progress, or mandates that schools undergo a review process when selecting these materials.	21

As pointed out by Foorman (2020), the implementation of a mixed delivery preschool system is complex, and there are innumerable malleable and fixed factors that contribute to its functioning. All of which interact and build upon each other. Interestingly, in a policy brief analyzing the plans for improving the early childhood education system among the states and territories awarded PDG B-5 grants, there was minimal mention of early childhood literacy or the Science of Reading (Poppe et al., 2020). So, while the Science of Reading may be a hot topic in K-3 policy, it seems less at the forefront of those in the early childhood education systems.

For the purposes of this report, we focus on policies and implementation that may have a noteworthy influence on the implementation of the Science of Reading for preschool and aligning preschool through 3rd grade systems. A summary of these reports is provided next. Following the summary of the reports, we closely examine information specific to states selected for in-depth analysis: Alabama, Colorado,

Kansas, Massachusetts, Michigan, South Carolina, and Wisconsin. These states were chosen based on input from the CDE/CDEC, demographic factors, and universal preschool program experience.

Reading Reform Across America

The Shanker Institute reported on state legislation specific to reading reforms enacted between 2019 and 2022 (Neuman et al., 2023). This report does not address how states implemented the legislation, but it broadly examines the mention of specific features in bills. The report examined 223 bills, all referring to reading and literacy; these were in forty-six states and the District of Columbia. Preschool was addressed in thirty-one states; no analysis was conducted differentiating preschool from elementary (or higher) grades.

Specific terms that were tracked related to the Science of Reading were evidence, Science of Reading, phonemic awareness, phonological awareness, phonics, vocabulary, fluency, comprehension, writing, and oral language. The terms tracked related to structural supports were principal leadership, curriculum, professional development, and teacher preparation. The terms tracked related to assessment and student supports were assessment, reading plan, multi-tiered systems of support, summer school, after school, tutoring, students with dyslexia, English learners, and cultural relevance. The terms tracked related to parent and family engagement were parent notification, family engagement, and community engagement.

The report focused on reading reforms. Of the special populations of interest in this present report (i.e., MLs, CWD, and CWE), there were overlaps related to MLs and dyslexia; exceptionalities were not mentioned. Among the states with Science of Reading legislation, 28% did not address MLs at all, and 13% did not address dyslexia at all.

The report highlighted states that stood out in at least one area (e.g., family engagement, teacher preparation). The report also mentions that ten states enacted legislation with extensive provisions in at least 10 of the categories tracked. Those states were Alabama, Alaska, California, Colorado, Connecticut, Florida, Kentucky, Louisiana, Michigan, Tennessee, and Utah.

In six states—Arizona, Florida, Michigan, Minnesota, Pennsylvania, and Virginia—background knowledge is highlighted as a fundamental aspect of reading comprehension. A select few states, namely Alabama, Michigan, and North Carolina, seem to pinpoint a specific program designated for professional development within their legislative framework. Notably, this includes the Language Essentials for Teachers of Reading and Spelling (LETRS). Michigan offers LETRS with a priority

enrollment option for preschool through Grade 1 teachers on a first-come, first-served basis. Additionally, other bills encompass a broader approach to professional development, emphasizing the use of adult learning principles or schoolwide professional development and study groups to enhance student reading achievement.

Michigan particularly stands out for its multifaceted support aimed at aiding struggling readers, encompassing initiatives like MTSS, summer school, after-school programs, and tutoring. In the context of addressing achievement or opportunity gaps, several laws from states like California, Michigan, and Utah highlight funding or grant-related measures.

Examination for culturally relevant and sustaining practices and instructional materials was found for twenty-nine states. This specific language was identified, with seventeen states providing more comprehensive descriptions. Some states incorporate these aspects within curricula (such as California, Colorado, and Connecticut), others within the realm of professional development (observed in Alaska, New Mexico, California, and Florida), and a few tie them to student supports and family engagement (as seen in Alaska and Arizona).

Only three states, namely Alabama, California, and Florida, enforce a mandate stipulating that multilingual supports must be founded on evidence-based practices. The report concludes with the recommendations in table A10.

Table A10 Recommendations from Reading Reform Across America Report

	What Most States Are Getting Right and Should Continue Doing	What Else States May Consider
DEFINING READING Developing effective literacy policy requires reaching agreement on the **knowledge, skills, and dispositions that are necessary** for learning to read and becoming a confident reader.	Grounding reading policy on the **five pillars** identified by the National Reading Panel: • phonemic awareness • phonics • vocabulary • fluency • comprehension	• **Oral language and writing** • **Background knowledge** • **Holistic view of reading**, including its socio-affective aspects like motivation, engagement, and preferences.
SCIENCE-BASED POLICY Adhering to scientific findings is essential, but it is important to acknowledge that **science is dynamic** and	Prioritizing the **role of science and research evidence** in reading legislation. Allow the best evidence to guide decision-	• Legislators should become **knowledgeable about reading science**. • Consider **education science** more broadly to

that it encompasses varying degrees of certainty.	making about curricula and programs.	guide reading policy — prioritizing evidence-based interventions.
TEACHER SUPPORTS Teachers need **instructional materials** that support their practice as well as **school leaders** capable of creating the conditions for change. When all these components work together, they lay **a robust foundation for improvement**.	• Allowing **flexibility** in implementation but pairing it **with support** — e.g., professional development or curriculum lists. • Supporting existing teachers by offering **professional development** opportunities that are grounded in reading science. • Prioritizing **teacher education** programs rooted in evidence-based reading instruction.	• **A high-quality curriculum** not only provides a clear framework for teachers, but also ensures coherence across grades and schools. • Educate and empower school administrators with knowledge of the Science of Reading.
STUDENT SUPPORTS Identifying the needs of a range of student populations is just the start; states must also provide **support for all students.**	• Maintaining a **broad scope that encompasses all students**, from preschoolers to those beyond 3rd grade. • Keeping a strong focus on progress monitoring through valid and reliable **assessments.** • Provides support and resources for **students with dyslexia.**	• Value **students' diverse backgrounds, languages, and knowledge**. • Developing **a suite of interventions** instead of relying on isolated initiatives. • Lawmakers should strive for **equitable support for all students, including students experiencing poverty, English learners, or students with dyslexia.**
BEYOND THE CLASSROOM Achieving desired reading outcomes hinges not only on the individual efforts of schools and families, but most importantly on the two working together while also incorporating community-based assets and supports.	• Keep prioritizing legislation that supports authentic **school-home-community collaboration** to improve children's reading.	• Foster genuine **school-family partnerships** around literacy. • Leverage **libraries and other community assets** to promote students' reading development.

• Building a solid foundation for reading improvement requires a comprehensive array of **supports for both teachers and students.**
• Prioritize establishing **system alignment and coherence,** which is the most vital objective moving forward.
• Ensure that **parents and teachers have a voice in policy decisions.** This could involve their participation in literacy committees or input through surveys or interviews. Laws should embody a spirit of collaboration.

Comprehensive Early Literacy Policy Toolkit

ExcelinEd has developed an extensive toolkit to support policy for K–3 Reading Policy (ExcelinEd, 2022b). This includes documentation on comprehensive early literacy, comprehensive K–3 reading policy, approaches to implementing early literacy policies, and model policy documents. Like the Reading Reform Across America Report (Neuman et al., 2023), ExcelinEd completed a state-by-state analysis of the adoption of their recommendations related to supports for teachers and policy, assessment and parent notification, instruction and intervention, and retention and intensive intervention. These reports differ in that ExcelinEd looked beyond legislation and into regulations and other state-level documentation. However, the authors note that the "presence of the fundamental principles in state laws and/or regulations is not a measure of implementation" (ExcelinEd, 2022a, p. 1). This report is geared to K–3 reading policy, though it does not explicitly exclude preschool policy. Nonetheless, considering the importance of policy in aligning preschool through 3rd-grade policy, we consider the recommendations highly relevant. They have developed the following fifteen recommendations for comprehensive early literacy policy (Table A11).

Table A11 Comprehensive Early Literacy Policy Toolkit Criteria

ExcelinEd Comprehensive Early Literacy Policy
Supports for Teachers
▶ **Statewide Science of Reading training** beginning with K-4 teachers and elementary school administrators
▶ Ongoing, job-embedded Science of Reading training and **support for teachers via literacy coaches**
▶ Ensuring Teacher Prep Programs are **preparing teacher candidates** to have the knowledge and skills to teach all kids to read based on the Science of Reading
▶ Funding and reprioritization of existing local, state, and federal funds for early literacy
Assessment and Parent Notification

- **Early literacy screening** administered three times per year and progress monitoring for K–3 students
- **Screening for dyslexia** characteristics administered at the end of kindergarten and the beginning of first grade for students identified as having a reading deficiency based on the universal screener
- **Parent notification** when reading deficiency is identified and continued parent engagement with each progress report

Instruction and Intervention

- **District adoption of high-quality instructional materials** grounded in scientifically based reading research and aligned to state standards
- **Three-Cueing is a flawed** literacy instructional practice and should be eliminated from curricula because it encourages students to guess, not sound out, words they do not know based on pictures or what they think might make sense given the context of the sentence
- **Individual reading plans** for K–3 students identified with a reading deficiency and fourth grade students promoted for good cause
- **Regularly monitor student progress** and adjust instruction using proven strategies for closing opportunity gaps according to student need
- **Evidence-based interventions** for struggling students and supports for special populations (i.e., MLs, special education, students with dyslexia) during school and before/after school
- **Summer Reading Camps** or approved innovative summer reading programs provided to all K–3 students struggling in reading or potentially facing retention
- **Parent Read-at-Home Plan** for students identified with a reading deficiency and a list of vetted online resource hubs for all parents to support literacy at home

Retention and Intervention

- **Retention with increased intensive intervention** in addition to a highly effective teacher and other supports for 3rd grade students severely below grade level who do not meet promotion requirements
- **Multiple opportunities** to ensure one test on one day is not the sole determining factor for promotion to fourth grade (state test, alternative test, portfolio)
- **Good cause exemptions** for students meeting established criteria

State of Dyslexia

The National Center on Improving Literacy provides an overview of states' dyslexia requirements, policies, and state-identified measurable results status specific to reading and students with dyslexia (National Center on Improving Literacy, 2023). Its analysis is based on current state policy and prior research (Gearin et al., 2020; Zirkel

& Thomas, 2010). Unlike the previous two policy reports, there is not a nation-wide analysis, and it does not highlight specific states as exemplars. Rather, the information for each state is presented individually. The following categories of information are provided: dyslexia legislation, screening, pre-service requirements, in-service requirements, intervention requirements, and literacy state-identified measurable results.

National Survey of Early Care and Education

The National Survey of Early Care and Education (NSECE) researched a nationally representative sample of early education classrooms serving children five and under who had not yet started kindergarten (Datta & David, 2023). Information from this report is useful for understanding the national norms for preschool education separately from legal limitations.

While the study included all classrooms for children under five, the following measures of classroom quality only include classrooms for children three to five years of age. In this representative national sample of the estimated 288,000 classrooms, the median classroom size was 15.2 children, with one adult for every 6 children. The education qualification of the teacher in the classroom is commonly mandated for state universal preschool programs and Head Start programs. Nationally, 60.7% of the classroom staff has earned a bachelor's degree, and 16% earned a two-year degree.

Funding for birth to five (not yet kindergarten) is naturally a complex process, as classrooms are mixed with children of different funding streams and ages. Datta and David (2023) estimated funding distribution for all children from birth to five. Out of the estimated 592,000 classrooms, 47.8% were provided with some public funding, including 34.3% from the federal Child Care Development Fund (CCDF) alone and another 12.8% from some combination of public PreK, Head Start, or CCDF funding.

State of Preschool Yearbook

Each year, NIEER produces the annual State of Preschool Yearbook (Friedman-Krauss et al., 2023). Though it is not specifically focused on the Science of Reading, it clarifies the state-funded, universal preschool programs across the country. The most recent report is based on data from the 2021-2022 school year. During the 2021-22 school year, six states had fully implemented universal preschool programs: Florida, Iowa, Oklahoma, Vermont, West Virginia, Wisconsin, and Washington, DC; DC was the only universal preschool program provider for 3- and 4-year-olds. Four other states, Georgia, Illinois, Maine, and New York had universal preschool program policies, but they were not fully implemented. In the report, it was noted that California,

Colorado, Hawaii, and New Mexico had passed laws to provide universal preschool programs in the coming year. An important feature of the annual NIEER report is the reporting of states' alignment with the NIEER Quality Standards. Again, although these benchmarks are not specific to the Science of Reading, the information provided about alignment to these benchmarks provides substantial insight into how each state is addressing literacy. The policies and the benchmarks for quality according to NIEER are outlined in Table A12.

Table A12 National Institute for Early Education Research Benchmarks

Policy	Benchmark	% meeting benchmark
Early learning & development standards	Comprehensive, aligned, supported, culturally sensitive	96.77%
Curriculum supports	Approval process & supports	90.32%
Teacher degree	BA	53.23%
Teacher specialized training	Specializing in Pre-K	80.65%
Assistant teacher degree	Child Development Associate credential (CDA) or equivalent	30.65%
Staff professional development	For teachers & assistants: At least 15 hours/year; Individual professional development plans; Coaching	29.03%
Maximum class size	20 or lower	75.81%
Staff-child ratio	1:10 or better	80.65%
Screening & referral	Vision, hearing & health screenings; & referral	69.35%
Continuous quality improvement system	Structured classroom observations: Data used for program improvement	66.13%

The State(s) of Early Intervention and Early Childhood Special Education: Looking at Equity

A new report produced by NIEER focused specifically on students served under IDEA (Friedman-Kraus & Barnett, 2023). Unlike the annual NIEER yearbook, this is a special report investigating equity and disproportionality related to race, ethnicity, and gender among a variety of measures. This report did not focus on literacy outcomes or the Science of Reading. However, it helps situate where preschool students with disabilities are served, which provides insight into the amount of training and support a universal preschool program provider might need.

State of the States in Gifted Education

The National Association for Gifted Children and the Council of State Directors of Programs for the Gifted released a report like the other "state of the state" reports, this one focusing on education for CWE (Rinn et al., 2022). This report investigated the definitions and identification processes, state data collection, and the programs and policies. Across the nation, they found that within this population, there was a strong emphasis on local control and limited accountability. Less than half of states mandate programming options/services for CWE. The most common service delivery model was differentiation in preschool, kindergarten, and elementary school. The report emphasized the need for training and professional learning on how to support the differentiation of instruction for exceptional learners. Positively, they did note a trend in the focus on access and equity for underserved populations.

Supporting MLs in State-Funded Preschool

Like the special report produced by NIEER on students with disabilities, a special report was produced on MLs (Friedman-Kraus et al., 2018). Across the nation, approximately 23% of 3- and 4-year-olds are MLs. However, most state preschool programs do not report comprehensive policies to support MLs. Based on their findings, NIEER formulated the following policy recommendations (Nores et al., 2018) to support ML in preschool:

- Increase access, outreach, and participation in high-quality early childhood education for MLs.
- Identify the number of MLs in state preschools and use this for policy decisions such as teacher preparation, curriculum, and location of programs.
- Screen and assess all children in their home languages.
- Communicate with parents in their home languages.
- Develop best practice guidelines for supporting MLs and families and require programs to plan for meeting MLs' specific educational needs.
- Incorporate best practices for preschool MLs in pre-service and in-service teacher preparation.
- Increase access to bilingual preschool for MLs and English-only speakers.
- Offer pay premiums for bilingual specialist teachers and assistant teachers based on qualifications.
- Support partnerships with higher education institutions with specializations in MLs for P-3.

STATE SUMMARIES

Considering the challenges and considerations to be made in implementing a quality universal preschool program that addresses the Science of Reading and meets the needs of a diverse student population, this next section of the report investigates how selected states are addressing the complexities. RMC looked to six states as comparison policy examples. The states of Alabama, Kansas, Massachusetts, Michigan, South Carolina, and Wisconsin were chosen based on demographic factors and universal preschool program experience. Using the data from the previously described reports and policy reviews, we address the following questions (Table A13) about the state of the Science of Reading and preschool in the selected states. All data used to inform these state summaries can be found in Table A20.

Table A13

The following questions guided the state profiles analysis.

	Who?	Who are the children being served? ▶ Demographic profiles ▶ Student qualifications
	What?	What instruction is being provided? ▶ Standards alignment ▶ Curriculum ▶ Screenings ▶ Parent involvement
	Where?	Where are children being served? ▶ Programs ▶ Service delivery
	When?	When are children being served? ▶ Hours ▶ Days

	How?	How is the system supporting this? ▶ Coordination/funding ▶ Teacher preparation/qualifications ▶ Professional development and coaching

All comparative states are a part of the Head Start collaborative but imposed minimal control on this federal program. In contrast, the states took different approaches to their own universal preschool programs. For example, Kansas and South Carolina funded multiple preschool programs. While Kansas maintains centralized contracting and control, South Carolina funds many programs with localized control. Michigan allocates universal preschool program funds to local education agencies for control of the programs, while Alabama keeps more centralized control over mostly one universal preschool program.

To maintain program quality, states define parameters for program quality and provide resources for teaching. State preschool resources are directed at both families and teachers. For example, Wisconsin runs listservs for parents and community partners. South Carolina maintains the Carolina Family Engagement Center to help families prepare for kindergarten. Michigan has opted for publications and virtual training to educate teachers.

All comparative states require lead teachers to have a bachelor's degree, while Alabama, Massachusetts, Michigan, and Wisconsin require additional specialized training in early learning. Massachusetts and South Carolina allow non-public programs to hire teachers with lower qualifications. Alabama, Massachusetts, Michigan, and South Carolina require structured classroom observations (above QRIS Level 2) as a part of a continuous quality improvement program.

As a natural outgrowth of Head Start, many state universal preschool programs also seek to serve students experiencing poverty. The most common qualification measure is 185% of the Federal Poverty Level (same as free and reduced-price lunch). Most allow other qualifications, such as being on public assistance, missing parents, working parents, and other risk factors in the home. The child's disability status can be a qualifying factor in Alabama, Michigan, South Carolina, and Wisconsin. While the Alabama, Massachusetts, and Wisconsin universal preschool programs do not have an income requirement, Alabama requires that at least 50% of the students qualify as at risk.

Alabama

Table A14 Alabama

Who?  **Who are the children being served?**	▶ **Total students:** 32,090 total students ○ 41.7% of 4-year-olds ○ 11.3% of 3-year-olds ▶ **Demographic profiles** ○ 5% home language other than English ○ 2–4% with disabilities (21% served in preschool) ○ 6.1% exceptional (all grades) ▶ **Student qualifications** ○ All age eligible, no income requirement
What?  **What instruction is being provided?**	▶ **Standards alignment:** Comprehensive, aligned to K–3, supported, culturally sensitive ▶ **Standards included multilingual learners:** Yes ▶ **ELDS and assessments aligned:** At least one specific child assessment (aligned with the ELDS) must be used by all programs. ▶ **Curriculum:** Approval process and supports ▶ **Screenings:** Vision, Hearing, Psychosocial/behavioral, Developmental; referrals required ▶ **Parent support / involvement activities / conferences / home visits:** Yes ▶ **Transition to kindergarten activities:** Yes ▶ **Science of Reading policy in** K–3**:** Training, Coaches, Teacher preparation, Funding, Universal screener, Dyslexia screener, Parent notification, State education agency guidance on curriculum, Reading plans, Progress monitoring, Intervention during non-school hours, Parent engagement ▶ **Science of Reading laws include:** Preschool, Evidence, Science of Reading, Phonemic Awareness, Phonological Awareness, Phonics, Vocabulary, Fluency, Comprehension, Writing, Oral Language, Teacher Prep, Professional development/Coaching, Curriculum/Materials, Principal, Assessment, Reading Plan, MTSS, Instruction/Intervention, Summer School, After School, Tutoring, Dyslexia, Multilingual Learners, Culturally Relevant, Parent

	Notification, Family Engagement, Community Engagement, Teacher certification/licensure renewal ▶ **Dyslexia legislation includes:** IDEA definition, Specialist, Screening, Notification, List of screeners, Pre-service requirement, In-service requirement, Intervention requirement (Multisensory, Evidence-based, Explicit/direct, MTSS/RTI) ▶ **Learners with exceptionalities support:** State definition, Required identification, Screening, Mandated programming, State education agency level support (Technical assistance, Professional development, Compliance, Liaison), local education agency coordinator, Certification, Licensure, Professional development for counselors, Professional development for special education teachers, Push-in program, Cluster classrooms, Consultation, Program standards/guidelines, local education agency is addressing equity gap, Programs monitored, local education agency exceptional learner plans ▶ **Multilingual learner support:** Policies to support families, Policies to support preschool families, Written support plans, Bilingual instruction permitted, Screening/assessed in home language, Placed in classes with same home language, Recruit/enroll/outreach in home language, Home language surveys
Where?  **Where are children being served?**	▶ **Requirement to offer?** Not required; funding is awarded on competitive basis ▶ **Programs:** First Class Pre-K (FCPK) is a grant program. It is a state preschool without specific commitment to a universal preschool program. ▶ **Service delivery:** Public schools, Head Start, Private Agencies, Faith-Based Centers, Family Child Care Homes, Military child care, College/University programs, Community-based child care, Private schools ▶ **Availability:** 100% of counties ▶ **Class size:** 20 ▶ Ratio: 1:10
When? 	▶ **School or academic year** ▶ **Hours:** 6.5 hours/day ▶ **Days:** 5 days/week ▶ **Total hours/year:** 1,170

When are children being served?	
How?  **How is the system supporting this?**	▶ **Coordination:** FCPK is administered by the Office of School Readiness within the Alabama Department of Early Childhood Education, under the Governor's Office ▶ **State support for:** Selecting curricula, Curricula aligned with ELDS, Technical assistance for curriculum, Professional development on ELDS, Aligning assessment ▶ **Teacher preparation:** BA with specialized training in Pre-K (Early childhood education, Child development, Preschool Special Education) ▶ **Teacher credentials:** Pre-K; Pre-K–3 ▶ **Professional Development and coaching:** 30 hours/year with professional development plans and coaching ▶ **Coaching/mentoring:** Monthly ▶ **Structured observations of preschool classroom quality:** All classrooms are observed at least annually using CLASS or other. State requires ongoing feedback from data. ▶ **QRIS, observations, and data use for program improvement:** Structured classroom observations; Data used for program improvement ▶ **Preschool site visits?** Yes: More than once a year
How Much? 	▶ **State per child: $6,953** ▶ **Total per child: $8,862** ▶ **Funding for curriculum implementation/training?** Yes ▶ **Salary comparison to K-3 teachers:** Same starting, schedule, benefits, health care, paid time off (PTO), and PTO for professional development ▶ **Dedicated funding for learners with exceptionalities?** Yes ▶ **Extra funding for multilingual learners:** No ▶ **Funding:** Funding for FCPK is distributed from the Alabama Education Trust Fund Budget through competitive grants at three levels for pre-K programs: (1) Pre-K Excellence Grants (up to $48,300) are awarded to help programs meet quality standards and are not intended as the primary source of funding; (2) Pre-K Tiered Grants ($84,804 to $97,908 per grant) to classrooms serving a certain share of the free and reduced-price lunch eligible child population and are primary sources of pre-K

	funding; (3) New Classroom Grants ($120,000 per grant) cover costs of materials, equipment, furnishings, and general operating expenses in new classrooms for one year. Grantees must provide at least a 25% match to the awards locally, which can include sliding-scale fee revenue.

According to *Alabama's Action Plan for Literacy: Birth Through Grade 12* (Alabama Committee on Grade-Level Reading, 2020), in adherence to the Alabama Literacy Act, the department is formulating a plan to enhance literacy outcomes statewide. The focus is on providing professional development and support for preschool through Grade 3 teachers, including certifications for dyslexia therapists. Higher education will increase Science of Reading coursework for initial teacher certification. Regional Alabama Reading Initiative staff will undergo advanced coursework on the Science of Reading. Ongoing professional learning driven by student assessment data is emphasized for schools and districts. Professional learning is crucial for school improvements, fostering a community that believes in its ability to change practices and achieve goals. The Department of Early Childhood Education (DECE) continues to provide education for Birth through Preschool.

The Alabama Literacy Act mandates ongoing professional development for kindergarten through Grade 3 educators. Beyond Grade 3, literacy demands continue, requiring a content-rich curriculum based on literacy standards. The Alabama Literacy Plan emphasizes investing in educators' knowledge and skills to achieve literacy improvements. The Literacy Task Force is charged with establishing a continuum of teacher development based on Science of Reading standards. The continuum should align with dyslexia standards, and professional learning opportunities should meet Literacy Act standards, align with content standards, and be evidence-based. Attention to professional learning for Grades 4 through 12 educators is highlighted as the English Language Arts standards are revised.

All teachers in FCPK classrooms must center their instructional strategies, classroom environment, and activities in accordance with the Alabama First Class Framework. All FCPK classrooms are supported by a coach and monitored to support continuous improvement. Alabama requires each classroom to have a lead teacher with a minimum of a bachelor's degree in an early childhood-related field.

In Alabama's Early Childhood Coaching Framework, each classroom is guided by a designated coach, supporting teachers in implementing best practices and self-reflection. These coaches assist in integrating developmental standards into daily planning and refining assessment practices. The state standards are structured to align vertically with Alabama's Course of Study Standards and horizontally with Teaching Standards GOLD (TS GOLD). Alabama further provides teachers with the

WIDA Early Years: Making Connections document for ML coordination within the curriculum.

Implementing the Alabama FCPK Framework involves adhering to various components, such as the Alabama Standards for Early Learning and Development, FCPK Program Guidelines, FCPK Classroom Guidelines, and utilizing the TS GOLD Assessment. The Alabama DECE evaluates and recommends curricula aligned with the Alabama FCPK Framework and Standards. The approval of curriculum decisions and purchases is supervised by Region Directors and coaches, ensuring adherence to the established criteria.

FCPK teachers and administrators collaborate with coaches or program monitors to select a curriculum that complements the Alabama FCPK Framework and promotes effective instructional practice. Additionally, teachers are mandated to create individual professional development plans, and the coaching model operates on a tiered approach for continuous goal setting and self-reflection throughout the year. FCPK coaches are trained in the First Six Weeks of School curriculum, which is made available to all FCPK classrooms.

Structured observations are conducted using the CLASS and DECA-P2 reflective checklist, with formal pre- and post-CLASS observations occurring over a three-year cycle for each classroom. Informal CLASS observations are also conducted multiple times a year to support the professional growth of individual teachers. Data collected from these observations serve various purposes, such as professional development, reflection, state-wide evaluation, and research, aiding in designing personalized professional development aligned with teacher-created goals and action steps.

The CLASS tool is also utilized for coaching teachers on their individual professional development needs, contributing to state-level analysis of coaching priorities. Additionally, the tool fosters continuity in P-3 classrooms. Department staff, Region Directors, monitors, and coach facilitators conduct multiple visits to classrooms each year, varying based on the level of need. Desk monitoring is used for consistent implementation, with refined classrooms receiving a minimum of six visits and an average of 12 visits per year.

Overall, the coaching framework in Alabama's early childhood education emphasizes support, alignment with established standards, continuous assessment, and tailored professional development to ensure quality teaching practices and optimal learning environments for young children.

Kansas

Table A15 Kansas

Who?  **Who are the children being served?**	▶ **Total students:** 27,454 total students ○ 49.7% of 4-year-olds ○ 24.4% of 3-year-olds ▶ **Demographic profiles** ○ 15–16% home language other than English ○ 7–10% with disabilities (96% served in preschool) ○ 14.7% exceptional (all grades) ▶ **Student qualifications** ○ FRL, FPL ○ Individual child or family characteristics
What?  **What instruction is being provided?**	▶ **Standards alignment:** Comprehensive, aligned to K–3, supported, culturally sensitive ▶ **Standards included multilingual learners:** Yes ▶ **ELDS and assessments aligned:** All programs select at least one child assessment that is aligned with the ELDS. ▶ **Curriculum:** Approval process and supports ▶ **Screenings:** Vision, Hearing, Developmental; Referrals not required ▶ **Parent support / involvement activities / conferences / home visits:** Yes ▶ **Transition to kindergarten activities:** Yes ▶ **Science of Reading support in K-3:** Training, Teacher preparation, Funding, Universal screener, Dyslexia screener, Parent notification, Reading plans, Progress monitoring ▶ **Science of Reading laws include** Preschool, Evidence, Science of Reading, Phonemic Awareness, Phonological Awareness, Phonics, Vocabulary, Fluency, Comprehension, Writing, Professional development/coaching, Curriculum/materials, Assessment, MTSS, Summer school, After school, Tutoring, Dyslexia, Multilingual Learners, Culturally relevant, Parent notification, Family engagement ▶ **Dyslexia legislation includes** IDEA definition, State education agency definition, Specialist, Screening, List of screeners, Pre-service requirement, In-service requirement, Intervention

	requirement (Evidence-based, Explicit/direct, MTSS/RTI), Literacy state-identified measurable result ▶ **Learners with exceptionalities support:** State definition, Required identification, Screening, Mandated programming, State education agency level support (Technical assistance, Professional development, Develop guidelines, Compliance, Family questions, Task force, Liaison), local education agency coordinator, Licensure, Professional development for administrators, Professional development for counselors, Professional development for special education teachers, Pull-out program, Push-in program, Programs monitored ▶ **Multilingual learner support:** Policies to support families, Policies to support preschool families, Written support plans, Bilingual instruction permitted, Monitoring of bilingual instruction, Screening/assessed in home language, Placed in classes with same home language, Recruit/enroll/outreach in home language, Home language surveys
Where?  **Where are children being served?**	▶ **Requirement to offer?** Not required; funding is awarded on competitive basis. ▶ **Programs:** Preschool-Aged At-Risk Program and Kansas Preschool Pilot (KPP). It is a state preschool without specific commitment to a universal preschool program. ▶ **Service delivery:** Public schools, Head Start, Private Agencies, Faith-Based Centers, Family Child Care Homes, Other ▶ **Availability:** 99% of districts ▶ **Class size:** 20 ▶ **Ratio:** 1:10
When?  **When are children being served?**	▶ **School or academic year** ▶ **Total hours/year:** 465
How?	▶ **Coordination:** Preschool is administered through the Kansas State Department of Education (KSDE). In 2018, the KSDE was internally restructured to increase emphasis and capacity around early childhood.

How is the system supporting this?	▶ **State support for:** Selecting curricula, Curricula aligned with ELDS, Technical assistance for curriculum, Professional development on ELDS, Aligning assessment. ▶ **Teacher preparation:** BA with Early childhood education, Child development, or Elementary training (Early childhood education, Child development, Elementary education) ▶ **Teacher credentials:** Pre-K, Birth-K, Birth-3rd, K-6, K-8, Elementary education with Early childhood education Endorsement, Preschool special education ▶ **Professional Development and coaching:** 15 hours/year with professional development plans and coaching ▶ **Coaching/mentoring:** Weekly during first year ▶ **Structured observations of preschool classroom quality:** No ▶ **QRIS, observations, and data use for program improvement:** None ▶ **Preschool site visits?** No
How Much?	▶ **State per child: $4,152** ▶ **Total per child: $4,152** ▶ **Funding for curriculum implementation/training?** Yes ▶ **Salary comparison to K-3 teachers:** No data ▶ **Dedicated funding for learners with exceptionalities?** No ▶ **Extra funding for multilingual learners:** Yes ▶ **Funding** Kansas is also now using Medicaid eligibility data to qualify children for free- or reduced-price school meals. As children who qualify for free meals also qualify as preschool-aged at-risk, the state anticipates that this will lead to an increase in preschool-aged at-risk enrollment. In December 2022, Kansas was awarded a federal PDG B-5 planning grant for $4 million. With these funds, the state will conduct a statewide comprehensive needs assessment to inform a five-year All in for Kansas Kids strategic plan.

Kansas includes preschool in its Dyslexia Handbook by listing preschool characteristics associated with dyslexia (Kansas State Department of Education, 2023). It has also been recognized for using Elementary and Secondary School Emergency Relief (ESSER) funds to provided LETRS professional development program, including preschool through 3rd grade teachers (Taborda et al., 2021).

Kansas supports two state-funded prekindergarten programs. The first, established in 1998, is the State Pre-K 4-Year-Old At-Risk Program (more recently renamed the Preschool-Aged At-Risk Program). The second is the KPP, first offered in the 2006-

2007 school year. Both programs are operated by KSDE and are reported together due to their similar standards and overlapping enrollment. In Kansas, the Preschool-Aged At-Risk program accommodates students with disabilities in the same classroom but finances them separately. Both funding sources allocate an equivalent 0.5 Full-Time Equivalent (FTE). Notably, KPP grant funds can be utilized to serve a student with disabilities.

Enrollment data is accessible by program, not by student, with various programs dispersed across various locations. The statistics outline the distribution of Preschool Aged At-Risk programs among various settings, such as community agencies, district-owned buildings, faith-based buildings, Head Start facilities, and other locations. For the KPP Program, most of the programs are situated in public schools. The data gathered from the Kansas Individual Data on Students file offers insight into the primary language or dialect of students, distinct from their ethnicity, as per the Home Language Survey. The information is available under File Specifications for additional details.

The educational standards in Kansas are aligned with the Kansas Early Learning Standards, and programs are encouraged to utilize evidence-based curricula and assessment tools. Professional development resources, online toolkits, and multiple support networks are available to aid in the implementation of these standards. Teachers within the preschool setting are required to hold specific licenses or qualifications. Moreover, mentoring programs are obligatory for licensed teachers and education leaders to progress from initial to professional licenses.

Additionally, kindergarten readiness and early childhood are integral components of the Kansas Education Systems Accreditation, which includes external visitation teams for accreditation purposes.

Massachusetts

Table A16 Massachusetts

Who?  **Who are the children being served?**	▶ **Total students:** 35,517 total students ○ 30.4% of 4-year-olds ○ 19.3% of 3-year-olds ▶ **Demographic profiles** ○ 15–25% home language other than English ○ 4–9% with disabilities (no data where served) ○ 0.4% exceptional (all grades) ▶ **Student qualifications** ○ All age eligible, No income requirement
What?  **What instruction is being provided?**	▶ **Standards alignment:** Comprehensive, Aligned to K-3, Supported, Culturally sensitive ▶ **Standards included multilingual learners:** Yes ▶ **ELDS and assessments aligned:** No required child assessments ▶ **Curriculum:** Approval process and supports ▶ **Screenings:** Vision, Hearing; Referrals required ▶ **Parent support / involvement activities / conferences / home visits:** Yes ▶ **Transition to kindergarten activities:** Yes ▶ **Science of Reading support in K-3:** Funding, Universal screener, Parent notification, State education agency guidance on curriculum, Progress monitoring, Parent engagement ▶ **Science of Reading laws include** Preschool, Evidence, Curriculum/materials, Assessment, Summer school, After school, Tutoring, Multilingual learners, Culturally relevant, Family engagement, Community engagement ▶ **Dyslexia legislation includes** IDEA definition, Parent consent, Screening, Notification, List of screeners ▶ **Learners with exceptionalities support: State education agency** level support (Information to state legislators) ▶ **Multilingual learner support:** Policies to support families, Policies to support preschool families, Bilingual instruction permitted, Recruit/enroll/outreach in home language

Where?  **Where are children being served?**	▶ **Requirement to offer?** Not required; funds are available to any locality choosing to offer the program; funding is awarded on competitive basis. ▶ **Programs:** Commonwealth Preschool Partnerships Initiative and Massachusetts Chapter 70 is part of a state pre-K without specific commitment to a universal preschool program ▶ **Service delivery:** Public schools ▶ **Availability:** 100% of districts ▶ **Class size:** 20 ▶ **Ratio:** 1:10
When?  **When are children being served?**	▶ **Determined locally**
How?  **How is the system supporting this?**	▶ **Coordination:** Preschool is administered by the Massachusetts Department of Early Education and Care. ▶ **State support for:** Selecting curricula, Curricula aligned with ELDS, Technical assistance for curriculum, Professional development on ELDS ▶ **Teacher preparation:** BA with specialized training in Pre-K-2 (Early childhood education, Child development, Elementary education, Preschool special education, Other) ▶ **Teacher credentials:** Pre-K-2 ▶ **Professional Development and coaching:** 20 hours/year, Professional development plans, and Coaching ▶ **Coaching/mentoring:** Monthly ▶ **Structured observations of preschool classroom quality:** All classrooms are observed at least annually using CLASS or determined locally. State requires ongoing feedback from data. ▶ **QRIS, observations, and data use for program improvement:** Structured classroom observations; Data used for program improvement. ▶ **Preschool site visits?** No

How Much? 	▶ **State per child: $2,027** ▶ **Total per child: $4,284** ▶ **Funding for curriculum implementation/training?** Yes ▶ **Salary comparison to K-3 teachers:** No data ▶ **Dedicated funding for learners with exceptionalities?** No ▶ **Extra funding for multilingual learners:** No ▶ **Funding** In December 2022, Massachusetts was awarded a 3-year $36 million ($12 million per year) federal PDG B–5 grant. In addition to the federal funding, the Commonwealth will provide $3 million each year in matching funds. For the 2021-2022 school year, $47.9 million in state and local funding supported preschool-age children. All children in the state are eligible for the program and are served in public school settings, but local districts can set their own eligibility priorities. State funding is awarded directly to public school districts that serve as the fiscal and programmatic managers of the grant. Funded school districts are required to subcontract with non-profit organizations from their communities to implement the grant requirements. State funding in the amount of $10 million was used to supplement $8,516,797 in federal funding to support CPPI program implementation in 2021.

Although Massachusetts has legislation for the Science of Reading, it does not specifically include preschool. It does however have a grant, Growing Literacy Equity Across Massachusetts, to support the implementation of "equity-driven and sustainable improvements in programming across the Commonwealth through a multi-tiered system of support for ELA/literacy, as well as expanded access to high-quality Preschool. A multi-tiered system of support, or MTSS, is an evidence-based approach to providing culturally and linguistically sustaining, tiered instruction to enable academic success of all students" (Massachusetts Department of Elementary and Secondary Education, 2023, para. 1). Extensive activities specific to preschool and literacy are listed each year, showing the state's dedication to improving reading in preschool. Examples of activities include:

- Implementation of a comprehensive sustainability plan for continued equity-driven, evidence-based, and culturally and linguistically sustaining literacy improvement;
- Implementation of high-quality preschool literacy screening assessments and core/supplemental curricular preschool materials, utilizing EEC's Curriculum Rubric;

- Implementation of equity-driven, evidence-based, inclusive, and culturally and linguistically sustaining high-quality core and supplemental preschool curricular materials, utilizing EEC's Curriculum Rubric;
- Professional learning for district and EEC-licensed community partner educators to support evidence-based preschool literacy practices, use of preschool data in instructional decision-making, and foundational skills; and
- Collaborative completion of a Community Needs Assessment to inform the development of a comprehensive, evidence-based, inclusive, and culturally responsive, preschool literacy plan.

Massachusetts considers screening for dyslexia as part of universal developmental screening (Massachusetts Department of Elementary and Secondary Education, 2020). It emphasizes the importance of implementing developmental screening systems in preschool programs to address the varying needs of young children and should encompass skills across major domains, such as cognitive, language, social-emotional/behavioral, physical (gross and fine motor), comprehensive health, general knowledge, and approaches to learning. The goal of these screenings is to identify potential developmental red flags and determine if further assessments are necessary. Regarding concerns related to dyslexia, the document suggests that developmental screenings could involve assessing phonological awareness, verbal working memory, name recognition, and letter knowledge. It points out that children facing difficulties in early speech and language skills may also struggle with acquiring literacy skills. Due to the broad range of domains a developmental screening should cover, the document recommends the use of multiple tools and sources of information, including input from families, to ensure comprehensive assessments.

In 2019, the Department of Early Education and Care (EEC) launched its Commonwealth Preschool Partnerships Initiative (CPPI), which supports high-quality preschool access for children from age 2 years and 9 months until they reach the locally determined kindergarten eligibility age. The Massachusetts Preschool Expansion Grant offers funding to cities, towns, regional school districts, or educational collaboratives to extend high-quality preschool opportunities to preschool-eligible children. The public-private partnership model aims to expand access and enhance the quality of local early education systems for 3- and 4-year-olds. This initiative involves collaborations between public school districts and licensed early education programs under the EEC.

The CPPI facilitates enrollment through various outreach programs, prioritizing children and families facing economic hardships and in need of subsidized care. Communities manage enrollment either through a centralized process or by referring families to individual programs.

The FY22 Massachusetts Head Start State Supplemental Grant focuses on workforce development and enhancing the quality of Head Start and Early Head Start programs. This funding supports staff salaries, comprehensive services, and meets the non-Federal matching funds requirement. Grant-funded classrooms are required to provide a specific schedule of care, ensuring a minimum duration per day and per week to accommodate families in need of these services.

Although most children are enrolled in public school settings, there might be children with disabilities receiving services in different settings with specific class size and ratio regulations determined by special education guidelines. Local determinations apply when children with IEPs are not included in the class.

The Professional Development Centers support statewide professional development aligned with educational competencies, quality standards, and early learning guidelines. The state does not mandate child assessments but supports local selection and is in the process of developing criteria for evidence-based curriculum models and a list of recommended curricula. Professional development plans are created with a required number of Professional Development Points across various educational areas, as identified in the Individual Professional Development Plan.

Michigan

Table A17 Michigan

Who?  **Who are the children being served?**	▶ **Total students:** 56,736 total students ○ 36.3% of 4-year-olds ○ 13.3% of 3-year-olds ▶ **Demographic profiles** ○ 10–15% home language other than English ○ 4–6% with disabilities (48% served in preschool) ○ 1.3% exceptional (all grades) ▶ **Student qualifications** ○ FPL ○ Individual child or family characteristics
What?  **What instruction is being provided?**	▶ **Standards alignment:** Comprehensive, aligned to K–3, supported, culturally sensitive ▶ **Standards included multilingual learners:** Yes ▶ **ELDS and assessments aligned:** All programs select at least one child assessment that is aligned with the ELDS. ▶ **Curriculum:** Approval process and supports ▶ **Screenings:** Vision, Hearing, Developmental, Referrals required ▶ **Parent support / involvement activities / conferences / home visits:** Yes ▶ **Transition to kindergarten activities:** Yes ▶ **Science of Reading support in K-3:** Training, Coaches, Teacher preparation, Funding, Universal screener, Parent notification, Reading plans, Progress monitoring, Intervention during non-school hours, Parent engagement ▶ **Science of Reading laws include** Preschool, Evidence, Phonemic Awareness, Phonological Awareness, Phonics, Vocabulary, Fluency, Comprehension, Writing, Oral Language, Teacher Prep, Professional development/coaching, Curriculum/materials, Principal, Assessment, Reading plan, MTSS, Instruction/intervention, Summer school, After school, Tutoring, Dyslexia, Multilingual learners, Culturally relevant, Parent notification, Family engagement, Community engagement

	▶ **Dyslexia legislation includes** Screening, Notification, List of screeners, Intervention requirement (Multisensory, Evidence-based, Explicit/direct), Literacy state-identified measurable result. ▶ **Learners with exceptionalities support:** State education agency level support (Family questions) ▶ **Multilingual learner support:** Policies to support families, Bilingual instruction permitted
Where?  **Where are children being served?**	▶ **Requirement to offer?** Not required; funds are available to any locality choosing to offer the program. ▶ **Programs:** Michigan Great Start Readiness Program (GSRP) is part of a governor-endorsed universal preschool program with some progress towards it. ▶ **Service delivery:** GSRP serves most children in school-day programs. Intermediate School Districts (ISDs) serve as program grantees, but they may distribute funds to local school districts and to providers in community-based settings to offer GSRP. ▶ **Availability:** 99% of counties ▶ **Class size:** 18 ▶ **Ratio:** 1:8
When?  **When are children being served?**	▶ **Determined locally.** ▶ **Hours:** 3 hours/day ▶ **Days:** 4 days/week ▶ **Total hours/year:** ○ 360 for part-day ○ 780 for full day
How?  **How is the system supporting this?**	▶ **Coordination:** Preschool is administered by the Michigan Department of Education Office of Great Start. ▶ **State support for:** Selecting curricula, curricula aligned with ELDS, professional development on ELDS, aligning assessment, list of state-approved curricula. ▶ **Teacher preparation:** BA with specialized training in (Early childhood education, Child development, Elementary education, Preschool special education) ▶ **Teacher credentials:** Pre-K-3, Birth-K, Elementary education with Early childhood education Endorsement, Other

	▶ **Professional Development and coaching:** 16 hours/year with professional development plans and coaching ▶ **Coaching/mentoring:** Per federal Head Start Performance Standards ▶ **Structured observations of preschool classroom quality:** On a 3-year cycle using CLASS or other. State requires ongoing feedback from data. ▶ **QRIS, observations, and data use for program improvement:** Structured classroom observations: Data used for program improvement. ▶ **Preschool site visits?** Yes: More than every 2 years, less than every 5 years
How Much? 	▶ **State per child: $11,927** ▶ **Total per child: $11,927** ▶ **Funding for curriculum implementation/training?** Yes ▶ **Salary comparison to K-3 teachers:** No data ▶ **Dedicated funding for learners with exceptionalities?** No ▶ **Extra funding for multilingual learners:** No ▶ **Funding** The state legislation appropriated $121 million in federal recovery funding to expand GSRP to serve an additional 17,000 to 22,000 eligible children over the next few years with the goal of reaching 90% of 4-year-olds in families at or below 250% FPL. Over time, state funds will replace the federal recovery dollars. The state legislature approved an increase in GSRP per child funding from $7,250 to $8,700 for a full-day slot, matching the base foundation allowance of K–12. Overall, ISD funding is determined by the level of poverty in each ISD and a funding formula, with final grantee awards based on both a community needs assessment and a formula component. State funding includes a transportation fund and funding to recruit families and increase public awareness of GSRP, and $350,000 is appropriated for ongoing statewide evaluation activities.

Established through executive order 2016-18, Michigan's Pre-K-12 Literacy Commission operated as an advisory body focusing on various aspects of literacy education. The commission, composed of thirteen members, provides guidance and assistance in areas such as assessment, professional development, education programming, socioeconomic challenges, best practices, collaboration, parental engagement, and literacy teaching. The members represent diverse backgrounds, including seven from the business, education, and philanthropic sectors with specific interests or expertise in Michigan literacy. Additionally, the commission ensures representation from

individuals experienced in urban literacy settings, Special Education Literacy, and English-Language Learners. However, as of July 2023, the commission was absorbed into a new Michigan Department of Lifelong Education, Advancement, and Potential by executive reorganization order 2023-6 (Dellinger & Lohman, 2023).

Michigan includes specific recommendations of content for screening for dyslexia in preschool: oral language and vocabulary, phonological awareness, and alphabet knowledge (Michigan Department of Education, 2022).

The Michigan Department of Education (MDE) received a PDG B–5 planning grant for $4 million in December 2022 to create workforce and family engagement needs assessments that will be incorporated into Michigan's Collective Early Childhood Action Plan. MDE and partners will create a family-facing enrollment and eligibility tool and will support the workforce by piloting a competitive wage scale to address critical shortages in the early childhood system. In the GSRP, faith-based agencies are not differentiated from other non-profits. From 2018-2019 onwards, $2 million was allocated within the GSRP legislation, allowing programs to request funding for transitioning to a new curriculum or updating the current one from the approved list. This funding covers comprehensive curriculum materials and training, with a requirement for providers to be trained by a certified curriculum trainer. A self-paced online training module for the new Early Childhood Standards of Quality for Birth to Kindergarten (ECSQ B-K) is being finalized for ADA compliance and will be released along with supplemental resource sheets to support ECSQ B-K implementation.

The Learning Accomplishment Profile (LAP) was another approved tool, permitted in GSRP only when used fully as an observational tool. Each GSRP classroom is assigned an Early Childhood Specialist (ECS), a master's level coach, who provides support through regular visits and tailored assistance to teaching teams. ECSs engage in coaching sessions, model teaching strategies, provide immediate feedback, and foster self-assessment among teaching teams.

Classroom Coach and CLASS are tools approved for the required program evaluation, with the choice of tool being a local ISD (grantee) decision. The ECS conducts baseline and subsequent observations, setting growth goals with the teaching teams. The data collected from these tools are utilized at local and state levels for discussions among staff/parent data advisory groups, presentations to superintendents and school boards and for program improvement discussions led by GSRP administrators and evaluators.

In Reading Reform Across America (Neuman et al., 2023), Michigan was highlighted as an example of a comprehensive set of services for students.

> *Through several bills, Michigan has created a set of interventions designed to address the needs of students who may need additional support in reading. Five*

different support programs have been developed under this legislation: (1) tutoring, (2) summer programs, (3) before- and after-school programs, (4) multi-tiered systems of support, and (5) parent involvement and support programs.

The state has partnered with the Michigan Education Corps to provide tutoring in Pre-K through 3rd grade. The tutors will be trained in a multisensory, sequential, systematic education approach to reading. The impact of the tutoring program will be measured by recording the number of tutors, the number of children tutored and their demographic information, whether interventions are implemented with fidelity, whether children's improvement in math or literacy is consistent with expectations, and the impact of the programs on organizations and stakeholders.

Furthermore, Grand Valley State University will work with families and districts to provide services such as after-school education and specialized summer education programming designed to improve reading and literacy using a multisensory approach. Moreover, Michigan is adopting a multi-tiered system of supports model to track Pre-K to 3rd grade students' progress, aiming for them to read at grade level by the end of 3rd grade. The multi-tiered system of supports must include (i) team-based leadership, (ii) a tiered delivery system; (iii) selection and implementation of instruction, interventions, and supports; (iv) a comprehensive screening and assessment system; and (v) continuous data-based decision making.

Finally, Michigan's state-funded preschool program, The Great Start Readiness Program, will partner with local parent coalitions to coordinate home visits for at-risk children and their families. The home visits must be conducted as part of a locally coordinated, family-centered, data-driven strategic plan. One of the goals of the home visits is to improve school readiness using evidence-based methods, including a focus on developmentally appropriate outcomes for early literacy so that children have the reading proficiency they need to succeed in fourth grade and beyond reading instruction into the curriculum for their subject area. (Neuman et al., 2023, p. 23).

South Carolina

Table A18 South Carolina

Who?  **Who are the children being served?**	▶ **Total students:** 37,051 total students ○ 49.1% of 4-year-olds ○ 14.4% of 3-year-olds ▶ **Demographic profiles** ○ 4–9% home language other than English ○ 3–5% with disabilities (64% served in preschool) ○ 15.3% exceptional (all grades) ▶ **Student qualifications** ○ FRL, FPL, Medicaid ○ Individual child or family characteristics
What?  **What instruction is being provided?**	▶ **Standards alignment:** Comprehensive, Aligned to K–3, Supported, Culturally sensitive ▶ **Standards included multilingual learners:** Yes ▶ **ELDS and assessments aligned:** State-level approval process for locally selected child assessments that are aligned with the ELDS ▶ **Curriculum:** Approval process and supports ▶ **Screenings:** Developmental; Referrals required ▶ **Parent support / involvement activities / conferences / home visits:** Yes ▶ **Transition to kindergarten activities:** Yes ▶ **Science of Reading support in K-3:** Training, Coaches, Teacher preparation, Universal screener, Dyslexia screener, Parent notification, Reading plans, Progress monitoring, Intervention during non-school hours, Parent engagement ▶ **Science of Reading laws include** Preschool, Evidence, Science of Reading, Teacher Prep, Professional development/coaching, Curriculum/materials, Assessment, Instruction/intervention, Summer school, After school, Tutoring, Multilingual learners, Parent notification, Family engagement, Community engagement ▶ **Dyslexia legislation includes** IDEA definition, Screening, Notification, In-service requirement, Intervention requirement (Evidence-based, MTSS/RTI), Literacy state-identified measurable result

	▶ **Learners with exceptionalities support:** State definition, Screening, Required identification, Mandated programming, State education agency level support (Technical assistance, Professional development, Develop guidelines, Compliance), Endorsement, Program standards/guidelines, Programs monitored ▶ **Multilingual learner support:** Policies to support families, Policies to support preschool families, Written support plans, Bilingual instruction permitted, Screening/assessed in home language, Home language surveys
Where?  **Where are children being served?**	▶ **Requirement to offer?** Required for all ▶ **Programs:** South Carolina Child Early Reading Development and Education Program (CERDEP)/South Carolina Education Improvement Act Child Development Program (EIA 4K) are part of a state pre-K without specific commitment to a universal preschool program. As of July 2021, all school districts can offer CERDEP for income-eligible students. Previously, only districts meeting the law's poverty threshold were eligible; now, any district with at least one school with 60% or more students in poverty may operate CERDEP classrooms. ▶ **Service delivery:** Public schools, Head Start, Private Agencies, Faith-Based Centers, Other ▶ **Availability:** 100% of districts ▶ **Class size:** 20 ▶ **Ratio**: 1:10
When?  **When are children being served?**	▶ **School or academic year** ▶ **Hours:** ○ 6.5 hours/day (CERDEP) ○ 4 hours/day (EIA) ▶ **Days:** 5 days/week ▶ **Total hours/year:** ○ Public: 1,170 ○ First Steps: 1,870 ○ EIA 4K: 720
How? 	▶ **Coordination:** Preschool is administered through South Carolina Department of Education's Office of Early Learning and Literacy. ▶ **State support for:** Selecting curricula, Curricula aligned with ELDS, Technical assistance for curriculum, Professional development on

How is the system supporting this?	ELDS, Aligning assessment, List of state-approved and recommended curricula. ▶ **Teacher preparation:** BA for public or AA for nonpublic all with specialized training in Early childhood education (Early childhood education, Child development) ▶ **Teacher credentials:** Pre-K-3 ▶ **Professional Development and coaching:** 15 hours/year with professional development and coaching ▶ **Coaching/mentoring:** Varies based on need ▶ **Structured observations of preschool classroom quality:** All classrooms are observed at least annually using ELLCO, TPOT, or other. State requires ongoing feedback from data. ▶ **QRIS, observations, and data use for program improvement:** Structured classroom observations; Data used for program improvement. ▶ **Preschool site visits?** Yes: More than every 2 years, less than every 5 years
How Much?	▶ **State per child: $3,844** ▶ **Total per child: $4,155** ▶ **Funding for curriculum implementation/training?** Yes ▶ **Salary comparison to K-3 teachers:** Same starting pay, Prorated schedule, Same Benefits, Health care, PTO, PTO for professional development ▶ **Dedicated funding for learners with exceptionalities?** Yes ▶ **Extra funding for multilingual learners:** No ▶ **Funding** EIA 4K, initiated in 1984, is funded as part of a one-cent sales tax supporting public education projects. In December 2022, South Carolina was awarded a federal PDG B–5 planning grant for $3,734,616 to support professional learning opportunities for the early childhood care (ECCE) workforce.

South Carolina's Read to Succeed Act has specific language regarding evidence-based reading instruction starting in prekindergarten. It requires teachers to use "evidence-based reading instruction in prekindergarten through grade twelve, to include oral language, phonological awareness, phonics, fluency, vocabulary, and comprehension; administer and interpret valid and reliable assessments; analyze data to inform reading instruction; and provide evidence-based interventions as needed so that all students develop proficiency with literacy skills and comprehension" (2014 Act No.

284, Section 3, Section 59-155-10 (1)). It requires districts to have annual reading proficiency plans, which includes prekindergarten and addresses reading and writing assessment and instruction. It includes literacy as part of kindergarten readiness assessments; readiness assessments must be administered in prekindergarten as well as kindergarten. Children not meeting proficiency standards in kindergarten must be provided intensive in-class and supplemental reading intervention. It also includes specific language addressing pre-service and in-service teacher education programs. Within the Read to Succeed website is a direct link to Early Learning information, which reinforces the connection between early learning and literacy and preschool programs. It also includes resources for early learning literacy resources.

In December 2022, South Carolina was awarded a federal PDG B–5 planning grant for $3,734,616 to support professional learning opportunities for the ECCE workforce, create a statewide pre-K common application portal, increase access to ECCE programs; support families; and continue the development of the South Carolina Early Childhood Integrated Data System and dashboards. As a compliment to this work, South Carolina is entering the third year of a federal data systems grant focused on extending the current K–12 longitudinal data system to include early learning partners.

Beginning in 2021-2022, a new summer program was offered to incoming or continuing preschoolers and incoming kindergarteners. For 2021-2022 only, a state proviso allowed students who were eligible for the CERDEP for the previous school year but did not participate due to COVID-19 concerns, to enroll in CERDEP rather than kindergarten. First Steps “4K PLUS Siblings,” in partnership with the division of the Department of Social Services offers half-time scholarships to all enrolled First Steps 4K students to cover before and after school care and holidays for the enrolled 4K student.

To monitor quality, the Office of Early Learning and Literacy (OELL) conducts visits, including an evaluation based on the ELLCO, to provide feedback and support to ensure classrooms are language- and literacy-rich. Some programs receive additional monitoring, which includes a fidelity verification measuring curriculum implementation. South Carolina's state-funded preschool programs are managed by two state agencies: the South Carolina Department of Education (SCDE) and South Carolina First Steps. The SCDE oversees public school district programs, while First Steps oversees the CERDEP 4K program in private settings. Private providers include various institutions like child care centers, military child care facilities, and non-profit independent schools.

The state is establishing the South Carolina Early Childhood Integrated Data System to gather unified data on early childhood education programs and develop indicators for

school readiness at the state and community levels. IDEA information for First Steps is parent-reported, and the program also involves subsidies and home visiting participation.

Program-specific regulations mandate different minimum operating hours. CERDEP programs operate for at least 6.5 hours per day for 180 instructional days but may extend the hours or offer summer programs. First Steps 4K programs have options for the length of the day and the number of instructional days.

Approved curricula options are available for CERDEP districts, and teachers must monitor student progress using various instructional assessments. First Steps 4K uses the TS GOLD for student assessment, with assessment requirements outlined in the Read to Succeed legislation.

Professional development requirements vary for teachers in CERDEP and EIA 4K programs. First Steps 4K Assistant Teachers undergo pre-service professional development through SC First Steps Teacher Academy. CERDEP teachers must engage in professional development related to teaching children in poverty and emergent literacy. The South Carolina Child Care Licensing Regulation training requirements also apply.

Teachers in both CERDEP and First Steps 4K receive classroom support and ongoing professional learning opportunities. Classroom observations and visits from state-level offices occur regularly to monitor program quality and compliance.

Classroom visits from the SCDE are not mandatory but are attempted based on district and teacher needs. First Steps 4K CERDEP classrooms receive visits at least twice a month by their 4K Coach, conducted virtually and in-person.

Wisconsin

Table A19 Wisconsin

Who?  **Who are the children being served?**	▶ **Total students:** 55,857 total students ○ 69.1% of 4-year-olds ○ 14.6% of 3-year-olds ▶ **Demographic profiles** ○ 13% home language other than English ○ 3–7% with disabilities (54% served in preschool) ○ 4.7% exceptional (all grades) ▶ **Student qualifications** ○ All age eligible, No income requirement
What?  **What instruction is being provided?**	▶ **Standards alignment:** Comprehensive, Aligned to K-3, Supported, Culturally sensitive ▶ **Standards included multilingual learners:** Yes ▶ **ELDS and assessments aligned:** Child assessments are not required to align with the ELDS ▶ **Curriculum:** Approval process and supports ▶ **Screenings:** Vision, Hearing; referrals not required ▶ **Parent support / involvement activities / conferences / home visits:** No ▶ **Transition to kindergarten activities:** No ▶ **Science of Reading support in K-3:** Teacher preparation, funding, Universal screener, Parent notification, Progress monitoring, Intervention during non-school hours ▶ **Science of Reading laws include** Phonological Awareness, Phonics, Vocabulary, Fluency, Comprehension, Teacher Prep, Professional development/coaching, Curriculum/materials, Principal, Assessment, Instruction/intervention, Dyslexia, Family engagement, Teacher certification/licensure renewal ▶ **Dyslexia legislation includes** IDEA definition, Literacy state-identified measurable result ▶ **Learners with exceptionalities support:** State definition, Required identification, Mandated programming, State education agency level support (Technical assistance, Professional development, Family

	questions, Task force, Grants), local education agency coordinator, Early entry to kindergarten ▶ **Multilingual learner support:** None reported, may be determined locally
# Where?  **Where are children being served?**	▶ **Requirement to offer?** Not required; funds are available to any locality choosing to offer the program. ▶ **Programs:** Wisconsin Four-Year-Old Kindergarten (4K) and Three-Year-Old Kindergarten (3K) is a universal preschool program system that is mostly achieved. ▶ **Service delivery:** Public schools. Funds for 4K are distributed to public schools, which may subcontract and collaborate with community providers per guidance of public education funding and state requirements. ▶ **Availability:** 99% of districts ▶ **Class size & Ratio:** Determined locally
# When?  **When are children being served?**	▶ **School or academic year** ▶ **Hours:** 2.5 hours/day ▶ **Total hours/year:** ○ 437 hours of direct instruction or ○ 349.5 hours of direct instruction + 87.5 hours of parent outreach
# How?  **How is the system supporting this?**	▶ **Coordination:** Preschool is coordinated through Wisconsin Department of Public Instruction. ▶ **State support for:** Selecting curricula, Technical assistance for curriculum, Professional development on ELDS ▶ **Teacher preparation:** BA with specialized training in Early childhood education (Early childhood education, Elementary education, Other) ▶ **Teacher credentials:** Pre-K, kindergarten, Birth-3rd, Other ▶ **Professional Development and coaching:** professional development plans for public school and coaching for some non-public ▶ **Coaching/mentoring:** Determined locally ▶ **Structured observations of preschool classroom quality:** Structured observations are required but determined locally, observation instruments determined locally. There is no requirement for feedback.

	▶ **QRIS, observations, and data use for program improvement:** Structured classroom observations determined locally; Data used for program improvement at local level only. ▶ **Preschool site visits?** No
How Much? 	▶ **State per child: $3,643** ▶ **Total per child: $6,826** ▶ **Funding for curriculum implementation/training?** No ▶ **Salary comparison to K-3 teachers:** No data ▶ **Dedicated funding for learners with exceptionalities?** No ▶ **Extra funding for multilingual learners:** No ▶ **Funding** The final 2021-2023 biennial state budget did not increase educational funding at the state level. Rather, funds from the federal government (ESSER, Coronavirus Aid, Relief, and Economic Security Act [CARES]) have accounted for the increase in educational funding for the biennium for all grade levels. Funding for 4K is part of the overall school funding formula. For state aid purposes, 4K students are counted as either .5 or .6 FTE, depending on the services the school provides. The Wisconsin Head Start State Supplement Grant is a separate budgetary item that offers state funding via an application to federal Head Start grantees in Wisconsin. Funding is used to supplement the provision of comprehensive early childhood education services for children and families enrolled in Early Head Start and Head Start. Awarded grantees continue to follow the federal Head Start Performance Standards.

Wisconsin code specific to reading instruction (118.015) does not address preschool (General School Operations, 2023). However, it does include 4-year-old preschool and literacy in reading readiness assessments and characteristics of dyslexia (118.016); it requires screening in 4-year-old kindergarten. It does specify that the assessment must evaluate phonemic awareness and letter-sound knowledge.

In the state-funded preschool program, children with disabilities are included in enrollment figures if they are registered in the program. Those receiving IEP services yet not enrolled in this program are not counted in the enrollment total. Moreover, faith-based centers involved in the state 4K program must exclude religious content.

Since becoming a state in 1848, Wisconsin's Constitution has included a promise to provide free, voluntary education for 4-year-olds. School districts are not required to

offer a 4K program, but if they do, it must be open to all age-eligible children within the school district.

Ongoing collaborative efforts bring together Head Start technical assistance and training with other professional development efforts at both the state and local levels. Teacher-child ratios in 4K classrooms are not regulated at the state level, allowing local school boards to set class sizes based on varying benchmarks: 1:10 with a maximum of 20 children by the NIEER, 1:13 with a maximum of 24 children following state child care regulations, and other ratios aligned with Head Start or NAEYC standards. Ratios in community settings follow program-specific requirements.

While recommended, follow-up and referrals based on screening results are not mandatory. Family engagement and referrals for special education or social services are mandated only when additional funds are obtained or in specific circumstances. Early Learning and Development Standards (ELDSs) focus on English Language Arts and Mathematics, excluding other subjects. Reading readiness assessments are required from 4K to second grade, focusing on phonemic awareness and letter sound knowledge, aligned with Wisconsin Model Early Learning Standards.

A training system with cross-sector trainers, in-person and virtual sessions, and extensive resources is provided by the state. Curriculum decision-making is guided by the Wisconsin Model Early Learning Standards through various platforms, while the specific tool for the required reading readiness assessment is at the discretion of individual districts.

COLORADO STANDARDS, EARLY LEARNING GUIDELINES, HEAD START STANDARDS

Colorado has several documents of standards and guidelines that pertain to preschool. Over the last several years, Colorado has put substantial effort into aligning each of these standards and guidelines both vertically and horizontally. A full description of the standards and guidelines are available on the linked documents below.

1. Early Learning Development Guidelines considers development from birth through age 8.
2. Colorado's P-12 Academic Standards are inclusive of preschool.
3. Head Start Early Learning Outcomes Framework: Ages Birth to Five.
4. Draft Universal Preschool Colorado Quality Standards

The current draft of Colorado's Universal Preschool standards have been informed by a crosswalk of Colorado Quality Standards for Early Childhood Care and Education Services, Colorado Shines, Head Start Program Performance Standards, Ideal Learning Principles, National Association for the Education of Young Children Program Standards, National Association for Family Child Care Homes Quality Standards, and National Institute for Early Education Research Benchmarks (Colorado Department of Education, 2023a).

Starting in 2011, Colorado's Early Learning Development Guidelines were developed to complement and align with the Preschool-3rd grade portion of Colorado's P-12 Academic Standards and the Head Start Child Development and Early Learning Framework. The alignment between the ELDGs indicators and Preschool standards are identified specifically in the document with an asterisk. All indicators and standards are relevant to the variety of settings found in a mixed delivery universal preschool program.

For the purposes of this report, we analyzed the guidelines and standards specific to language and literacy for alignment with the Science of Reading for preschool and evidence-based instructional practices. Specifically, we looked for:

- Science of Reading
    - Reading readiness

    - Oral language
    - Vocabulary
    - Phonological/phonemic awareness
    - Print knowledge
- Evidence-based practices
    - Literacy development and print-rich environments
    - Intentional and purposeful instruction
    - Sequential and developmentally appropriate learning, and
    - Inclusive and culturally responsive practices.

We investigated both the supporting language in the documents and the specific standards and guidelines related to language and literacy. The crosswalk of the supporting language can be found in Table A21. The crosswalk of the standards and guidelines can be found in Table A22.

Across Colorado's Early Learning and Development Guidelines, Academic Standards, and Head Start Early Learning Outcomes Framework, the Science of Reading is well aligned and represented. The guidelines and standard are representative of Reading readiness, Oral language, Vocabulary, Phonologic and Phonemic awareness, and Print knowledge. The guidelines and standards provide evidence of evidence-based practices of providing a print rich environment, intentional and purposeful instruction, sequentially and developmentally appropriate learning, and inclusive and culturally responsive practices. There are substantial considerations targeted at multilingual learners. Though not included in the individual standards and guidelines, the supporting language addresses students with disabilities and exceptionalities. As noted elsewhere in this report, Colorado has guidelines for addressing exceptional learners outside of these guidelines.

RECOMMENDATIONS

Across the literature policy reviewed, an extensive number of recommendations have been suggested. RMC analyzed all the recommendations across sources and identified the following themes:

- Leadership
- Alignment and Coordination
- Teacher Education and Support
- Instructional Approaches and Student Support
- Family and Community Engagement

The themes are broad and not specific to the Science of Reading for preschool. Within each theme, broad considerations were identified in the literature. We cross walked the broad considerations and themes to specific recommendations found in the literature. We then identified how specific recommendations could be directed at Science of Reading across the mixed delivery of Colorado's Universal Preschool. The crosswalk of recommendations can be found in tables A24 to A28. The full recommendations are in the front of this report (pages 20-26).

DATA TABLES

Crosswalk: Policy and Implementation

All data represented here are adapted from their original sources to focus specifically on the states included in this analysis. Not all items from each report are represented, only those that are most relevant to this document. All information is from the most recent, publicly available published reports. Typically, the most current data is based on the 2021-22 school year. It is important to note that for Colorado, this was prior to Colorado's Universal Preschool implementation, and is reflective of the Colorado Preschool Program, which is not the same. This information is provided for historical, contextual information only.

Table A20 State Comparisons Across Policy Reports

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Type of State Funded Preschool Program (NIEER)	State Pre-K without specific commitment to a universal preschool program	Newly working toward a universal preschool program	State Pre-K without specific commitment to a universal preschool program	State Pre-K without specific commitment to a universal preschool program	Current Governor endorsed a universal preschool program (some progress towards it)	State Pre-K without specific commitment to a universal preschool program	Universal preschool program (mostly achieved)
Pre-K Program Name (NIEER)	Alabama First Class Pre-K Program	Colorado Preschool Program	Preschool Offered by Public School	Commonwealth Preschool	Michigan Great Start Readiness Program	South Carolina Child Early Reading	Wisconsin Four-Year-Old

[11] At the time of writing this (fall 2023), Colorado is newly implementing Colorado's Universal Preschool system and current data is not available. Colorado's data is reflective of the Colorado Preschool Program which was implemented prior to Colorado's Universal Preschool. This information is supplied for historical, contextual information only.

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
			Districts – Preschool-Aged At-Risk Program, or Kansas Preschool Pilot	Partnerships Initiative and Massachusetts Chapter 70		Development and Education Program (CERDEP)/SC EIA Child Development Program (EIA 4K)	Kindergarten (4K)
Preschool oversight (From department websites)	Alabama Department of Early Childhood Education	Colorado Department of Early Childhood	Kansas Department of Education	Department of Early Education and Care	Michigan Department of Education Office of Great Start	South Carolina Department of Education's Office of Early Learning and Literacy	Wisconsin Department of Public Instruction
Total number of 3- & 4-year-olds served in Pre-K + Pre-K Special Education + Head Start	32,090	32,735	27,454	35,517	56,736	37,051	55,857
Total number of 3-year-olds in Pre-K + Pre-K Special Education + Head Start	6,812	11,101	8,887	13,692	14,994	8,308	9,545
Percent of state population of 3-year-olds in Pre-K + Pre-K Special Education + Head Start	11.3%	17.4%	24.4%	19.3%	13.3%	14.4%	14.6%

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Total number of 4-year-olds in Pre-K + Pre-K Special Education + Head Start	25,278	21,634	18,567	21,825	41,742	28,743	46,312
Percent of state population of 4-year-olds in Pre-K + Pre-K Special Education + Head Start	41.7%	33.1%	49.7%	30.4%	36.3%	49.1%	69.1%
Home language other than English (total, converted to percent) (NIEER)	5%	No data	15%	25%	10%	4%	No data
Multilingual (multiple sources)	5%	23%	16%	15%	15%	9%	13%
IEP in Pre-K-3 (NIEER)	2%	4%	7%	4%	4%	3%	3%
IEP in Pre-K-4 (NIEER)	4%	7%	10%	9%	6%	5%	7%
Exceptional (all public school students in 2017-18) (NCES)	6.1%	7.4%	14.7%	0.4%	1.3%	15.3%	4.7%
The State of Preschool 2022, NIEER (2023) *Data is from 2021-22 school year*							
Geographic availability	67 out of 67 counties (100%)	176 out of 179 school districts (98%)	284 of 286 school districts (99%)	280 out of 280 school districts (100%)	82 out of 83 counties (99%)	79 out of 79 school districts (100%)	407 out of 411 school districts (99%)

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Requirements for districts/counties/parishes/towns to offer Pre-K	Not required – funding is awarded on competitive basis	Not required, positions are capped, and funding is awarded on a competitive basis	Not required – funding is awarded on competitive basis	Not required - funds are available to any locality choosing to offer the program / funding is awarded on competitive basis	Not required - funds are available to any locality choosing to offer the program	Required for all	Not required - funds are available to any locality choosing to offer the program
Served in: Public Schools	✓	✓	✓	✓	No data	✓	✓
Served in: Head Start	✓	✓	✓	-	No data	✓	-
Served in: Private Agencies	✓	✓	✓	-	No data	✓	-
Served in: Faith-Based Centers	✓	Listed as private	✓	-	No data	✓	-
Served in: Family Child Care Homes	✓	✓	✓	-	No data	-	-
Served in: Other	Military child care, College/University, Community-based child	School districts	✓	-	Intermediate School District	✓	-

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
	care, Private schools						
3-year-olds in State Pre-K	0%	8%	18%	12.5%	0%	.4%	.05%
4-year-olds in State Pre-K	36%	23%	42%	25%	31%	43%	61%
4-year-olds in Head Start	10%	6%	6%	7%	11%	12%	12%
3-year-olds in Head Start	5%	6%	7%	6%	5%	6%	8%
3-year-olds in Special Education not also enrolled in state Pre-K or Head Start	1%	3%	Not reported	Not reported	3%	2%	3%
4-year-olds in Special Education not also enrolled in state Pre-K or Head Start	.2%	4%	Not reported	.3%	.3%	1%	Not reported
3-year-olds in other or no preschool	89%	83%	76%	80.5%	86%	85.6%	84.95%
4-year-olds in other or no preschool	58.8%	67%	51%	68.7%	63.7%	50%	31%
Income requirement	None	Eligible for free or reduced-price lunch, or 185% of FPL	Kansas Preschool-Aged At-Risk: Eligible for free lunch or 130% of FPL.	Two programs None / None	250% FPL	Eligible for free or reduced-price lunch or Medicaid, or 185% of FPL.	None

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Eligibility	All age-eligible	Individual child or family characteristics	Individual child or family characteristics	All age-eligible	Individual child or family characteristics	Individual child or family characteristics	All age-eligible
Risk Factors: Disability or developmental delay	None	✓	✓	No data	✓	✓	None
Risk Factors: Low parent education	None	✓	✓	No data	✓	✓	None
Risk Factors: History of abuse, neglect, or family violence	None	✓	✓	No data	✓	✓	None
Risk Factors: Homelessness or unstable housing	None	✓	✓	No data	✓	✓	None
Risk Factors: Home language other than English	None	✓	✓	No data	✓	✓	None
Risk Factors: Parental substance abuse	None	✓	✓	No data	✓	✓	None
Risk Factors: Risk that child will not be ready for kindergarten	None	✓	✓	No data		✓	None
Risk Factors: Teen parent	None	✓	✓	No data	✓	✓	None

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Risk Factors: Low birth weight or other child health risk	None			No data	✓	✓	None
Risk Factors: Child history of foster care	None	✓	✓	No data	✓	✓	None
Risk Factors: Parent on active military duty	None			No data	✓	✓	None
Risk Factors: Other	None	✓	✓	No data	✓		None
Minimum hours of operation	6.5 hours/day; 5 days/week	2.5 hours/day	465 hours/year	No data	3 hours/day; 4 days/week	CERDEP: 6.5 hours/day; EIA 4K: 4 hours/day, 5 days/week	2.5 hours/day
Operating schedule	School or academic year	School or academic year	School or academic year	No data	Determined locally	School or academic year	Determined locally
Hours per year	1170	Half-day: 360; Full day: 720	465	Determined locally	Part-day: 360; School-day: 780	CERDEP: 1,170 (public), 1,870 (First Steps); EIA 4K: 720	437 hours of direct instruction (or 349.5 hours of direct instruction and 87.5 hours of parent outreach).

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Funding: State $ per child enrolled in preschool	$6,953	$3,391	$4,152	$2,027	$11,927	$3,844	$3,643
Funding: All-reported $ per child enrolled in preschool	$8,862	$6,240	$4,152	$4,284	$11,927	$4,155	$6,826
State ranking for resources based on state spending	17	40	34	45	6	37	38
State ranking for resources based on all reported spending	17	31	41	38	6	40	29
Early learning & development standards Benchmark: Comprehensive, aligned, supported, culturally sensitive	✓ Comprehensive, aligned, supported, culturally sensitive	✓ Comprehensive, aligned, supported, culturally sensitive	✓ Comprehensive, aligned, supported, culturally sensitive	✓ Comprehensive, aligned, supported, culturally sensitive	✓ Comprehensive, aligned, supported, culturally sensitive	✓ Comprehensive, aligned, supported, culturally sensitive	- Comprehensive, aligned with other state standards, supported, culturally sensitive
Curriculum supports; Benchmark: Approval process & supports	✓ Approval process & supports	- Approval process	✓ Approval process & supports	✓ Approval process & supports	✓ Approval process & supports	✓ Approval process & supports	✓ Approval process & supports
Teacher has BA; Benchmark: BA	✓	-	✓	✓ BA (public);	✓ BA	-	✓ BA

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
	BA	Early Childhood Teacher Qualification	BA	Other (nonpublic)		BA (public); AA (nonpublic)	
Specialized training in Pre-K; Benchmark: Specializing in Pre-K	✓ Early childhood education, Child development, Early childhood education special education	✓ Early Childhood Teacher Qualification	- Early childhood education, Child development, Elem. Ed.	✓ Pre-K–2 (public); Other (nonpublic)	✓ Early childhood education, Child development, Early childhood education special education	✓ Early childhood education	✓ Early childhood education
Assistant teacher has CDA or equivalent; Benchmark: CDA or equivalent	✓ CDA or 9 Early childhood education/Child development credits	- None	- Other	- None / Determined locally	✓ CDA or AA in Early childhood education/Child development	- HSD	- HSD (public); Other (nonpublic)
Staff professional development; Benchmark: For teachers & assistants: At least 15 hours/year; individual professional	✓ 30 hours/year (teachers); professional development	- 15 hours/year	- 15 hours/year; professional development plans; Coaching	✓ 20 hours/year; professional development plans; Coaching	✓ 16 hours/year; professional development plans; Coaching	✓ 15 hours/year; professional development plans; Coaching	- professional development plans (public teachers); Coaching

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
development plans; coaching	plans; Coaching		(some teachers)				(some nonpublic
Class size 20 or lower; Benchmark: 20 or lower	✓ 20 (4-year-olds)	✓ 16 (3- & 4-year-olds)	✓ 20 (3- & 4-year-olds)	✓ 20 (3- & 4-year-olds)	✓ 18 (4-year-olds)	✓ 20 (4-year-olds)	- Determined locally (3- & 4-year-olds)
Staff-child ratio 1:10 or better; Benchmark: 1:10 or better	✓ 1:10 (4-year-olds)	✓ 1:8 (3- & 4-year-olds)	✓ 1:10 (3- & 4-year-olds)	✓ 1:10 (3- & 4-year-olds)	✓ 1:8 (4-year-olds)	✓ 1:10 (4-year-olds)	- Determined locally (3- & 4-year-olds)
Vision, hearing, & health screening & referral; Benchmark: Vision, hearing & health screenings; & referral	✓ Vision, hearing, health & more	- None	✓ Vision, hearing, developmental	✓ Vision, hearing, health & more	✓ Vision, hearing, health & more	- Immunization, developmental (CERDEP/EIA 4K); Vision, hearing, development, health & more	- Vision & immunizations
Continuous quality improvement system; Benchmark: Structured classroom observations; data used for program improvement	✓ Structured classroom observations: Data used for program improvement	- Structured classroom observations (above QRIS Level 2); Data used for	- None	✓ Structured classroom observations: Data used for program improvement	✓ Structured classroom observations: Data used for program improvement	✓ Structured classroom observations: Data used for program improvement	- Structured classroom observations determined locally; Data used for program

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
		program improvement					improvement at local level only
Quality standards sum (max 10)	10	4	6	6	10*	7	3
Screenings: Vision / Hearing	✓	None	✓	✓	✓		✓
Screenings: Psychosocial/Behavioral	✓	None		None			
Screenings: Developmental	✓	None	✓	None	✓	✓	
Referrals for positive screening	✓	No	No	✓	✓	✓	No
Parent support / involvement activities / conferences / home visits	✓	✓	✓	✓	✓	✓	No
Transition to kindergarten activities	✓		✓	✓	✓	✓	No
State Early Learning and Development Standards	Alabama Standards for Early Learning and Development	Colorado Early Learning and Development Guidelines	Kansas Early Learning Standards	EEC Learning Standards and Curriculum Guidelines / Massachusetts Curriculum Frameworks	Early Childhood Standards of Quality for Prekindergarten	South Carolina Early Learning Standards (SC-ELS)	Wisconsin Model Early Learning Standards

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Standards include Physical and motor skills; Social and emotional development; Approaches toward learning; Language development; and Cognitive development and general knowledge.	✓	✓	✓	✓	✓	✓	✓
Standards include content related to multilingual learners and/or cultural awareness	✓	✓	✓	✓	✓	✓	✓
ELDS aligned to: State K-3 standards	✓	Included in ELDS	✓	✓	✓	✓	No
ELDS aligned to: State developed/adopted college and career ready standards for early grades	✓	Included in ELDS	✓	✓	✓	✓	No
ELDS aligned to: State infant and toddler development standards	✓	Included in ELDS	✓	✓	✓	✓	Included in ELDS
ELDS aligned to: Head Start standards	✓	Included in ELDS	No	✓	✓	✓	✓

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
ELDS aligned to: Other standards	✓	No	✓	No	NAEYC	No	No
Alignment between Preschool Child Assessments and ELDS:	At least one specific child assessment (aligned with the ELDS) must be used by all programs	All programs select at least one child assessment that is aligned with the ELDS	All programs select at least one child assessment that is aligned with the ELDS	Child assessments are not required	All programs select at least one child assessment that is aligned with the ELDS	State-level approval process for locally selected child assessments that are aligned with the ELDS	Child assessments are not required to align with the ELDS
State support: Guidance on selecting curricula aligned with ELDS	✓		✓	✓	✓	✓	✓
State support: Professional development to support use of the ELDS	✓	✓	✓	✓	✓	✓	✓
State support: Child assessments are required to be aligned with the ELDS	✓	✓	✓		✓	✓	
State support: Additional resources are provided to implement the ELDS	✓	✓	✓	✓		✓	✓
State support: Other supports	✓	✓	✓	✓			✓

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
State support: Guidance on selecting evidence-based curricula	✓	✓	✓	✓	✓	✓	✓
State support: List of state approved curricula					✓	✓	
State support: List of state recommended curricula						✓	
State support: Requires adoption of specific curricula by all							
State support: Requires alignment of curricula with ELDS	✓		✓	✓	✓	✓	
State support: State Education Agency (SEA) /Office of Early Learning sponsored training	✓			✓		✓	✓
State support: On-going technical assistance on curriculum implementation	✓		✓	✓		✓	✓
State support: Funding to support curriculum implementation or training	✓		✓	✓	✓	✓	

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
State support: Other supports	✓		✓	✓	✓		✓
State policy requires preschool child assessments	✓	✓	✓	No	✓	✓	✓
Assessment tools: Determined locally			✓				
Assessment tools: Assessment, Evaluation, and Programming System (AEPS)		Programs Must Choose			Programs May Choose		
Assessment tools: HighScope COR		Programs Must Choose			Programs May Choose	Programs May Choose	
Assessment tools: Phonological Awareness Literacy Screening (PALS)						Programs Must Choose	Programs May Choose
Assessment tools: Teaching Strategies GOLD (TS GOLD)/Creative Curriculum Developmental Continuum	Programs Must Use	Programs Must Use			Programs Must Use	Programs Must Choose	
Assessment tools: Work Sampling System						Programs Must Choose	

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Assessment tools: State developed assessment							
Assessment tools: Other	Programs Must Use: ASQ-3 and DECA-P2				Programs May Choose: Learning Accomplishment Profile (LAP	Programs Must Choose	
Required Preschool teacher pre-service specialized training (public schools)	Early childhood education, Child development, Preschool special education	Early childhood education, Child development, Other	Early childhood education, Child development, Elementary education	Early childhood education, Child development, Elementary education, Preschool special education, Other	Early childhood education, Child development, Elementary education, Preschool special education	Early childhood education, Child development	Early childhood education, Elementary education, Other
Teacher credentials (note Bilingual is an option, no state in this analysis use it, others not used by these states are CDA, 9 college credits or more in Early childhood education,	Pre-K; Pre-K-3	Early Childhood Teacher	Pre-K, Birth-K, Birth-3rd, K-6, K-8, Elementary education with Early childhood education Endorsement,	Pre-K-2	Pre-K-3, Birth-K, Elementary education with Early childhood education Endorsement, Other	Pre-K-3	Pre-K, kindergarten, Birth-3rd, Other

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
CDA plus 9 college credits or more)			Preschool special education				
Percent of lead teachers by degree: High School diploma/GED	-	No data	No data	-	-	-	No data
Percent of lead teachers by degree: CDA	-	No data	No data	-	-	-	No data
Percent of lead teachers by degree: AA	-	No data	No data	-	-	7%	No data
Percent of lead teachers by degree: BA	70%	No data	No data	20.2%	66.5%	41%	No data
Percent of lead teachers by degree: MA	25%	No data	No data	79%	19.37%	51%	No data
Percent of lead teachers by degree: EdD/PhD	1%	No data	No data	0.5%	-	1%	No data
Percent of lead teachers by degree: Other	4%	No data	No data	0.3%	13.7%	-	No data
Professional Development plans for Lead Teacher	✓	No	✓	✓	✓	✓	✓
Ongoing classroom-embedded support for Lead Teacher	✓	No	✓	✓	✓	✓	No

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Frequency of coaching/mentoring for preschool teachers	Monthly	None	Weekly during first year	Monthly	Per federal Head Start Performance Standards	Varies based on need	Determined locally
Salary comparison between lead preschool teacher and K-3 teachers: Same starting	✓	No data	No data	No data	No data	✓	No data
Salary comparison between lead preschool teacher and K-3 teachers: Same schedule	✓	No data	No data	No data	No data	✓ (prorated)	No data
Salary comparison between lead preschool teacher and K-3 teachers: Same retirement benefits	✓	No data	No data	No data	No data	✓	No data
Salary comparison between lead preschool teacher and K-3 teachers: Same health care	✓	No data	No data	No data	No data	✓	No data
Salary comparison between lead preschool teacher and K-3 teachers: Same paid time off	✓	No data	No data	No data	No data	✓	No data

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Salary comparison between lead preschool teacher and K-3 teachers: Same paid time off for professional responsibilities	✓	No data	No data	No data	No data	✓	No data
Salary comparison between lead preschool teacher and K-3 teachers: Same paid time for professional development days	✓	No data	No data	No data	No data	✓	No data
Requirements for structured observations of preschool classroom quality	All classrooms are observed at least annually	Structured observations are required but determined locally	No	All classrooms are observed at least annually	Yes, a 3-year cycle	All classrooms are observed at least annually	Structured observations are required but determined locally
Required preschool classroom observation instruments	CLASS, Other	Determined locally	NA	CLASS, Determined locally	CLASS, Other	ELLCO, TPOT, Other	Other
Support for reliability/validity of observation data	Double coding	The state asks for a summation of the report results in the	NA	CLASS Reliable Rater(s) to administer the CLASS observations, State provides	Early Childhood Specialists are formally trained in the tools by the publishers and must renew	EIA/4K: Observations are conducted using the same rubric, and all	The state provides guidance via the WI Educator Effectiveness

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
		program's annual report		calibration training for evaluators	status as a reliable assessor with a minimum test score of 80% biennially (Classroom Coach) or annually (CLASS)	observers are trained in the rubric before entering the field. First Steps: Reliability and validity are supported by ongoing professional development for individual and organizational growth and change	System, but these resources are not required to be used
State policy requires programs/teachers/class rooms receive on-going feedback based on data collected from structured observations of preschool classroom quality	✓	No	NA	✓	✓	✓	No
State receives the results of structured observations of	✓	No	NA	✓	✓	✓	No

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
preschool classroom quality							
Use of observation data: Not used	-	State	NA	State	State	-	State
Use of observation data: To adjust curricula	State, Local	Local	NA	Local	Local	State, Local	Local
Use of observation data: To provide feedback to parents	State, Local	Local	NA	Local	Local	State, Local	Local
Use of observation data: to provide program staff with technical assistance/mentoring	State, Local	Local	NA	Local	State, Local	State, Local	Local
Use of observation data: Guide teacher training/professional development	State, Local	Local	NA	Local	State, Local	State, Local	Local
Use of observation data: Create program improvement plan	State, Local	Local	NA	State, Local	Local	State, Local	Local
Use of observation data: To measure programs on a QRIS	State, Local	State	NA		State, Local		Local
Use of observation data: To make changes to the	State	State	NA		State	State	

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
state policies regarding the preschool program							
Preschool site visits	Yes: More than once a year	No	No	No	Yes: More than every 2 years, less than every 5 years	Yes: More than every 2 years, less than every 5 years	No
NIEER – The State(s) of Early Intervention and Early Childhood Special Education							
Percent of 3-year-olds receiving ECSE	2%	4%	7%	4%	4%	3%	3%
Percent of 4- year-olds receiving ECSE	4%	7%	10%	9%	6%	5%	7%
Percentage of 3- & 4-year-olds with an IEP who attended State-Funded Preschool	21%	15%	96%	NO DATA	48%	64%	54%
Percentage of 3- & 4-year-olds with an IEP who Attended Head Start	19%	13%	11%	7%	21%	10%	18%
Location of Early Childhood Special Education: Home	2.7%	0.2%	2.0%	0.1%	2.8%	3.5%	4.4%
Location of Early Childhood Special Education: Residential facility	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Location of Early Childhood Special Education: Separate Class	3.5%	1.9%	39.0%	18.5%	44.3%	29.5%	17.6%
Location of Early Childhood Special Education: Separate School	0.5%	1.5%	0.3%	0.9%	1.7%	1.7%	0.1%
Location of Early Childhood Special Education: Service Provider location	16.2%	0.2%	1.5%	12.0%	19.9%	13.2%	8.2%
Location of Early Childhood Special Education: Other location than regular Early Childhood Program (at least 10 hrs./week)	21.3%	4.0%	14.3%	12.0%	7.9%	13.1%	29.1%
Location of Early Childhood Special Education: Other Location than Regular Early Childhood Program (< 10 hrs./wk.)	2.8%	0.3%	5.6%	4.1%	3.8%	4.9%	5.3%
Location of Early Childhood Special Education: Regular Early	43.3%	89.4%	28.8%	43.7%	16.2%	23.6%	31.0%

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Childhood Program (at least 10 hrs./wk.)							
Location of Early Childhood Special Education: Regular Early Childhood Program (< 10 hrs./wk.)	9.4%	2.5%	8.6%	8.6%	3.3%	10.5%	4.2%
ExcelinEd Policy							
Science of Reading (SOR) Training	✓	✓	✓		✓	✓	
Literacy/ Reading Coaches	✓	✓			✓	✓	
Teacher Prep Program Alignment to SOR and/or SOR Assessment*	✓	✓	✓	✓	✓	✓	✓
Funding for Literacy Efforts	✓	✓	✓	✓	✓		✓
Universal Screener Identify Students with Reading Deficiency (K-3)	✓	✓	✓	✓	✓	✓	✓
Dyslexia Screener for At Risk Student	✓	✓	✓			✓	
Notify Parents of Students Identified with Reading Deficiency	✓	✓	✓	✓	✓	✓	✓

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
District Adoption of High- Quality Instructional Materials (HQIM) SEA Guidance	✓	✓		✓			
Individual Reading Plan and/or Documentation of Interventions for Students with a Reading Deficiency	✓	✓	✓		✓	✓	
Monitor Progress Students with Reading Deficiency (K-3)	✓	✓	✓	✓	✓	✓	✓
Intervention During Summer/Before, During, and/ or After School Hours	✓	✓			✓	✓	✓
Parent Engagement At-Home Reading Strategies	✓	✓		✓	✓	✓	
Year(s) of Literacy Policy and Link to Statutes * Indicates preschool is included in most recent legislation	2019, 2022: *HB135, HB220, SB200	2012, 2015, 2017, 2018, 2019, *2022	2005, *2022	2012, 2019	2015, 2016, 2021, *2022	*2014	1977, 1995, 1997, 2011, 2012, 2015, 2019
Additional Resources * Indicates preschool is included	Alabama Literacy Act - AL Code 16-6G	*Colorado READ Act - CRS 22-7-1201	Determination of child's skill-level; improvement	Performances of public-school districts and individual	English Language Arts proficiency	*Read to Succeed Act -	Reading instruction -

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
	Alabama State Department of Education - Alabama Reading Initiative Alabama Literacy Act Implementation Guide *Alabama Action Plan for Literacy: Birth through Grade 12 (2020)	*Rules for Administration of Colorado Reading to Ensure Academic Development Act (READ Act) - 1 CCR 301-92 CDE. Colorado READ Act Press Release - Districts, charter schools receive ESSER grants for math and K-3 reading curricula	plans - Kansas Statute 72-3567 *Dyslexia Handbook *Press Release - Kansas earmarks $15 M in emergency education funds for early literacy	public schools - MGL Chapter 69, Sec. 1J Mass DESE, Early Literacy Universal Screening Assessment *Mass DESE, GLEAM (Growing Literacy Equity Across Massachusetts) Mass DESE, Mass Literacy An Excellent Education in English Language Arts and Literacy for All - Literacy Strategic Plan for Massachusetts *Mass Dyslexia Guidelines	- Michigan Code 380.1280f Screening and diagnostic tools for early literacy - Michigan Code 380.1635a Michigan DOE Early Literacy - Read by Grade Three Law Michigan DOE Literacy in Michigan and Essential Practices Michigan's Top 10 Strategic Education Plan *Michigan Dyslexia Handbook *Michigan Pre-K-12 Literacy Commission	SC Code 59-155-110, et al *SC DOE - Read to Succeed	Wisc. Code 118.015 *Assessments of reading readiness - Wisc. Code 118.016 School District Standards - Wisc. DPI Rules Chapter PI8 Wisconsin DPI – Reading in Wisconsin

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Reading Reform Across America *Authors use the following codes: ✓ = Discussed Extensively; ◐ = Mentioned; ☆ = Present; - Not discussed*							
Number of reading Law Enacted between 2019 and 2022	7	9	3	1	6	1	2
Reading laws mention preschool	2	2	2	1	4	1	0
Reading laws, * Indicates laws that mention preschool	AL HB 187 *AL H.B. 135 AL S.B. 200 AL H.B. 220 AL HB 388 AL SB 199 *AL S.B. 189	CO SB 20-185 CO SB 20-158 CO S.B. 21-151 *CO S.B. 22-004 *CO H.B 22-1295 CO H.B. 22-1390 CO HB 19-1134 CO SB 19-199 CO SB 19-190	*KS H.B. 2134 *KS H.B. 2567 KS SB 16	*MA H.B. 5050	MI H.B. 5913 *MI S.B. 0927 *MI S.B. 82 *MI S.B. 845 MI S.B. 0154 *MI H.B. 4411	*SC H.B. 4100	WI S.B. 589 WI A.B. 110
Evidence	5	5	3	1	5	1	0
Science of Reading	3	5	2	0	0	1	0
Phonemic Awareness	13	19	1	0	25	0	0
Phonological Awareness	14	2	1	0	9	0	1
Phonics	24	20	1	0	32	0	1

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Vocabulary	16	21	1	0	18	0	1
Fluency	15	19	1	0	29	0	1
Comprehension	16	20	1	0	26	0	1
Writing	8	0	2	0	7	0	0
Oral Language	8	19	0	0	10	0	0
Teacher Preparation	✓	✓	-	-	◐	◐	✓
Professional Development	✓	✓	◐	-	✓	◐	-
Curriculum	✓	✓	◐	◐	✓	◐	-
Principal	✓	✓	-	-	✓	-	◐
Assessment	✓	✓	✓	✓	✓	✓	◐
Reading Plan	✓	✓	-	-	✓	-	-
MTSS	◐	✓	◐	-	✓	-	-
Summer School	✓	◐	◐	◐	✓	✓	-
After School	◐	-	◐	◐	✓	◐	-
Tutoring	◐	◐	◐	◐	✓	◐	-
Students with Dyslexia	✓	✓	✓	-	✓	-	✓
English Learners	◐	◐	◐	◐	◐	◐	-

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Culturally Relevant	✓	✓	✓	✓	✓	-	-
Parent Notification	☆	-	☆	-	☆	☆	-
Family Engagement	✓	✓	✓	✓	✓	◐	◐
Community Engagement	◐	✓	-	✓	✓	✓	-
State of Dyslexia (NCIL)							
Has Legislation	✓	✓	✓	✓	✓	✓	✓
Parent Opt-out/Consent Procedure by Law	-	-	-	✓	-	-	-
SEA Recognizes IDEA Definition	✓	✓	✓	✓	-	✓	✓
SEA Recognizes State Definition	-	-	✓	-	-	-	-
State has Dyslexia Specialist	✓	-	✓	-	-	-	-
Screening Requirement?	✓	✓	✓	✓	✓	✓	-
Parents Must Be Notified of Results?	✓	✓	-	✓	✓	✓	-
SEA Publishes List of Screeners?	✓	✓	✓	✓	✓	-	-
Annual Reporting to the SEA	-	✓	-	-	-	-	-

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
RTI for Student Learning Disability Eligibility in 2010		Required by law					
Student Learning Disability Eligibility (Zirkel & Thomas 2010 Classification)		RTI required, significant discrepancy prohibited					
State Recognized Screeners		DIBELS 6th Edition, DIBELS Next, easyCBM, TOWRE-2, CTOPP-2, TOSCRF, and TOSWRF					
Pre-service Requirement	✓	-	✓	-	-	-	-
In-service Requirement	✓	✓	✓	-	-	✓	-
Intervention Requirement	✓	✓	✓	-	✓	✓	-
Multisensory?	Required	Promoted	Promoted	-	Required	Promoted	-
Evidence-Based?	Required	Required	Required	-	Required	Required	-
Explicit/Direct?	Required	Promoted	Required	-	Required	Promoted	-
MTSS/RTI?	Required	Required	Required	-	Promoted	Required	-

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Has Literacy State-identified Measurable Result	-	✓	✓	-	✓	✓	✓
EdWeek - Which States Have Passed 'Science of Reading' Laws? What's in Them?							
Teacher preparation	✓					✓	✓
Teacher certification or license renewal	✓	✓					✓
Professional development/coaching	✓	✓			✓	✓	✓
Assessment	✓	✓					✓
Materials	✓	✓					✓
Instruction/intervention	✓	✓			✓	✓	✓
Total categories (of 6)	6	5	0	0	2	3	6
2020-2021 State of the States in Gifted Education Note, "gifted" is used in this table to reflect the original data.							
Dedicated funding to local education agency (LEA) for gifted?	✓	✓	-	-	-	✓	-
State-level support personnel for Gifted Education	✓	✓	✓	-	-	✓	✓

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Role of SEA support personnel	Technical assistance, Professional development, Compliance, liaison	Technical assistance, professional development, Compliance, Grants	Technical assistance, professional development, Develop guidelines, Compliance, Family questions, Task force, Liaison	Information to state legislators	Family questions,	Technical assistance, professional development, Develop guidelines, Compliance,	Technical assistance, professional development, Family questions, Task force, Grants
Require each LEA to have gifted coordinator	✓	✓	✓	-	-	-	✓
Gifted teacher level of training	Certification, Licensure	Endorsement, LEA	Licensure	-	-	Endorsement	-
Pre-service requirement for gifted training	-	-	-	-	-	-	-
Professional learning for administrators	-	LEA	LEA	-	-	-	-
Professional learning for counselors	LEA	LEA	LEA	-	-	-	-
Professional learning for special education professionals	LEA	LEA	LEA	-	-	-	-
State definition of gifted in law or rule	✓	✓	✓	-	-	✓	✓

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Must LEAs follow state definition	✓	✓	✓			✓	✓
Required identification	✓	✓	✓	-	-	✓	✓
Specific requirements for identification	Universal screening	✓	LEA	-	-	✓	LEA
Universal screening?	Referral, Identification by LEA	-	LEA	-	-	Identification	-
When is universal screening	2nd grade	-	-	-	-	2nd grade	-
Mandated gifted programming?	✓	✓	✓	-	-	✓	✓
Pre-K/KG [kindergarten] Service delivery mode: Early Entrance to kindergarten		✓		-	-	-	✓
Pre-K/KG Service delivery mode: Whole Grade Skipping	✓			-	-	-	
Pre-K/KG Service delivery mode: Subject Matter Acceleration	✓	✓		-	-	-	✓
Pre-K/KG Service delivery mode:				-	-	-	

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Continuous progress/ self-paced learning							
Pre-K/KG Service delivery mode: Independent study				-	-	-	
Pre-K/KG Service delivery mode: Magnet schools				-	-	-	
Pre-K/KG Service delivery mode: Differentiation in the general education classroom	✓	✓	✓	-	-	-	✓
Pre-K/KG Service delivery mode: Self-contained classroom				-	-	-	
Pre-K/KG Service delivery mode: Resource room				-	-	-	
Pre-K/KG Service delivery mode: Pull-out Program			✓	-	-		
Pre-K/KG Service delivery mode: Push-in Program	✓		✓	-	-		

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Pre-K/KG Service delivery mode: Cluster classrooms	✓			-	-		
Pre-K/KG Service delivery mode: Other	Consultation			-	-		
Pre-K/KG Service delivery mode: Not applicable				✓	✓	✓	
Pre-K/KG Service delivery mode: Unknown				-	-		
State early entrance to KG policy in law or rule	-	✓	-	-	-	-	✓
State program standards/guidelines for gifted	✓	✓	-	-	-	✓	-
Addressing equity gap?	LEA	LEA	-	-	-	-	-
SEA produced annual report on gifted?	-	-	-	-	-	-	-
Monitor/audit gifted programs?	Monitor	Monitor	Monitor	-	-	Monitor	-
LEA Gifted Education Plans	✓	-	-	-	-	-	-

NIEER Special Report: Supporting Dual Language Learners in State-Funded Preschool
Note, Dual Language Learner (or DLL) is used in this table to reflect the original data.

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Have policies to support families of DLLs.	✓	✓	✓	✓	✓	✓	
Approved written plan for supporting DLLs is required	✓		✓			✓	
Extra funding allocated for serving DLLs			✓				
Bilingual instruction is permitted	✓	✓	✓	✓	✓	✓	
Monitoring focused on the quality of bilingual instruction			✓				
Children are screened in their home language	✓		✓			✓	
Children are assessed in their home language	✓		✓			✓	
DLLs are placed in classes with other children with same home language	✓		✓				
Staff have training/ qualifications related to working with DLLs							

	Alabama	Colorado[11]	Kansas	Massachusetts	Michigan	South Carolina	Wisconsin
Policies to support families of preschool DLLs	✓	✓	✓	✓		✓	
Recruitment, enrollment, and outreach information provided in home language	✓	✓	✓	✓	No data		No data
Communication with the family about the program or child in the family's home language	✓	✓	✓	✓	No data		No data
Collect and use information on language inputs in the home (e.g., a home language survey)	✓		✓		No data	✓	No data
Other policies to support families of DLLs					No data		No data

Crosswalk: Early Learning Guidelines, Colorado Academic Standards, and Head Start Standards

Table A21 Descriptive Content of Standards Documents

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Colorado Early Learning Development Guidelines									
ELDG - English Language Development The English Language Development domain describes skills for children who are English language learners (ELL). Similar to those acquiring a first language, children who are learning English as a second language understand more English initially than they can produce. This domain includes children's receptive skills, or their ability to understand spoken English as well as children's expressive skills or their ability to speak English. The indicators and examples describe a variety of the types of skills children may exhibit over time as they acquire English. As children gradually learn more English, they will be able to express themselves in English more often. The English Language Development domain also describes the types of literacy activities that support ELL student's language acquisition. However, children should also continue to develop the ability to communicate effectively in their home language because such skills provide a foundation for learning English. (p. 122)									
	✓	✓						✓	MLs
ELDG - Language Development The Language Development domain describes children's developing ability to effectively communicate (expressive language) and understand (receptive language) oral language in different environments and for a variety of purposes. Such skills are key to children's learning and social competence. The understanding and use of language is also closely related to students' developing literacy and their later success in learning to read and write. (p. 124)									
✓		✓							

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
ELDG - Literacy Knowledge & Skills The Literacy Knowledge & Skills domain describes skills that provide the basis for children's emerging ability to read and write. Preschool age children are developing attitudes about reading that will affect their approach to learning as they age. They are also developing basic understandings about how books and other print materials convey meaning. This domain also addresses early reading skills, such as the ability to hear and differentiate sounds in words and some basic letter knowledge. Children's ability to physically write is closely tied to their development of fine motor skills at this age, which often vary significantly. Children may practice communicating their ideas on paper in whatever way they can, including scribbling, dictation, drawing pictures, or tracing letters and words. (p. 126)									
✓				✓	✓				
Colorado Academic Standards for Preschool									
Preschool Academic Standards - English Language Proficiency The national World-Class Instructional Design and Assessment (WIDA) standards for English language learner (ELL) children have been adopted by the Colorado State Board of Education as the Colorado English Language Proficiency (CELP) standards (http://www.cde. state.co.us) for preschool through grade 12. These standards address students' ability to read, write, speak, and listen when English is not their first language. They differ somewhat from the other Colorado Academic Standards because they function as a framework for supporting student learning across content areas. As ELL children study science, social studies, and other subjects, how they learn (e.g., reading, listening) and their ability to communicate their learning (e.g., speaking, writing) depends upon the level of their language competence. The CELP standards define these levels and help teachers understand how children access grade-level academic content while learning English. (p. 158).									
✓	✓							✓	MLs

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Preschool Academic Standards - English Language Proficiency The CELP standards include Model Performance Indicators for five levels of English acquisition. These Indicators serve as examples of how ELL children with varying levels of English proficiency might receive and communicate their learning in a variety of content areas. The Guidelines for children ages 3–5 years address learning for ELL children in the domain of English Language Development. This domain includes three subdomains: Receptive English Language Skills, which correlate to the Reading and Listening components of the CELP standards; Expressive English Skills, which correlate to the Writing and Speaking domains of the CELP standards; and Engagement in English Literacy Activities, which are expressed within the example indicators for various content areas in the CELP standards. Elements within the CELP standards concerning children's ability to communicate for social and instructional purposes also relate to preschool skills articulated in the Social Relationships subdomain within the Guideline's Social and Emotional Development domain for children ages 3–5 years. (p. 158).									
✓		✓						✓	MLs
Preschool Academic Standards – World Languages The World Languages (http://www.cde.state.co.us/CoWorldLanguages/) content area of the Colorado Academic Standards contains four standards: Communication in Languages Other Than English, Knowledge and Understanding of Other Cultures, Connections with Other Disciplines and Information Acquisition, and Comparisons to Develop Insight into the Nature of Language and Culture. An important aspect of the World Languages standards, which are shared with the Colorado English Langue Proficiency standards, is that they define proficiency levels for different ranges of language acquisition. The ranges in the World Languages standards go from Novice-Low to Intermediate-Mid. Learning a foreign language is not explicitly addressed for children younger than kindergarten in the Guidelines, and so there is not a direct correlation between a domain in the Guidelines for children ages 3–5 years and the World Languages standards. However, many of the skills that grade school children develop when learning a foreign language are similar to skills developed by younger children who are learning English, either as a first or second language. These connections are described in the sections below. (p. 159).									
	✓						✓	✓	MLs

 Reading readiness	 Oral language	 Vocabulary	 PA	 Print knowledge	 Print rich environment	 Intentional & purposeful	 Sequential	 Inclusive	Special populations
Preschool Academic Standards – World Languages - Communication in Languages Other Than English The first standard focuses on communicating effectively in more than one language in order to function in a variety of situations and for multiple purposes. These standard addresses children's ability to communicate in a foreign language in real world contexts, including interpersonal, interpretive, and presentational modes. Interpersonal communication requires culturally appropriate listening, viewing, speaking, and writing. Interpretive communication requires children to listen, view, and read using knowledge of cultural products, practices, and perspectives. Presentational communication, which is used in formal contexts, requires children to use the language to present spoken or written information in culturally appropriate ways. These skills mirror many of the skills that are important when children are learning English as a second language, and so similar material may be found for children ages 3–5 years in the English Language Development domain of the Guidelines. Content within the subdomain for Receptive English Language Skills relates to reading and listening skills in the World Languages standards. Content within the subdomain for Expressive English Language relates to writing and speaking skills in the World Languages standards. Similarly, the skills in this World Languages standard mirrors many of the skills that are important when children acquire a first language, so similar material may be found for children ages 3–5 years in the Language Development domain of the Guidelines. (p. 159-160).									
✓	✓				✓			✓	

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Preschool Academic Standards – World Languages - Knowledge and Understanding of Other Cultures The second standard addresses children's familiarity with the culture of the language being learned and their awareness of how language and culture interact in society. This includes understanding the relationship among cultural products (e.g., art, food, music, sports), cultural practices (e.g., traditions, manners), and the perspectives that underlie these products and practices. Such understanding is also a goal when children are learning English as a second language, and so similar material may be found for children ages 3–5 years in the English Language Development domain of the Guidelines. Content related to this World Languages standard is found within the preschool subdomain Engagement in English Literacy Activities. The preschool content describes how children engage with books, storytelling, and songs presented in the language they are learning (English). These types of activities are similar to those that promote cultural understanding for older children who are learning a second language. (p. 160).									
✓					✓			✓	MLs
Preschool Academic Standards – World Languages - Connections with Other Disciplines and Information Acquisition The third standard focuses on connecting with other disciplines and acquiring information and diverse perspectives in order to use the language in academic and career-related situations. Connections may be made in a variety of ways, including examining information from international sources. This World Languages standard is similar to the Receptive English Language skills in both the English Language Development domain and the Language Development domain of the Guidelines for children ages 3–5 years. Receptive language skills include reading and listening. To comprehend in either of those modes, children of all ages must make meaningful connections with the text. (p. 160)									
✓		✓						✓	MLs

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Preschool Academic Standards – World Languages - Comparisons to Develop Insight into the Nature of Language and Culture The final standard in the World Languages content area recognizes that the study of a second language fosters greater understanding of not only the language and culture being studied, but also of an individual's own language and culture. Although there is not a direct connection to content in the Guidelines for children ages 3–5 years, children learning a second language at any age benefit by making comparisons. Such comparisons are part of the preschool English Language Development domain as students engage in English literacy activities and as children make connections between English words or phrases in their home language. (p. 160)									
✓		✓			✓			✓	MLs
Preschool Academic Standards - Reading, Writing, and Communicating (http://www.cde.state.co.us/CoReadingWriting/) content area of the Colorado Academic Standards includes Oral Expression and Listening, Reading for All Purposes, Writing and Composition, and Research Inquiry and Design. This section provides a broad overview of the requirements of each standard for children in kindergarten through 3rd grade and explains how the content in these Guidelines at earlier ages prepares children for meeting these standards in their formal schooling. (p. 160).									
✓	✓						✓		

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Preschool Academic Standards - Reading, Writing, and Communicating - Oral Expression and Listening The first standard in the Reading, Writing, and Communicating content area focuses on children's growing ability to communicate in speech and understand the spoken language that surrounds them. Toddlers and preschoolers develop these skills at a rapid pace and then continue to increase their ability to understand and use oral language as described within the Language Development domain for ages 3–5 years. As they enter kindergarten, children continue to build their oral vocabulary and are able to use new words when expressing their ideas, participating in conversations, and following directions. In 1st grade, children may also produce complete sentences orally, ask questions to clear up confusion, and include details when providing descriptions. In 2nd grade, children also link their ideas to the remarks of others, and by 3rd grade children can prepare for conversation by studying a topic or reading material. Children in kindergarten through 3rd grade are also developing phonetic awareness as they are increasingly able to hear and differentiate various sounds in words, a skill that is critical to early reading. (p. 161)									
✓	✓	✓	✓				✓		

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Preschool Academic Standards - Reading, Writing, and Communicating - *Reading for All Purposes* The second standard describes students' ability to read a wide variety of materials, which is also the primary focus of the Literacy Knowledge and Skills domain in the Guidelines for children ages 3–5 years. Preschool and kindergarten children are heavily engaged in learning the most fundamental processes of reading, including basic concepts of print, letter knowledge, and phonics. Children in 1st through 3rd grade continue to increase their understanding of reading fundamentals, but they also begin to read independently with accuracy and fluency. They are able to apply word analysis skills to decode and determine the meaning of unknown words and continue to gain vocabulary. At the same time that children are learning to read, they develop an appreciation and understanding of books and the ability to reflect on a text's meaning. The Book Appreciation and Knowledge subdomain in the Guidelines for children ages 3–5 years describes how preschool children develop an interest in books and the ability to look, listen, and ask questions about books. In kindergarten through 3rd grade, the Reading for All Purposes standard describes how children continue to develop book appreciation by engaging with a wide variety of materials. Children in kindergarten through 3rd grade comprehend increasingly complex books and are able to identify and reflect on their key features. (p. 161)									
✓		✓		✓	✓		✓		
Preschool Academic Standards - Reading, Writing, and Communicating - *Writing and Composition* The third standard includes content related to writing for a variety of purposes. Precursor skills in the Guidelines for children ages 3–5 years are found primarily in Literacy Knowledge and Skills: Writing. As described in that section, preschool children are learning how writing conveys meaning and creating messages using dictation, scribbles, shapes, pictures, and letters. Children's writing becomes more refined in kindergarten as students begin to conform to conventions, such as printing upper- and lower-case letters and spacing between words. Kindergarten children use a combination of drawing, dictating, and writing to express an opinion, explain information, and tell stories. In 1st through 3rd grade, children learn to use the writing process and their writing becomes more structured. In 1st grade, children begin to provide a sense of closure at the end of a piece. In 2nd grade they use linking words. In 3rd grade, they group related ideas in an organizational structure. (p. 162)									
✓				✓			✓		

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Preschool Academic Standards - Reading, Writing, and Communicating - Research Inquiry and Design The final standard focuses on children's ability to gather information, apply reasoning and logic, and summarize information. The basis for these skills is found in the Guidelines for ages 3–5 years in the Literacy Knowledge Skills: Comprehension and Text Structure subdomain and in the Logic and Reasoning: Reasoning and Problem-Solving subdomain. These subdomains describe how preschoolers develop the ability to retell information from books and apply reasoning, such as using past knowledge to build new knowledge and seeking multiple solutions to a question or task. Older children in kindergarten through 3rd grade continue to build these skills. Kindergarteners learn to ask appropriate questions and gather information to answer their questions. As children progress from 1st through 3rd grade, they build on these skills by expanding the types of resources and references that they use to answer increasingly complex questions. By 3rd grade, children are able to evaluate information and recognize that different sources may have different points of view. (p. 162)									
✓		✓			✓		✓		
Head Start Early Learning Outcomes									
Head Start Early Learning Outcomes – Language and Literacy Language development refers to emerging abilities in listening and understanding (receptive language) and in using language (expressive language). Babies attend to the sounds of language in their environment before they are born. In the context of nurturing, responsive adult relationships, infants rapidly learn to communicate with facial expressions, gestures, and looks. They move from babbling to understanding many words spoken to them and then uttering or signing their first words. Toddlers learn to speak new words at an amazing pace and use language to express their needs, ask questions, and engage in short conversations.									
	✓	✓					✓		

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Head Start Early Learning Outcomes – Language and Literacy Language skills continue to expand and by the end of the preschool period, children speak in adult-like sentences, tell, and re-tell stories, use verbal humor, and engage in group discussions. Preschoolers are sophisticated language users who harness language in order to take in new and complex information and organize their world. As they delve into new learning experiences, they add mathematical or scientific terms to their vocabulary, such as semi-circle or T-Rex. They begin to understand word categories, such as hammers and screwdrivers are tools, and relationships among words, such as the opposite of up is down. Preschoolers with strong language skills are prepared to be successful learners in school.									
✓	✓	✓					✓		
Head Start Early Learning Outcomes – Language and Literacy Language and literacy skills can develop in any language, and for the most part, they develop first in the child's home language. Supporting development of the home language helps prepare young children for learning English. Children who are dual language learners (DLLs) show different patterns of English acquisition, depending on their prior exposure, their abilities, their temperaments, and the support they receive at home and in the early childhood program. Some children who are DLLs may use different vocabulary and sentence structure in each language.									
✓	✓	✓						✓	MLs

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Head Start Early Learning Outcomes – Language and Literacy Children's language ability affects learning and development in all areas, especially emerging literacy. Emerging literacy refers to the knowledge and skills that lay the foundation for reading and writing. For infants and toddlers, emerging literacy is embedded in the domain Language and Communication, reflecting the interrelatedness of these learning areas and the limited scope of these budding skills. As infants and toddlers listen to and repeat songs and rhymes, explore books, and hear stories, they are gaining literacy skills. By three years of age, children can understand the pictures in familiar books and ask what is happening. They make scribbles, shapes, and even letter-like marks on paper that may represent something to them.									
✓	✓	✓	✓				✓		
Head Start Early Learning Outcomes – Language and Literacy For preschoolers, Language and Literacy are distinct domains to reflect the differentiation, centrality, breadth, and depth of language and literacy development in this age period. Preschoolers are beginning to grasp how written language is structured into sounds and symbols. They play rhyming games and learn the names of letters and associated sounds. They take pride in recognizing their name in print and practice writing it. Preschoolers begin to understand print conventions and the different functions of print in picture books or grocery lists. As they listen to and talk about story books or retell and enact events, they gain an understanding of sequence, character development, and causal relationships. When preschoolers are engaged literacy learners, they are laying the foundation for becoming capable readers and writers in school.									
✓	✓	✓	✓	✓			✓		

Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special populations
Head Start Early Learning Outcomes – Language and Literacy Children with disabilities may need extra support when they are learning to communicate. They may need listening devices to help them hear or assistive tools to help them speak or write clearly. Depending on the child's needs, programs can support the development of sign language as a means of communication. Programs must promote language and literacy outcomes through appropriate and intentional support so that all children can develop strong skills in language and literacy.									
✓	✓	✓				✓		✓	Disabilities
Programs must promote language and literacy goals for all children. Children who are dual language learners (DLLs) need intentional support for the development of their home language as well as for English acquisition. (p. 35)									
✓	✓	✓						✓	MLs
For children with oral language delays, adults can implement communication devices as directed by their Individualized Education Program (IEP). Adults can observe the child's accuracy with the device to identify and support progress in receptive and expressive language. (p. 42)									
✓	✓	✓				✓	✓	✓	Disabilities
Evidence of attending to others can vary substantially among cultural groups. For example, some children may be taught to observe adults at a distance. Other children may learn to observe up close (p. 43).									
								✓	
Preschoolers show an awareness of alphabet letters and enjoy naming them. They produce the beginning sound in a spoken word. (p. 45)									
			✓	✓					

 Reading readiness	 Oral language	 Vocabulary	 PA	 Print knowledge	 Print rich environment	 Intentional & purposeful	 Sequential	 Inclusive	Special populations
The home languages of some children use non-alphabetic writing. The home languages of other children may not have a written form. These children would not be expected to identify letters of the alphabet and produce corresponding sounds in their home language (p. 47).									
✓				✓				✓	MLs
Preschoolers engage in a variety of writing activities and begin to convey meaning through their increasingly sophisticated marks. (p. 49).									
✓				✓			✓		

Table A22 Crosswalk: Standards to Science of Reading and Evidence-Based Standards

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Colorado Early Learning Development Guidelines *Standards with an asterisk indicate alignment with Colorado's Preschool Academic Standards.*												
English Language Development	1. Receptive English language skills	1. Participate with movement and gestures while other children and the teachers dance and sing in English.	✓	✓	✓				✓	✓	✓	ML
English Language Development	1. Receptive English language skills	2. Acknowledge or respond nonverbally to common words or phrases, such as "hello," "good bye," "snack time," or "bathroom," when accompanied by adult gestures.	✓	✓	✓				✓	✓	✓	ML
English Language Development	1. Receptive English language skills	3. Point to body parts when asked, "Where is your nose, hand, leg…?"	✓	✓	✓				✓	✓	✓	ML
English Language Development	1. Receptive English language skills	4. Comprehend and respond to increasingly complex and varied English vocabulary, such as "Which stick is the longest?" "Why do you think the caterpillar is hungry?"	✓	✓	✓					✓	✓	ML

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
English Language Development	1. Receptive English language skills	5. Follow multi-step directions in English with minimal cues or assistance.	✓	✓	✓				✓	✓	✓	ML
English Language Development	2. Expressive English language skills	1. Repeat word or phrase to self, such as “bus” while group sings the “Wheels on the Bus” or “brush teeth” after lunch.	✓	✓	✓				✓	✓	✓	ML
English Language Development	2. Expressive English language skills	2. Request items in English, such as “car,” “milk,” “book,” “ball.”	✓	✓	✓				✓	✓	✓	ML
English Language Development	2. Expressive English language skills	3. Use one or two English words, sometimes joined to represent a bigger idea, such as “throwball.”	✓	✓	✓				✓	✓	✓	ML
English Language Development	2. Expressive English language skills	4. Use increasingly complex and varied English vocabulary.	✓	✓	✓				✓	✓	✓	ML
English Language Development	2. Expressive English language skills	5. Construct sentences, such as “The apple is round,” or “I see a fire truck with lights on.”	✓	✓	✓				✓	✓	✓	ML

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
English Language Development	3. Engagement in English Literacy Activities	1. Demonstrate eagerness to participate in songs, rhymes, and stories in English.	✓			✓		✓	✓	✓	✓	ML
English Language Development	3. Engagement in English Literacy Activities	2. Point to pictures and says the word in English, such as “frog,” “baby,” “run.”	✓	✓	✓				✓	✓	✓	ML
English Language Development	3. Engagement in English Literacy Activities	3. Learn part of a song or poem in English and repeat it.	✓	✓	✓			✓	✓	✓	✓	ML
English Language Development	3. Engagement in English Literacy Activities	4. Talk with peers or adults about a story read in English.	✓	✓	✓			✓	✓	✓	✓	ML
English Language Development	3. Engagement in English Literacy Activities	5. Tell a story in English with a beginning, middle, and end from a book or about a personal experience.	✓	✓					✓	✓	✓	ML
Language Development	1. Attending and Understanding	1. Attend to language during conversations, songs, stories, or other learning experiences. *	✓	✓					✓			

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Language Development	1. Attending and Understanding	2. Comprehend increasingly complex and varied vocabulary. *	✓	✓	✓				✓	✓		
Language Development	1. Attending and Understanding	3. Comprehend different forms of language, such as questions or exclamations. *	✓	✓					✓	✓		
Language Development	1. Attending and Understanding	4. Follow two- to three-step directions. *	✓						✓	✓		
Language Development	1. Attending and Understanding	5. Comprehend different grammatical structures or rules for using language. *	✓	✓					✓	✓		
Language Development	2. Communicating and Speaking	1. Vary the amount of information provided to meet the demands of the situation.	✓	✓					✓	✓		
Language Development	2. Communicating and Speaking	2. Understand, follow, and use appropriate social and conversational rules.	✓	✓					✓	✓		
Language Development	2. Communicating and Speaking	3. Express self in increasingly long, detailed, and sophisticated ways. *	✓	✓					✓	✓		

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Language Development	2. Communicating and Speaking	4. Participate in conversations of more than three exchanges with peers and adults. *	✓	✓					✓			
Language Development	2. Communicating and Speaking	5. Use language to express ideas and needs. *	✓	✓					✓			
Language Development	2. Communicating and Speaking	6. Understand the difference between a question and a statement. *	✓	✓					✓			
Language Development	2. Communicating and Speaking	7. Practice asking questions and making statements. *	✓	✓					✓			
Language Development	2. Communicating and Speaking	8. Speak in sentences of five or six words. *	✓	✓					✓			
Language Development	3. Vocabulary	1. Understand and use a wide variety of words for a variety of purposes. *	✓	✓	✓				✓			
Language Development	3. Vocabulary	2. Show understanding of word categories and relationships among words.	✓		✓				✓			
Language Development	3. Vocabulary	3. Use increasingly complex and varied vocabulary. *	✓		✓				✓	✓		

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	1. Demonstrate an understanding of how print is used (functions of print) and the rules that govern how print works (conventions of print). *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	2. Identify letters of the alphabet and produce correct sounds associated with letters. *	✓			✓	✓	✓	✓	✓		
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	3. Show interest in both shared reading experiences and looking at books independently. *	✓				✓	✓	✓			
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	4. Recognize how books are read, such as front-to-back and one page at a time, and recognize basic characteristics, such as title, author, and illustrator. *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	5. Recognize words as a unit of print and understand that letters are grouped to form words. *	✓				✓	✓	✓	✓		

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	6. Recognize that the letters of the alphabet are a special category of visual graphics that can be individually named. *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	7. Attend to the beginning letters and sounds in familiar words. *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	8. Recognize print in everyday life, such as numbers, letters, one's name, words, and familiar logos and signs. *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	9. Understand that print conveys meaning. *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	10. Understand conventions, such as print moves from left to right and top to bottom of a page. *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	1. Print and Alphabet Knowledge	11. Recognize the association between spoken or signed and written words. *	✓				✓	✓	✓	✓		SWD

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Literacy Knowledge & Skills	2. Phonological awareness	1. Identify and discriminate between words in language. *	✓			✓			✓	✓		
Literacy Knowledge & Skills	2. Phonological awareness	2. Identify and discriminate between separate syllables in words. *	✓			✓			✓	✓		
Literacy Knowledge & Skills	2. Phonological awareness	3. Identify and discriminate between sounds and phonemes in language, such as attention to beginning and ending sounds of words and recognition that different words begin or end with the same sound. *	✓			✓			✓	✓		
Literacy Knowledge & Skills	2. Phonological awareness	4. Recognize patterns of sounds in songs, storytelling, and poetry. *	✓			✓			✓	✓		
Literacy Knowledge & Skills	3. Comprehension and Text Structure	1. Ask and answer questions and make comments about print materials. *	✓					✓	✓	✓		

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Literacy Knowledge & Skills	3. Comprehension and Text Structure	2. Retell stories or information from books through conversation, artistic works, creative movement, or drama. *	✓	✓				✓	✓	✓		
Literacy Knowledge & Skills	3. Comprehension and Text Structure	3. Make predictions based on illustrations. *	✓	✓				✓	✓	✓		
Literacy Knowledge & Skills	3. Comprehension and Text Structure	4. Begin to identify key features of reality versus fantasy in stories, pictures, and events. *	✓	✓				✓	✓	✓		
Literacy Knowledge & Skills	3. Comprehension and Text Structure	5. Demonstrate interest in different kinds of literature, such as fiction and nonfiction books and poetry, on a range of topics. *	✓	✓				✓	✓	✓		
Literacy Knowledge & Skills	4. Writing	1. Experiment with writing tools and materials. *	✓				✓	✓	✓	✓		

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Literacy Knowledge & Skills	4. Writing	2. Recognize that writing is a way of communicating for a variety of purposes, such as giving information, sharing stories, or giving an opinion. *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	4. Writing	3. Use scribbles, shapes, pictures, and letters to represent objects, stories, experiences, or ideas. *	✓				✓	✓	✓	✓		
Literacy Knowledge & Skills	4. Writing	4. Copy, trace, or independently write letters or words. *	✓				✓	✓	✓	✓		
Colorado Preschool Academic Standards												
Reading, Writing and Communicating	1. Oral Expression and Listening	1. Children comprehend and understand the English language (Receptive Language).	✓	✓	✓				✓	✓		EL
Reading, Writing and Communicating	1. Oral Expression and Listening	2. Children use language to convey thoughts and feelings (Expressive Language).	✓	✓	✓				✓	✓		

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Reading, Writing and Communicating	2. Reading for All Purposes	1. Children understand and obtain meaning from stories and information from books and other texts.	✓	✓	✓			✓	✓	✓		
Reading, Writing and Communicating	2. Reading for All Purposes	2. Phonological awareness is the building block for understanding language.	✓			✓			✓	✓		
Reading, Writing and Communicating	2. Reading for All Purposes	3. Print concepts and conventions anchor concepts of early decoding.	✓				✓	✓	✓	✓		
Reading, Writing and Communicating	2. Reading for All Purposes	4. The names and sounds associated with letters makes up alphabetic knowledge.	✓				✓	✓	✓	✓		
Reading, Writing and Communicating	3. Writing and Composition	1. Familiarity with writing implements, conventions, and emerging skills to communicate through written representations, symbols, and letters.	✓				✓	✓	✓	✓		

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Reading, Writing and Communicating	4. Research Inquiry and Design	1. Begin research by asking a question to identify and define a problem and its possible solutions.	✓	✓					✓	✓		
World Languages	1. Communication: Communicate effectively in more than one language in order to function in a variety of situations and for multiple purposes.	1+ Communicate effectively in the target language using gestures, pointing or facial expressions to augment oral language.	✓							✓	✓	ML
World Languages	2. Cultures / Intercultural Communication: Interact with cultural competence and understanding.	2+ Develop cultural competence and understanding.	✓								✓	ML

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
World Languages	3. Connections: Connect with other disciplines and acquire information and diverse perspectives in order to use the language to function in academic and career-related situations.	3+ Connect with other content areas in order to build academic awareness through experiences in the target language.	✓	✓							✓	ML
World Languages	4. Comparisons: Develop insight into the nature of language and culture in order to interact with cultural competence.	4+ Develop insight into the nature of language and culture in order to develop cultural competence.	✓	✓						✓	✓	ML
Head Start Early Learning Outcomes Framework												

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Language and Communication	Attending and understanding	P-LC 1. Child attends to communication and language from others	✓	✓								
Language and Communication	Attending and understanding	P-LC 2. Child understands and responds to increasingly complex communication and language from others.	✓	✓						✓		
Language and Communication	Communicating and speaking	P-LC 3. Child varies the amount of information provided to meet the demands of the situation	✓	✓					✓	✓		
Language and Communication	Communicating and speaking	P-LC 4. Child understands, follows, and uses appropriate social and conversational rules.	✓	✓						✓		
Language and Communication	Communicating and speaking	P-LC 5. Child expresses self in increasingly long, detailed, and sophisticated ways.	✓	✓						✓		
Language and Communication	Vocabulary	P-LC 6. Child understands and uses a wide variety of words for a variety of purposes.	✓	✓	✓				✓			

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Language and Communication	Vocabulary	P-LC 7. Child shows understanding of word categories and relationships among words.	✓		✓				✓	✓		
Literacy	Phonological awareness	P-LIT 1. Child demonstrates awareness that spoken language is composed of smaller segments of sound.	✓			✓			✓	✓		
Literacy	Print and alphabet knowledge	P-LIT 2. Child demonstrates an understanding of how print is used (functions of print) and the rules that govern how print works (conventions of print).	✓				✓	✓	✓	✓		
Literacy	Print and alphabet knowledge	P-LIT 3. Child identifies letters of the alphabet and produces correct sounds associated with letters.	✓				✓	✓	✓	✓		
Literacy	Comprehension and text structure	P-LIT 4. Child demonstrates an understanding of narrative structure through storytelling/re-telling	✓	✓				✓	✓	✓		

Domain	Indicator/Standard	Description	Reading readiness	Oral language	Vocabulary	PA	Print knowledge	Print rich environment	Intentional & purposeful	Sequential	Inclusive	Special Populations
Literacy	Comprehension and text structure	P-LIT 5. Child asks and answers questions about a book that was read aloud.	✓	✓				✓				
Literacy	Writing	P-LIT 6. Child writes for a variety of purposes using increasingly sophisticated marks.	✓				✓	✓				

Crosswalk: Recommendations Framework

Table A23 Crosswalk: Leadership Recommendations

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Establish a governance structure with robust authority, ensure ample capacity, prioritize a quality-centric approach, relentlessly pursue identified goals, foster a data-driven culture for enhanced decision-making, and regularly assess performance against established objectives.	Make language and literacy development the focal point of preschool and the CDEC. Develop clear messaging to all providers on the importance of developing language and literacy, the critical components (oral language, vocabulary, phonological awareness, print knowledge), evidence-based developmentally appropriate practices. Define the Science of Reading for preschool that includes the critical components (oral language, vocabulary, phonological awareness, print knowledge) and evidence-based developmentally appropriate practices. Ensure that leaders from all relevant offices, units, and divisions in the CDE and CDEC are understanding of the Science of Reading for preschool, including the critical components (oral language, vocabulary, phonological awareness, and print knowledge) and their alignment with evidence-based instructional practices that are developmentally appropriate.
Forge collective capacity within and across sectors and systems, leverage organizational capacity to shift from a program mentality to a systems approach.	Ensure that leaders from all relevant offices, units, and divisions in the CDE and CDEC are part of conversations and decisions around the Science of Reading for preschool within the mixed delivery universal preschool program.
Collect diverse perspectives to enhance effectiveness and foster sustained collective support, forming a coalition of key champions and unlikely allies.	Ensure that representatives for all populations (e.g., multilingual, disabilities, exceptionalities) are part of conversations and decisions around the Science of Reading for preschool policy and implementation guidelines. Identify the number of multilingual learners in state preschools and use this for policy decisions such as teacher preparation, curriculum, and location of programs. Ensure that parents and teachers have a voice in policy decisions. This could involve their participation in literacy committees or input through surveys or interviews.

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Offer guidance for programs tailored to mixed settings and ages.	Ensure that there are representatives of all of Colorado's Universal Preschool entities at the table when discussing the Science of Reading for preschool policy, guidelines, implementation, and supports. Explore ways to increase access to bilingual preschool for multilingual and monolingual speakers.
Empower leaders to urge lawmakers to ensure equitable support for all students.	Funding and reprioritization of existing local, state, and federal funds for emergent and early literacy. Advocate for including Preschool within the Colorado READ Act by naming the foundational skills and evidenced-based practices in preschool and how they are separate but related to the foundational skills for readers (phonemic awareness, phonics, fluency, vocabulary, and comprehension). Ensure that specific supports for multilingual learners, students with disabilities including dyslexia, and students with exceptionalities are addressed in rules and guidance for implementing the Colorado READ Act.
Build upon existing continuous quality improvement systems.	The system should be appropriate for all of Colorado's Universal Preschool entities and include indicators related to students' language and literacy learning and teachers' instructional practices.

Table A24 Crosswalk: Alignment Coordination

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Emphasize establishing system alignment and coherence as the primary objective, with a focus on both horizontal and vertical alignment of preschool and elementary systems.	Streamline the number and types of standards and guidelines across systems. For example, there are currently three sets of standards across Colorado's preschool system; pursue ways to consolidate.

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Consider a broad scope that encompasses all students from preschoolers through elementary.	Consider pre-service training, licensure, and credentialling that cross preschool and elementary. Consider cross-training of preschool teachers with elementary teachers and vice versa on literacy topics.
Implement a high-quality curriculum that offers a clear framework for teachers and ensures coherence across grades and schools.	Provide guidance on literacy curricula, instructional practices, and assessments that are well aligned vertically that can be utilized in all mixed delivery entities.

Table A25 Crosswalk: Teacher Education and Support

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Consider teacher qualifications.	Consider establishing minimal guidelines for teacher qualifications that are related to the Science of Reading. The long-term goal should be to find opportunities to provide access to higher education, at minimum a bachelor's degree in preschool through elementary education.
Consider teacher preparation programs.	Ensuring Teacher Prep Programs are preparing teacher candidates to have the knowledge and skills to teach language and literacy and reading to all children, including multilingual children and children with disabilities and exceptionalities. Support partnerships with higher education institutions with specializations in multilingual learners for P-3. Provide guidelines for IHEs/Teacher Prep programs to ▶ Include the Science of Reading for preschool in any degrees, certifications, licensures, or courses that address preschool or elementary education. ▶ Review course offerings or instructional approaches to align with evidence-based practices and Science of Reading that includes preschool. ▶ Require preservice teachers to pass a test demonstrating their knowledge of how to teach reading from Preschool to Elementary to receive a teaching certificate

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Support teachers through professional development.	Explore opportunities for statewide Science of Reading training that includes Preschool through elementary teachers, preschool coordinators, and elementary administrators. Provider opportunities for joint training between preschool and elementary teachers.
Support teachers through instructional coaching and mentoring.	Educate and empower preschool providers and school administrators with knowledge of the Science of Reading from Preschool through elementary. Identify providers for ongoing, job-embedded Science of Reading for preschool coaching via literacy coaches. Provide training to coaches explicitly on the Science of Reading. Provide minimal guidelines for classroom observations that include the Science of Reading, link observations to ongoing PD and coaching.
Support teachers through equitable compensation.	Review current compensation structures across the mixed delivery preschool and public schools. Identify strategies to address inequities. Consider extra funding for teachers that have specific credentials related to the Science of Reading, supporting multilingual learners, and learners with disabilities or exceptionalities. Offer pay premiums for teachers with The Science of Reading for preschool training, bilingual specialist teachers and assistant teachers based on qualifications. Explore ways to incentivize Colorado's Universal Preschool providers, across all entities, to obtain, at minimum, specialized training related to The Science of Reading for preschool and Evidence-Based Practices.

Table A26 Crosswalk: Instructional Approaches and Student Support

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Staff-child ratio	So that instruction can be individualized, differentiated, and appropriately scaffolded in preschool, it is important to maintain Colorado's low adult-to-child ratio and small class sizes.

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Implement evidence-based practices	Teacher should provide instruction in oral language, vocabulary, phonological awareness, print knowledge to develop preschoolers reading readiness. Teacher should provide instruction that is code- and meaning-focused using developmentally appropriate, evidence-based practices. Students should have ample opportunities to practice emergent and early literacy skills and practice reading and writing in developmentally appropriate ways.
Screening and referral	Develop guidelines and a system to ensure all preschool children in all of Colorado's Universal Preschool entities have access to annual developmental screening that includes vision, hearing, development, language, and literacy. Consider screening for characteristics of dyslexia, including family history. Screen and assess all children in their home languages. Develop requirements and/or a review process for assessments teachers can use to identify difficulties with emergent and early literacy skills. Ensure assessments are valid and reliable for preschool students. Ensure assessments are aligned with preschool standards and the Science of Reading for preschool.
Curriculum, Instructional Materials	Put forth requirements or recommendations for curricula and materials that are grounded in The Science of Reading for preschool. Include recommendations for culturally responsive materials that support multilingual learners and can be scaffolded for learners with disabilities and exceptionalities. Consider creating a list of recommended curricula. Consider developing checklists to help teachers make informed curricular decisions. Provide a system to support curriculum implementation, such as through observations and coaching.

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Support for all students	Develop a system of state and regional supports that all providers have access to. The regional supports should include experts in Science of Reading, dyslexia, multilingual learners, learners with disabilities, learners with exceptionalities. Supports may include professional development materials, lending libraries for teachers own professional growth, lending libraries of culturally responsive reading materials for students. Increase access, outreach, and participation in high-quality preschool for all children, including multilingual learners and learners with disabilities and exceptionalities. Develop best practice guidelines for supporting multilingual children and families and require programs to plan for meeting multilingual students' specific educational needs.
Preschool to kindergarten transition programs	Districts should collaborate with local preschool providers and educators to develop systematic kindergarten transition programs with a focus on maintaining and building the language and literacy skills developed during preschool.

Table A27 Crosswalk: Family and Community Engagement

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
The state's system provides guidance and support to educators in facilitating strong relationships with families, which includes regular, bidirectional communication and facilitation of family engagement in children's learning. Keep prioritizing legislation that supports authentic school-home-community collaboration to improve children's reading.	Develop training and support for teachers on developing and fostering strong, regular, bidirectional communication with the family, emphasizing the importance of language and literacy development.
Achieving desired reading outcomes hinges not only on the individual efforts of schools and families, but, most importantly, on the two working together while also incorporating community-based assets and supports.	Teachers should foster genuine school-family partnerships around language and literacy development. Family communication should include information on how to support their language and literacy development at home and their child's language and literacy skills. Leverage libraries and other community assets to promote students' reading development.

Broad Considerations	Recommendations specific to Science of Reading in a universal preschool program
Parent education and notification.	Create a state-wide parent Read-at-Home Plan for all students and guidance for developing individualized read-at-home plans (e.g., reading vetted online resource hubs for all parents to support literacy) for students identified with a delay in language and literacy skills. Create guidance for developing individualized read-at-home plans for students identified with a delay in language and literacy skills. Develop a system for parent notification when reading deficiency is identified and continued parent engagement.
Value students' diverse backgrounds, languages, and knowledge.	Provide teachers information on culturally responsive teaching practices. Require home-language surveys and provide support for communication in home languages. Identify a system for timely translation services for teacher-parent communications.
Opportunities to practice reading.	Provide supports for home literacy programs.

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