



General Education Leadership Network a MAISA Collaborative

Essential Practices in Early Math & Literacy

This compilation of the Essential Practices was developed by the Early Mathematics Task Force and the Early Literacy Task Force, subcommittees of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts.

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PREKINDERGARTEN TO GRADE 5



General Education Leadership Network

Essential School-Wide and Center-Wide Practices in Literacy and Mathematics, Prekindergarten and Elementary Grades

A document of the Michigan General Education Leadership Network (GELN)

This document is intended to be read in concert with Essential Instructional Practices in Early Mathematics: Prekindergarten to Grade 3; Early Literacy: Prekindergarten, Early Literacy Grades K to 3, Literacy Grades 4 to 5, Coaching Practices for Elementary Literacy, and other forthcoming documents from the Early Literacy and Early Mathematics Task Forces. The systems and practices outlined here provide school-level and program-level support for effective classroom instruction in prekindergarten and elementary literacy and mathematics.



ORGANIZATIONAL PRACTICES

Purpose The purpose of this document is to increase Michigan's capacity to improve children's literacy and mathematics learning by identifying systematic and effective practices that can be implemented at the organizational level in educational and care settings that serve young children. To meet the needs of all young learners, organizational practices must support literacy and mathematics development in ways that systematically impact learning throughout elementary schools, early childhood learning centers, and other learning environments and programs.¹

Each of the ten recommended school-level or centerlevel systems and practices should occur in all Michigan prekindergarten and elementary school learning environments. These essential practices should be viewed, as in practice guides in medicine, as presenting a minimum 'standard of care' for Michigan's children and educators.

The practices listed can be used in a variety of educational settings for young children. The document does not specify any particular programs or policies but focuses on research-supported practices that can apply to a number of programs and settings. As the local systems and practices occur at the building or center level, it is the responsibility of the school, center, or program leadership to ensure that these systems and practices are implemented consistently and are regularly enhanced through strategic planning.

Our Values

Our values fundamentally shape our design of, and practice within, educational systems. Interpretation and implementation of the Essential School-Wide and Center-Wide Practices in Literacy and Mathematics, Prekindergarten and Elementary Grades should be shaped by the following research-supported values:

- We value a sustained, collaborative, and systemic approach to improving teaching and learning, with the acknowledgement that meaningful change takes time, requires ongoing inquiry and revision, and is never done.
- We value equity and inclusion for all children, families, and educators, with the recognition that schools and centers must resist and dismantle institutional practices that have historically marginalized some individuals and communities.
- We value children's and educators' social identities like age, race, ethnicity, gender, language, socioeconomic status, and geographic context (e.g., urban, rural, suburban).
- We value caring learning environments where children, families, and educators have trusting relationships with one another and feel supported to learn and take risks.
- We value strategic, research-supported development of educators' practices, knowledge, and identities because powerful learning for children requires powerful learning for educators.

1. The *leadership team* is composed of instructional leaders committed to continuous improvements in literacy and mathematics with ongoing attention to data.

Under the guidance of the lead administrator, the school or program leadership team:

- includes members with considerable, current, and collective expertise in literacy, mathematics, instructional improvement, systems change, and early childhood education;
- promotes the implementation of evidence-based, high-quality literacy and mathematics curriculum, instructional practices, resources, and assessments aligned across the learning environment;²
- develops a vision, mission, set of goals, and educational philosophy that guide school climate, children's learning, and educator learning and that are shared school-wide and aligned across all ages and grade levels, including Pre-K, and across all professional roles for the purpose of continuous improvement;³
- engages in ongoing learning about high-quality instruction, educator learning, equity oriented continuous improvement, and systems leadership;⁴

- maintains a comprehensive system for assessing children's strengths and needs that focuses on multiple points of data (e.g., formative, summative, family input, student voice) and keeps the best interests of children paramount in assessment, knowing the primary purpose is to promote equity by improving teaching and learning;⁵
- makes decisions based on deep understanding of community, school and district goals, strengths, and needs using iterative strategies such as Plan, Do, Study, Act cycles;⁶
- ensures a collaborative problem-solving approach that may include administrators, teachers, instructional coaches, parents, aides, reading and mathematics specialists, library media specialists, special educators, and others as needed;7 and
- distributes leadership throughout the organization for the purposes of drawing on multiple perspectives, working collectively for improvement, and building leadership capacity among all staff.⁸

2. The <u>organizational climate</u> reflects a collective sense of responsibility for all children, a focus on developing child independence and competence, and support for the learning of all children and adults.

All adults—administrators, teachers, specialists, aides, and support staff—throughout the organization:

- share and act upon a sense of collective responsibility for the literacy and mathematics growth and overall well-being of every child that is grounded in the shared belief that every child can and will be successful and that draws upon assets from children's families, communities, cultures, and identities;⁹
- ensure that the entire learning environment is physically safe and emotionally supportive, such that all children feel a sense of belonging, and there are positive educator-child-family, child-child, and educator-educator relationships throughout the building;¹⁰
- support the development of children's independence, competence, self-efficacy, and identity in reading, writing, and mathematics through practices such as helping children identify and build on their academic strengths, providing specific feedback to help children grow, and modeling the thoughts and practices of successful readers, writers, and mathematicians;¹¹
- promote authentic engagement and rigor among culturally and linguistically diverse students by building culturally sustaining and responsive learning environments;¹² and
- share professional trust, collective efficacy, and a sense of agency and voice in shaping the organization.¹³

3. The *learning environment* reflects a strong commitment to literacy and mathematics.¹⁴

Throughout the learning environment, there is evidence that:

- literacy is a priority, such that:
 - □ print experiences are meaningful with consideration of the amount, type, and use;¹⁵
 - □ children and teachers are actively engaged with the school library, media center, and library media specialist;¹⁶
 - □ guest readers and volunteers (e.g., parents, college students, community members) are recruited and trained to support literacy in an ongoing manner;¹⁷
 - events and activities generate excitement around books and other texts, for example through the announcement of the publication of the latest book in a series or posting of book reviews throughout the school; and
- mathematics is a priority, such that:

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- children's developing and varied mathematical ideas are central to instruction and fostered through collective learning;¹⁸
- learning environments are designed to foster mathematical experimentation, practice, and play, including access to mathematical tools and manipulatives;¹⁹
- educator professional learning emphasizes an ongoing focus on supporting rich mathematical

discussion and problem-solving and fostering positive mathematical identities;²⁰

- goals for and celebrations of learning emphasize reasoning and problem solving and are not limited to performance on standardized assessments;²¹
- literacy and mathematics are integrated and occur throughout the day including during science and social studies learning;²²
- children regularly use literacy and mathematics concepts by reading, writing, speaking, and listening for multiple purposes, and student products are made prominently visible;²³
- books, learning materials, student tasks, and classroom decor reflect diversity across cultures, ethnic and racial groups, geographic locations, genders, and social roles;²⁴
- school staff aim to foster intrinsic motivation to learn, such that:
 - in literacy, there is only temporary and sparing, if any, use of non-reading related prizes such as stickers, coupons, or toys, and avoiding using reading and writing as "punishment."²⁵
 - in mathematics, there is emphasis on the relevant, real-world use of mathematical concepts and problem-solving and avoidance of mathematical activities that can lead to anxiety²⁶

4. Ongoing *professional learning* opportunities reflect research on learning and effective literacy and mathematics instruction.

School, center, and program leaders prioritize educator learning²⁷ and ensure that professional learning opportunities are:

- intentional in terms of content, such that learning opportunities are:
 - responsive and data informed so that they meet the needs and best interests of educators and their students²⁸;
 - □ focused on development of educators' understanding of content, instructional practices, context, and student learning, motivation, and engagement²⁹;
 - □ integrating learning about content instruction with learning about culturally responsive, asset-based, and equity-oriented instructional practice³⁰;
 - aligned with the research-supported, developmentally appropriate practices outlined in the Essential Instructional Practices for Literacy and Mathematics;
 - □ focused on the "why" as well as the "how" of effective whole-class and small group instructional practices;
- intentional in terms of context, such that learning opportunities are:
 - collaborative in nature, involving colleagues working together in ways that foster trust, vulnerability, curiosity, experimentation, and critical reflection³¹;

- inclusive of multiple roles, such as: school leaders, teachers, specialists, paraprofessionals, aides, and support staff;
- □ part of coherent, ongoing, and sustained systems of educator learning supports that occur over extended periods of time³²
- intentional in terms of design, such that learning opportunities are:
 - structured in ways that foster job-embedded, collaborative learning (e.g., study groups, collaborative inquiry, and problem solving)³³
 - designed to include, and be followed by, opportunities for teachers to experiment with and observe effective practice and receive feedback from mentors, peers, coaches, and/or principal;³⁴
 - based in an understanding of the educator knowledge, skills, and identities reflected in the Essential Instructional Practices for Literacy and Mathematics;³⁵
 - □ inclusive of modeling and instructional coaching with colleagues who demonstrate effective practices with children and provide opportunities for teachers to reflect on their knowledge, practice, and goals in an ongoing and continuous manner³⁶
- 5. There is a system for determining the allocation of *literacy and mathematics support* in addition to highquality classroom instruction with multiple layers of support available to children, building on existing skills.

School, center, and program leaders ensure that:

- instruction and additional supports are implemented across learning environments in addition to, not instead of, core instruction, and are coherent and consistent with the Essential Instructional Practices for Literacy and Mathematics;³⁷
- supports are differentiated to the individual child's specific profile of strengths and needs;³⁸
- highly trained educators are those teaching the children needing the most support;³⁹
- teachers are supported to design needs-based instruction by using and analyzing multiple, varied, systematic,

formative assessments and observation as appropriate in an ongoing basis to:

- $\hfill\square$ identify individual child needs early and accurately;
- □ tailor whole group, small group, and one-on-one instruction;
- □ measure progress regularly; and
- □ move students fluidly among layered supports as their needs change in order to avoid ability grouping that is long-term and static in nature; and⁴⁰
- formal and informal assessment practices disrupt historical patterns of marginalization with respect to race, ethnicity, gender, ability, socio-economic status, language, etc.⁴¹.

6. Organizational systems assess and respond to *individual needs* that may impact learning and development.

School, center, or program systems and leaders ensure that:

- any potential learning, physical, visual, regulatory, mental health, and social-emotional needs that require specific conditions and supports are identified;⁴²
- assessments, interventions, and initiatives align with family and community values, culture, and history and attend to student strengths, assets, and funds of knowledge;⁴³
- every adult has access to research-supported strategies and tools to support culturally responsive, whole-child development for each child, including, for example, strategies for improving socio-emotional skills such as emotional understanding and techniques for helping children develop executive function skills such as planning;⁴⁴
- children receive coordinated, intensive supports and services that include continued collaboration among

teachers, interventionists, family, and others whose expertise is relevant (e.g., special education teacher, school psychologist, school nurse, social worker);⁴⁵ and

- all adults intentionally work to:
 - □ identify systems and conditions that may hinder or support learning for each child;
 - modify learning environments to recognize and respond to children's individual, developmental, and cultural needs;
 - □ foster collaborative relationships with professional colleagues and children's families; and
 - assess whether school-wide patterns in learning and/ or behavior warrant adopting strategies or programs and, if so, implement ones that are caring, studentcentered, and equity-oriented and that have been shown to positively impact both academic and socio-emotional learning.⁴⁶

7. Adequate, high-quality *instructional resources* are well maintained and utilized in ways that align with the Essential Instructional Practices for Literacy and Mathematics.

Leaders and systems within the school, center, or program ensure that:

- teachers are provided with resources, including technological and curricular resources, that support research-supported instruction in all components of literacy and mathematics instruction and that provide continuity across ages and grade levels;
- teachers have professional learning opportunities and support for effective use of available technologies, materials, and resources;⁴⁷
- each child has access to cognitively demanding mathematical tasks and materials that include diverse problem contexts, engage children in learning mathematics through play and experimentation, provide space for a range of mathematical problem solving, and foster growth along coherent learning progressions; ⁴⁸

- each child has access to many informational and literature texts in the classroom and school, with culturally diverse characters and themes, that they want to read and that they can read independently or with the support of others;⁴⁹ and
- well-stocked school libraries and/or media centers, with library media specialists, offer a large collection of digital books, print books, and other reading materials for reading independently and with the support of others to immerse and instruct children in varied media, genres of texts, and accessible information.⁵⁰

8. A consistent *family collaboration* strategy includes specific attention to literacy and mathematics development.

Members of the learning organization collaborate with families to:

- prioritize learning about families and the language, literacy, and mathematics practices in which they engage to inform instruction, drawing from families' daily routines that build on culturally developed knowledge and skills accumulated in the home (e.g., inviting families to share texts they read and write and mathematical problems they encounter as part of their lives at home or at work);⁵¹
- provide regular opportunities for families to be in schools and centers and for educators to be in community spaces;
- enable families and educators to build a network of social relationships to support children's language,

literacy, and mathematics development (e.g., connect families with community organizations and with each other to celebrate and support learning);⁵²

- foster familial and community partnerships in the education of children and the work of the learning environment through equitable collaboration and reciprocal relationships;⁵³
- engage families to build leadership and gather feedback to guide future collaboration and promote positive experiences for each child; and⁵⁴
- examine how families can utilize research-supported strategies to foster literacy and mathematics development at home (see *Essential Instructional Practices for Literacy and Mathematics*).⁵⁵

9. A summer learning initiative fosters continued engagement with literacy and mathematics.⁵⁶

To support summer reading and mathematics learning, the school, center, or program:

- facilitates opportunities for every child to read books and access texts during the summer through strategies, including;
 - □ providing books that are of high interest to children and within the likely range of reading levels within each class;⁵⁷
 - connecting children to summer reading programs offered through school and public libraries;
 - providing instruction at the end of the school year to re-emphasize reading comprehension strategies and orient children to summer reading by encouraging use of effective strategies while reading at home;⁵⁸ and
 - collaborating with families to support reading at home, such as by encouraging family members to listen to their child read aloud, discuss books with their child, and provide feedback on their child's reading.⁵⁹

- facilitates opportunities for children to engage with mathematics during the summer through strategies including:
 - □ providing access to games and other activities that families can do together;⁶⁰ and
 - collaborating with families to learn about strategies for supporting relevant and joyful mathematical talk, play, and problem solving within home and community contexts.⁶¹
- facilitates access to a free, voluntary, high-quality instructional summer program for children that includes five to six weeks of programming, research-supported and small-group learning, highly qualified teachers, a positive learning environment, and meaningful partnerships with families.⁶²

10. A network of <u>connections in the community</u> provides authentic purposes and audiences for children's work and helps facilitate use of quality out-of-school programming.

Connections beyond the school, center, or program walls provide:

- organization-wide and classroom-level networking with local businesses, cultural centers, and community organizations to:
 - \Box tap into available funds of knowledge⁶³,
 - □ support development of children's content knowledge and identities, and
 - □ facilitate opportunities for children to read, write, and do mathematics for purposes and audiences beyond school assignments;⁶⁴
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- access to opportunities for individualized support that aligns with *Essential Instructional Practices for Literacy and Mathematics*, for example through one-on one tutoring;⁶⁵ and
- opportunities for children to develop literacy and mathematics outside of the school hours, including through engaging out-of-school time library, community, and school programs in the summer and after school.⁶⁶

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Process for Development and Review

This document was developed by the Early Mathematics Task Force, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. The Task Force included representatives from the following organizations:

Early Childhood Administrators' Network, MAISA English Language Arts Leadership Network, MAISA General Education Leadership Network, MAISA Grand Valley State University Kalamazoo Public Schools Michigan Association for Computer Users in Learning Mathematics Leadership Team Michigan Assessment Consortium Michigan Association of Mathematics Teacher Educators Michigan Association of Superintendents & Administrators Michigan Association of Supervisors of Special Education Michigan Council of Teachers of Mathematics **Michigan Department of Education**

Michigan Elementary and Middle School Principals Association Michigan's Integrated Behavior and Learning Support Initiative Michigan Mathematics and Science Leaders Network Michigan State Michigan Reading Association Michigan State University **Michigan Virtual University MiSTEM Network Reading NOW Network REMC Association of Michigan** Southwest Michigan Reading Council **Technology Readiness Infrastructure Grant** University of Michigan University of Washington

Feedback on drafts of the document was elicited from other stakeholders, resulting in a number of revisions to the document.

Essential School-Wide and Center-Wide Practices in Literacy and Mathematics, Prekindergarten and Elementary Grades

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MathEssentials.org #MiMathEssentials











08.17.23

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General Education Leadership Network a MAISA Collaborative

INSTRUCTIONAL PRACTICES

Essential Instructional Practices in Early Mathematics: Prekindergarten to Grade 5

What do you value as a teacher of Prekindergarten to Grade 5 children?

Perhaps you value children's play — a child's unstructured, personally motivated engagement in an activity for joy. Or perhaps you value children's curiosity — a child's desire to understand how something works. Our values fundamentally shape our interactions with young children, as well as our expectations of their learning. Five core values, grounded in evidence from research, supported the development of the *Essential Instructional Practices in Early Mathematics: Prekindergarten to Grade 5.* These Essentials seek to promote high-quality, equitable teaching and learning for children in the discipline of mathematics. By sharing these core values, we pull back the curtain so all can understand the backdrop against which the Essentials take center stage.

You may not excerpt from this document in published form, print or digital, without written permission from the MAISA GELN Early Mathematics Task Force. This document may be posted or reproduced only in its entirety (14 pages). To reference this document: Michigan Association of Intermediate School Administrators General Education Leadership Network Early Mathematics Task Force (2023). Essential Instructional Practices in Early Mathematics: Prekindergarten to Grade 3. Lansing, MI: Authors This document was developed by the Early Mathematics Task Force, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts.

Our Values

- **1. We value** children seeing themselves as mathematics knowers, doers, and contributors to the field, using mathematics to engage with their world.
- 2. We value children's differences and the various social categories and identities they hold, including age, race, ethnicity, cultural background, linguistic background, gender, (dis)ability, socio-economic status, and geographic context.
- **3. We value** mathematics as a broad, creative, and collaborative discipline for sense making and problem solving.
- **4.** We value learning mathematics in a variety of ways both socially and cognitively.
- **5. We value** mathematics teaching that focuses on connection, care, and authentic relationships.

We encourage you to read the instructional practices through the lens of these values. **See p.11 for details about each core value.**

Purpose

This document is a tool intended to support educators across Michigan as we work to enhance the ways in which children learn to use, understand, and do mathematics using a strengths-based approach. The long-term goal is that these Essential Instructional Practices in Early Mathematics: Prekindergarten to Grade 5 will prompt shifts in systems, learning, teaching, and assessment so that each and every child develops strong early mathematical understanding, skills, and dispositions. Toward this end, this document includes a small set of research-supported instructional practices that are consistent with and built upon recommendations from the National Council of Teachers of Mathematics (NCTM), National Association for the Education of Young Children (NAEYC), and National Research Council (NRC). Just as Carpenter et al. (2017) assert, it is time that a reframing of mathematics teaching and learning takes place that "goes beyond debates about telling versus not telling, discovery versus direct instruction, play-based versus structured" (p. 5). We hope this document will serve as a guidepost to shift educators away from such debates and toward a focus on working together and with families to enhance the ways in which we support, recognize, and use children's mathematical thinking and the varied ways in which children express their thoughts.

The instructional practices outlined in this document should be used as the focus of continuous improvement efforts, inclusive of professional learning and systemic supports, designed to enhance and sustain productive, joyful learning environments for children and educators. Research suggests that these eight practices have significant potential to positively affect children's learning of mathematics and the development of their mathematical identities. We believe that use of these practices will set our state on a path to make a measurable positive difference in mathematics achievement in Michigan, as well as contribute to the development of high-quality STEM experiences, as recommended by the <u>MiSTEM Advisory Council</u> <u>reports</u>.

The eight Essential Instructional Practices are strategic, supported by evidence from research and practice, and interconnected in many ways. Taken together, these practices are stronger than any single practice. Still, as research evolves, it may become necessary to add to or alter the instructional practices recommended herein. Given the crucial nature of these practices and the relationships among them, they should occur regularly during instructional time, and should be focused on during mathematics instruction periods and throughout the day during more "organic" mathematical opportunities. Mindfulness of naturally emerging opportunities as children interact is an essential piece in helping children see mathematics as part of their world.

We have organized the document as follows:

- Essential Instructional Practices 1 through 3 focus on the overall design of the learning environment and general ways of interacting within the learning environment.
- Essential Instructional Practice 4 focuses on the formative assessment process, a practice that should be intentionally and continually embedded throughout learning.
- Essential Instructional Practices 5 through 7 focus on the types of mathematical tasks, as well as routines for using these tasks to support deep and meaningful learning of mathematics.
- Essential Instructional Practice 8 highlights productive and purposeful ways of engaging children's families/ caregivers as partners in the learning process.

The practices listed can be used within a variety of overall approaches to mathematics instruction and many different structures of the day — the document does not specify one particular instructional program or textbook series. Instead, this document promotes an instructional stance focused on a relentless curiosity to make sense of what children know and then uses children's thinking and their ways of making sense as building blocks for future learning. In doing so, educators work to meet children where they are by providing appropriate contexts and learning activities. Understanding this, it is critical to recognize that the inherent design of a mathematical task (i.e., how it appears in an instructional resource) has implications for children's learning. In particular, tasks that are designed at higher levels of cognitive demand are more likely to be used with children in ways supportive of learning mathematics, rather than just encouraging students to produce answers (Stein and Lane, 1996). As such, selection of instructional resources is a critical piece

Photo:

Finding joy in mathematics (above).

to building a system that supports and enables teachers as they work with children in ways consistent with the practices outlined in this document.

These practices do not exist in a vacuum. Educators' effective use of these practices will be significantly enhanced by a deep understanding of:

- early mathematics content;
- the ways in which children make sense of mathematics; and
- systemic inequities commonly reproduced in schools and classrooms.

"Mathematical ideas that are suitable for preschool and the early grades reveal a surprising intricacy and complexity when they are examined in depth" (NRC, 2009, p. 21). Many educators, particularly those supporting children in early childhood and elementary settings, have not been given adequate opportunities to learn about the intricacies and complexities of early mathematics. With this in mind, we recommend that as educators engage in professional learning focused on these instructional practices, they also engage with mathematics — particularly early number and geometry concepts, two fundamental areas of early mathematics (NRC, 2009; IES, 2013). In addition, opportunities to learn to recognize and remediate systemic inequities have the potential to influence educators' efforts to support children as they learn mathematics.

Our goal is that these practices become habits of mind for educators. As learners (both children and adults) engage with these practices, learners may find that their perceptions of themselves mathematically their mathematical identities — vary as they persevere to become increasingly competent and confident in their understanding of and ability to use mathematics. This document and the additional tools and resources to grow out of this initial work will support each of us to deepen and extend the ways in which we see mathematics and see ourselves within the context of mathematics.

In closing, it is important to read this document in relation to the <u>Early Childhood Standards</u> of <u>Quality for Birth to Kindergarten</u> and the <u>Michigan K-12 Standards for Mathematics</u> (Kindergarten through Grade 5).



mathematical play and tinkering.

- a. Provide activities and tasks that encourage children to experiment with and explore mathematical ideas. These tasks should encourage:
 - choice;
 - creativity; and
 - social engagement.
- b. Provide access to a variety of materials (e.g., blocks, art supplies, counters, bundles and sticks, pattern blocks, Cuisenaire rods, measuring tools, games, puzzles, coding and robotics tools) to prompt exploration of mathematical ideas.
- c. Flexibly use space to enable collaborative areas, as well as quiet thinking areas.
- d. Look for and highlight mathematical ideas in children's play to help them describe and make sense of mathematics as part of their cultural and social worlds.
- e. Incorporate objects and pictures to promote spatial reasoning, measurement, and quantity, and to intentionally use mathematically accurate language when describing these things.
- f. Incorporate (e.g., display) diverse representations of people (e.g., race, gender, culture, age) doing a variety of mathematical work.
- g. Encourage physical movement as children work to make sense of mathematical ideas (e.g., use of hand motions to signify the meaning of words such as more or less, travel along a number line when considering increasing and decreasing quantities, etc.).
- h. Allow children choices in how they position their bodies, such as sitting, standing, or lying down, as they engage with mathematical ideas.
- i. Explore the relationship of mathematics with other domains by intentionally infusing mathematics in other content (e.g., social studies, music, technology, dance, science, literacy, dramatic play, block play, art, etc.)



Photos:

Encouraging play and tinkering in the math classroom (above). Children playing with fraction circles (below).



Establish and monitor norms (i.e., ways of being in a learning environment) with children to develop a classroom culture and climate that **promotes positive, robust mathematics identities.**

- a. Provide children with opportunities to see themselves as mathematicians (i.e., people who can use, do, and understand mathematics).
- b. Focus on growth, support productive struggle, and encourage children's internal desire to learn, as opposed to external measures of achievement or rewards.
- c. Develop an awareness of how mathematics is expressed in the children's communities, as well as in different communities.
- d. Ask and explore mathematical questions relevant to their world (e.g., "Which professions are represented in the books in our learning environment? How often is each profession represented?").
- e. Use children's cultural and personal background experiences (e.g., ethnic, racial, religious, extracurricular, etc.) while exploring mathematical ideas. For example:
 - books with relevance to children's lives and culture(s); and
 - ii. objects and pictures from a child's real-life experience, such as items from nature, common things seen in the child's community, etc.
- f. Explore how mathematicians from diverse communities have played a role in the development of mathematical knowledge. For example:
 - i. incorporate children's books (or use other means) to highlight stories of people who have used and contributed to mathematics.

Photos:

Helping students make sense of story problems (above). Small group playing with pattern blocks (right).

- g. Solicit differences in mathematical thinking and personal experiences and strategically leverage these as resources in learning (e.g., when working in groups, preparing the learning environment, offering examples or explanations).
- h. Value partial and potentially incorrect understanding of mathematical concepts and procedures as tools for highlighting productive thinking, including opportunities to scaffold learning.
- i. Be mindful of and interrupt instructional experiences that potentially lead to undue stress and/or frustration for children when working to learn mathematics (e.g. timed tests, around-the-world).
- j. Incorporate needs-based instruction, inclusive of flexible group structures; in doing so, avoid ability grouping that is long term and static in nature, as well as hierarchical language (e.g., "high kids/low kids"), as these practices can perpetuate low expectations and undermine future learning opportunities.





Ensure equitable participation of children in mathematics.

- a. Monitor children's talk and intervene to create space for each child to express ideas by helping some children pause when needed, while encouraging others to contribute, particularly in relation to historical patterns of marginalization.
- b. Use strategies to promote wide participation (e.g., turn-and-talks, fingerplays, clapping or stomping rhythmic patterns, hand signals, soliciting multiple answers and/or strategies).
- c. Use a variety of participation structures (e.g., small groups, independent work, whole group) and representational contexts (e.g., graphs and diagrams, various ways of articulating numbers — verbal, quantity, symbolic, empty number lines, etc.) to support language development and create diverse opportunities for building and showing competence.
- d. Use sentence stems to support children's engagement in mathematical discussions (e.g., "I agree/disagree because..."; "That solution is like/unlike mine because ..."; "My answer is different because..."; "We could try..."; "Why did you...?"; "What if...?").
- e. Model listening and communication using mathematical language (e.g., specialized vocabulary and terms) and support children in moving among more and less sophisticated mathematical language as they are developing ideas.
- f. Recognize and value children's primary languages, developing proficiency in English, integrated use of multiple languages (i.e., translanguaging), and mode of communication (e.g., aided and/or unaided augmentative and alternative communication [AAC]) including the use of devices, gestures, images, and/or objects while learning.

Photos:

Story problems - independent work (above). Cuisenaire rods (right).

- g. Allow and support children in making choices about mathematical tools and numbers as they work to solve problems. For example, children may use:
 - i. dot dice as opposed to those labeled with written symbols;
 - ii. numbers within one hundred rather than numbers within twenty; and
 - iii. visual representations such as manipulatives (e.g., pattern blocks or Cuisenaire rods) or drawings.
- h. Distribute materials to support equitable engagement in group work using strategies such as:
 - i. ensuring all children have access to task directions;
 - ii. providing enough materials so all children can engage with the task; and
 - iii. at times, strategically limiting materials (e.g., only giving some information to each child in a group) so that group members need to rely on one another while working.
- i. For group work, choose group-worthy tasks that require multiple mathematical abilities and the full engagement of multiple children.
- j. Structure group work to enable children with different levels of understanding or at different developmental levels to work together, with teacher support as needed.





Engage in formative assessment as a process — in an ongoing and planned-for manner, continuously assess children's mathematical thinking through observation and discussion to inform the next learning and teaching steps.

- a. Use standards and previous evidence of children's understanding to select daily mathematics activities that offer opportunities to notice children's informal and formal ways of speaking about, representing, and doing mathematics.
- b. Look for and recognize different ways in which individual children demonstrate mathematical competence, including use of gestures, talk, representations, etc.
- c. Pose purposeful questions in order to elicit evidence of children's thinking in various participation structures (e.g., individuals, pairs, and small and large groups).
- d. Support children in reflecting upon and communicating their own learning within and outside of the classroom.
- e. Use children's current levels of understanding to provide timely, productive feedback and advance learning.

- f. Work from children's identified strengths as the starting points for new mathematical learning and selection of appropriate learning tasks.
- g. Make instructional decisions guided by children's current levels of understanding and by evidencebased learning trajectories/progressions (LT/P) to help children develop more sophisticated solution strategies over time.
- h. Ensure that classroom-level assessment practices disrupt historical patterns of marginalization with respect to age, race, ethnicity, cultural background, linguistic background, gender, (dis)ability, socioeconomic status, and geographic context.

Photo:

Implementing a cognitively demanding task.

Essential 5

Intentionally **select and implement cognitively demanding mathematical tasks** from instructional resources.

Cognitively demanding tasks are designed (as they appear in a resource or as planned by teacher[s]) to:

- hold high expectations for every child, leading to deep learning, by developing mathematical ideas and relationships;
- engage children in mathematical reasoning, sense making, and problem solving both individually and collaboratively;
- allow multiple entry points, suggesting children work in a variety of mathematically productive ways; and
- typically relate and be relevant to children's lived experiences.
 - a. Establish goals focused on helping children develop mathematical understandings as opposed to simply answer getting.
 - b. Launch the task in a manner that ensures access to every child by:
 - i. clarifying task expectations;
 - ii. encouraging children to draw on their own lived experiences, as well as be resources for one another; and
 - iii. building children's knowledge of the context when a situation is unfamiliar to their lived experiences.
 - c. Encourage and support children's perseverance in problem solving in language-rich environments. For example:
 - i. ask open-ended questions;
 - ii. ask focused questions, informed by children's thinking as opposed to how the teacher might typically solve the problem, to guide children through their problem-solving processes;
 - iii. ask children to discuss mathematical structure and make connections among mathematical ideas and relationships; and

- iv. prompt peer-to-peer mathematical talk (e.g., "Say in your own words what your friend just shared.").
- d. Make children's thinking visible around strategies and ideas, positioning each child as a valuable contributor. For example:
 - i. strategically select and sequence children's thinking and representations for use with the whole class;
 - ii. invite children to share artifacts from play and/or outside of school; and
 - iii. recognize various ways in which strategies and ideas may be shared (e.g., through movement, talk, images, symbols, and children's stories).
- e. Support children in making connections among strategies and representations. For example:
 - i. link work on an empty number line to a more formally notated computation strategy;
 - ii. represent a written number story using objects or pictures;
 - iii. create an array or area model for a multiplication number sentence (using whole numbers and/or fractions) and write a story context that fits this representation.

Photos:

Engaging students in inquiry based tasks geometry (above). Selecting and implementing a cognitively demanding task sorting shapes (right).



Essential 6

Engage children regularly in brief (5-15 minute) interactive number sense routines focused on developing mental strategies for seeing quantity and working flexibly with numbers.

Brief interactive number sense routines typically include the following steps:

- the teacher poses a visual, verbal, and/or written mathematical prompt (e.g., "How many dots did you see?," "How might you solve 32 x 5 using a mental strategy?"
- children think individually;
- supported by the teacher, children share thinking, including non-fully formed ideas;
- the teacher notates and/or verbalizes the children's strategies; and
- the learning community discusses the thoughts that emerged and works to draw conclusions (e.g., "How do you know that doubling one factor and halving the other works? Does it always work?" and "Is this always an efficient strategy?").
- a. Use accessible prompts to engage children in conversations around purposefully crafted computation and/or quantitative reasoning problems to be solved mentally.
- b. Encourage children to develop their own strategies, working toward solution strategies that make sense to them.
- c. Elicit children's thinking by asking them to share and explain their solution strategies, discuss the strategies of others, and make connections among multiple strategies.

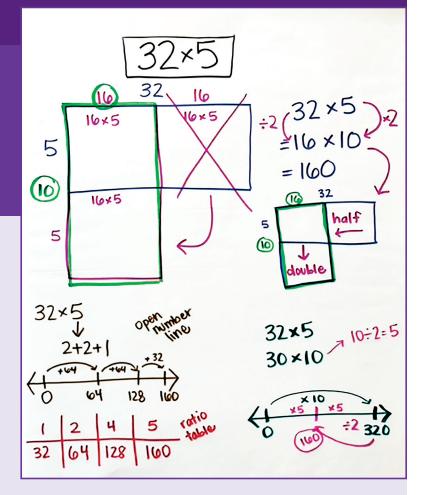


Photo: Number sense routines.

Note: The example questions included in the description of typical number sense routines to the left were based on the student thinking shown in the photo above.

- d. Support children in paraphrasing one another's thinking to foster communication and language development.
- e. Notate children's strategies, as they collectively reason about numbers, to make ideas accessible to others and to encourage movement toward increasingly flexible and sophisticated mental strategies.
- f. Emphasize sense making and de-emphasize speed.
- g. Promote joy and curiosity by inviting children to share their mathematical ideas; strategically explore these ideas with excitement even though some may not yet be fully formed or correct.



Engage children regularly in **making sense of and solving story-based problems**, both those that are planned for and those that come up organically throughout the day.

- a. Select problems grounded in accessible and relevant contexts to children by:
 - i. using child-generated stories to create mathematical problems;
 - enabling children to make mathematical connections using examples from their community or home environment;
 - iii. empowering children to connect mathematical concepts, such as more than, less than, same as, equal to, and fair shares with issues of fairness in their everyday lives; and
 - iv. building children's knowledge of context when a situation is unfamiliar to their lived experiences, to help gain access to the mathematics.
- b. Provide children access to and support them in making sense of a variety of real-world problems (inclusive of whole numbers, fractions, and/or decimals as appropriate) using *varied structures** (e.g., "We have two crayons at our table. How many more
 - do we need for all five of us to have a crayon?"; "You have two crayons and I have three crayons how many do we have altogether?"; "Each batch of cookies calls for 3/4 cup of butter. How many batches of cookies can I make if I have 3 cups of butter?").

*Note: Additional examples of varied problem structures include, but are not limited to: total unknown, addend unknown, change unknown, unknown product, and number of groups unknown --see Tables 1 and 2, p. 88 and 89, of the <u>Michigan</u> <u>K-12 Standards for Mathematics</u> for additional contextualized examples.)

- c. Observe and identify children's solution strategies (i.e., thinking and processes children use while engaging in mathematical work, not just how they represent their thinking) and use these observations to inform the selection of future problems. Strategies might include the use of:
 - i. direct modeling;
 - ii. counting;
 - iii. derived facts;
 - iv. children's invented strategies and/or algorithms; and standard algorithms.

Photo: Number sense routines.

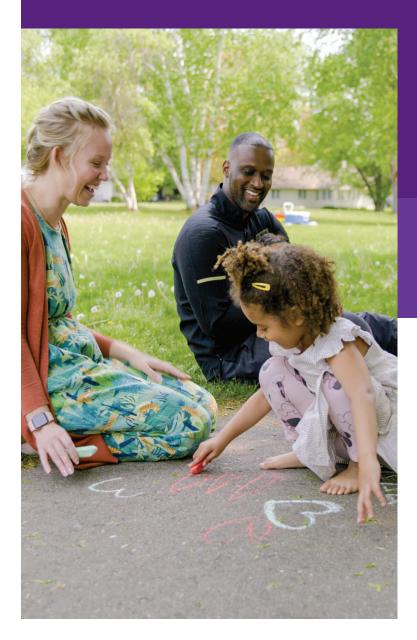


Photo:

Family drawing with chalk on the sidewalk in Kalamazoo.

Essential 8

Learn from and support families in promoting children's mathematical thinking.

- a. Enact practices to make all children and families feel welcome in mathematics classrooms (e.g., respond sensitively to questions and concerns, recognize the demands homework places on family time and relationships, write and talk about mathematics in accessible ways).
- b. Learn about family activities, hobbies, and cultural practices that may relate to mathematics and incorporate these activities into the classroom community daily or during special events.
- c. Engage families and children in positive mathematics experiences (e.g., family nights at school that include mathematics games or activities, field trips that explore mathematical ideas, etc.).
- d. Be sensitive to families' language practices in all communications and suggestions for out-of-school activities.
- e. Provide ideas for out-of-school mathematical experiences, such as providing games or other resources that can be used in fun and engaging ways.
- f. Engage families to gather feedback on school mathematics experiences to guide future interactions and to promote positive experiences for each child.
- g. Communicate frequently with families, using an assetbased approach, to celebrate successes and identify strategies to achieve future goals.

Essential Instructional Practices for Early Mathematics: Values

Value #1: We value children seeing themselves as mathematics knowers, doers, and contributors to the field, using mathematics to engage with their world.

Children's mathematics learning requires their own personal sense making as they engage in, construct, and acquire understandings, skills, and competencies in various mathematical domains, such as number and shape. Also critically important to a child's mathematics learning is their identity development as a person who knows and does mathematics. Too often children engage in various mathematical activities but fail to see themselves as a mathematics knower and doer. So many children and adults readily state, "I'm not a math person." But the reality is that we are all math people because we all engage in mathematizing every day (counting, estimating, seeking patterns, and problem solving).

Identity development is fundamentally about creating positive and affirming relationships with mathematics and seeing oneself as competent. Developing a relationship with mathematics is in many ways like developing a friendship. Just as personal relationships unfold differently among individual children, each child develops their relationship with mathematics differently. In the end, a positive relationship is critical to engagement in the field of mathematics - whether during an activity in class today or sustaining interest and perseverance in mathematics for years to come. We know many children develop fragile relationships with mathematics, relationships which may begin to fracture when a child receives messages, often unintended, that make the child feel unable to do, unwelcome to participate in, and/ or unsupported to engage with mathematics. Avoiding challenging mathematical activities and tasks, however, does nothing to grow and strengthen that relationship. Rather, developing a positive, robust relationship — a productive disposition toward mathematics - involves consistently providing meaningful challenges and adequate support so children can grow and strengthen a positive, robust mathematics identity.

Value #2: We value children's differences and the various social categories and identities they hold, including age, race, ethnicity, cultural background, linguistic background, gender, (dis)ability, socio-economic status, and geographic context.

What images come to mind when you think of a scientist or a mathematician? For many, the images we have consist of common characteristics that paint a limiting picture of who participates in science and mathematics. Since 1957, in the draw-a-scientist-test (DAST), children irrespective of race, gender, and class have typically drawn images of a man with lab coat, glasses, and facial hair holding different scientific tools. Perhaps not surprisingly, the results are quite similar when asked to draw a mathematician. Decade after decade, these studies reveal that even young children hold stereotypical images of scientists and mathematicians. Seeing oneself as a mathematician can be daunting when one doesn't see "people like me" among the predominant images around them at school and in society.

The example above is centered on visible qualities, but social differences are not only perceived visually; changing what we picture with respect to who participates in science and mathematics is only part of embracing social differences as assets to learning and doing mathematics. In addition to such visible qualities, we must also recognize and embrace other social differences, such as the varied ways in which children communicate and interact as they learn mathematics.

Children bring a range of their own socio-cultural identifiers, or social markers, with them into their mathematics learning. Each of these markers holds different personal and societal histories. In learning and practicing mathematics, many markers of race, gender, and class have long been used formally and informally to enable access to only a few, while restricting

access to others. Children's competencies in learning mathematics are not and should not be determined by their social markers. Still, these social markers can influence each person's perception of what it means to know and do mathematics, as well as who can and should do mathematics. So that all children can see themselves as learners and doers of mathematics, we believe that embracing the differences that all children naturally carry with them can only bring assets and resources to enrich learning and the relationships that students grow with each other, with their teachers, and with mathematics. Both recognizing and valuing these social differences as we work to broaden the images of competent mathematics knowers and doers are critical to ensure that every child sees themselves among images both appealing and empowering.

Value #3: We value mathematics as a broad, creative, and collaborative discipline for sense making and problem solving.

How do you remember your experiences in mathematics? Too often, mathematics has been experienced at school as a rigid discipline dependent on speed and computational correctness. Many people's lasting memories involve timed tests and frustration that resulted. Others' memories of school mathematics include a sense of safety and comfort that there was always a correct answer if a set of procedures was just applied systematically - although not necessarily with an understanding of why or how they worked. Speed and accuracy have a long history of being the defining characteristics of school mathematics. Regrettably, this has unnecessarily created a small number of children and adults who are positioned as smart/winners and a large number of children and adults who are positioned as not smart/losers in the "math game." Witness the widespread perception that only a few people are "math people" and most people simply are not — and this situation is often seen as not only fine, but expected.

While mathematics operates within the bounds of logic toward well-reasoned results, mathematics as a discipline is a dynamic field of study that invites broad, creative, argumentative, and collaborative thinking. Mathematics can help children make sense of their everyday world through numbers, patterns, shapes, and logical reasoning. Young children arrive at school already having developed some ideas on their own, particularly in regard to numbers and shapes. These everyday understandings of mathematics can serve as the foundation for children to continue developing their mathematical intuitions, and to gradually build toward abstract concepts that may or may not directly connect to the physical world. Mathematics encourages children to ask "what if?" — to conjecture and then verify mathematical ideas. Learners' first and subsequent experiences with mathematics can be premised on inquiry, discovery, and connection making that are challenged and verified within a classroom community through discussion and play. We therefore value a view of mathematics that is broad and creative, and focuses on meaning making in a learning community.

Value #4: We value learning mathematics in a variety of ways – both socially and cognitively.

Imagine a group of children at a playground. Children are playing and engaging with each other in a variety of ways. Some use the different play structures as designed, gliding down the slide, while others are intent on seeing what else is possible, climbing up the slide instead. Some children require support from their friends or an adult to climb up ladders or swing on the swings, whereas others navigate challenges on their own. A few children are watching the others until they're ready to join in, and still another group of children is exploring the play structure, tinkering in creative ways and following wherever their imaginations take them.

Learning mathematics similarly reflects this diversity in both cognitive and social processes. Children express their abilities, intelligences, needs, and interests through a variety of forms and modes of interaction. Mathematics learning can be embraced as a different kind of playground that also invites and encourages a wide variety of abilities and styles of interaction. Furthermore, just as no child's style or preference for play is better than another's, modes for mathematics learning are not placed along some quality hierarchy. In fact, as a child works to make sense of a mathematical idea or set of ideas. this child may move from one mode to another given the particulars of the context. As with social markers, these differences in participation and engagement preferences are valued resources that create a dynamic, mathematically rich, playful, and joyful experience for all with abundant action, sound, and feeling.

Value #5: We value mathematics teaching that focuses on connection, care, and authentic relationships.

Building relationships with children is critical to being able to use teaching practices that value and honor children as unique persons in their own right, not as empty vessels to be filled. Relationship-building teachers express curiosity in their children and take time to find out: Who is this young person? Why might they be thinking this way? How might we work together in the next steps for growth? Regrettably, all too often, the aims and objectives of even the best teaching practices become narrowed - intentionally or not — to focus on covering mathematical content and managing classroom behavior. When this occurs, it tends to keep children at arms length from mathematics and from each other, often minimizing the critical interpersonal dimensions of meaning making and compromising the learning that should last a lifetime. This narrowed focus may also prompt teachers to be more corrective than curious when considering the next instructional steps and when viewing children's work. We value and privilege teaching practices that place the physical and socio-emotional aspects of children's development in the foreground, focusing on the human connection, on the care of others along with self, and on the building of authentic positive relationships while simultaneously developing mathematics content knowledge.

Photo:

Family drawing with chalk on the sidewalk in Kalamazoo.

Concluding thoughts on teaching practices...

Teaching practices are more than tools for which we intentionally plan or may improvise their use in the moment; they have the power to communicate what it might look and sound like to know and do mathematics. Teaching practices have histories — what these practices have meant in the past for children and communities, as well as futures - what these practices hope to accomplish in the coming weeks, months, and years. Another way to think about teaching practices is to consider the cumulative effect of a practice over time and to professionally and personally reflect: How has the practice been used in the past? What sort of relationships did this practice create between a child and mathematics, or between children? If this practice is continued, what sort of relationships might this practice create between a child and mathematics or between children in the years to come? Given the power that teaching practices wield, care must be taken to privilege those practices that drive not just content-learning, but that also grow positive identities, equitable access, and quality relationships.

Clearly, teaching young children mathematics is complex. "Teaching is what teachers do, say, and think with learners, concerning content, in particular organizations and other environments, in time." (Cohen, Raudenbush, & Ball, 2003, p. 124). Doing it effectively requires navigating the interactions described above while attending to the physical, socio-emotional, and intellectual needs and interests for not only one child, but for several children simultaneously. In short, we value teaching practices that engage children as partners in learning meaningful and useful mathematics content, inclusive of mathematical practices, and that honor children as individual and unique persons.



1. Design learning environments to encourage mathematical play and tinkering.

Why is this practice important?

Ginsburg, H. P. (2009). Mathematical play and playful mathematics: A guide for early education. In D. G. Singer, R. M. Golinkoff, & K. Hirsh-Pasek (Eds.), *Play=learning: How play motivates and enhances children's cognitive and social-emotional growth* (pp. 145-164). New York, NY: Oxford University Press

Who benefits from this practice?

Cankaya, O. (2022). Supporting young children's numeracy development with guided play: Early childhood mathematics research combined with practice. In K.-P. Thai & A. L. Betts (Ed.), *Handbook of Research on Innovative Approaches to Early Childhood Development and School Readiness* (pp. 374–415). IGI Global.

What does this practice look like in real classrooms?

Ramani, G. B., & Eason, S. H. (2015). It all adds up. *Phi Delta Kappan*, *96*(8), 27-32. doi:10.1177/0031721715583959

2. Establish and monitor norms (i.e., ways of being in a learning environment) with children to develop a classroom culture and climate that promotes positive, robust mathematics identities. Why is this practice important?

Gresalfi, M. S., & Cobb, P. (2006). Cultivating students' disciplinespecific dispositions as a critical goal for pedagogy and equity. *Pedagogies*, 1(1), 49-57;

Who benefits from this practice?

Wood, M. B. (2013). Mathematical micro-identities: Moment-to-moment positioning and learning in a fourth-grade classroom. *Journal for Research in Mathematics Education*, 44(5), 775-808

What does this practice look like in real classrooms?

Battey, D., & Neal, R. A. (2018). Detailing relational interactions in urban elementary mathematics classrooms. *Mathematics Teacher Education and Development*, 20(1), 23–42

3. Ensure equitable participation of children in mathematics. Why is this practice important?

Morine-Dershimer, G. (1983). Instructional strategy and the creation of classroom status. American Educational *Research Journal*, 20(4), 645-661 Who benefits from this practice?

Boaler, J., & Staples, M. (2008). Creating mathematical futures through an equitable teaching approach: The case of railside school. *Teachers College Record*, *110*(3), 608-645

What does this practice look like in real classrooms?

Meikle, E. M. (2016). Selecting and sequencing students' solution strategies. Teaching Children Mathematics, 23(4), 226–234 Hand, V., Kirtley, K., & Matassa, M. (2015). Narrowing participation gaps. *The Mathematics Teacher*, *109*(4), 262-268

4. Engage in formative assessment as a process — in an ongoing and planned-for manner, continuously assess children's mathematical thinking through observation and discussion to inform the next learning and teaching steps.

Why is this practice important?

Sztajn, P., Confrey, J., Wilson, P. H., & Edgington, C. (2012). Learning trajectory based instruction: Toward a theory of teaching. *Educational Researcher*, *41*(5), 147–156.

Who benefits from this practice?

Suh, J. M., Birkhead, S., Frank, T., Baker, C., Galanti, T., & Seshaiyer, P. (2021). Developing an asset-based view of students' mathematical competencies through Learning Trajectory-Based Lesson Study. *Mathematics Teacher Educator, 9*(3), 229–245.

What does this practice look like in real classrooms?

Hicks, T., & Bostic, J. D. (2021). Formative Assessment through Think Alouds. Mathematics Teacher: *Learning and Teaching PK-12, 114*(8), 598–606.

5. Intentionally select and implement cognitively demanding mathematical tasks from instructional resources. Why is this practice important?

Kazemi, E., & Stipek, D. (2009). Promoting conceptual thinking in four upper-elementary mathematics classrooms. *Journal of Education*, 189(1-2), 123-137. Retrieved from <u>https://doi.org/10.1177/0022057409189001-209</u>

Who benefits from this practice?

Engel, M., Claessens, A., & Finch, M. (2013). Teaching students what they already know? The (mis)alignment between mathematics instructional content and student knowledge in kindergarten. *Educational Evaluation and Policy Analysis*, *35*(2), 157-178.

What does this practice look like in real classrooms?

Heck, D. J., Hamm, J. V., Dula, J. A., Hoover, P., & Hoffman, A. S. (2019). Supporting group work with mathematically meaningful roles. Mathematics *Teaching in the Middle School*, *24*(7), 436–442.

6. Engage children regularly in brief (5-10 minute) interactive number sense routines focused on developing mental strategies for seeing quantity and working flexibly with numbers. Why is this paratise important?

Why is this practice important?

Parrish, S. (2014). Number talks: Helping children build mental math and computation strategies, grades K-5. Sausalito, CA: Math Solutions. Who bonefits from this practice?

Who benefits from this practice?

Bouck, E. C., & Bouck, M. K. (2022). Using number talks to support students with high-incidence disabilities in mathematics. *Intervention in School and Clinic*, *57*(4), 227–233.

What does this practice look like in real classrooms?

Kelemanik, G., Lucenta, A., & Creighton, S. J. (2016). *Routines for reasoning: Fostering the mathematical practices in all students.* Heinemann Portsmouth, NH.

7. Engage children regularly in making sense of and solving story-based problems, both those that are planned for and those that come up organically throughout the day.

Why is this practice important?

Boaler, J. The role of contexts in the mathematics classroom: Do they make mathematics more "real"? *For the Learning of Mathematics*, *13*(2), 12-17.

Who benefits from this practice?

Bright, A. (2020, May 23). The Problem with Story Problems. Rethinking Schools. https://rethinkingschools.org/articles/the-problem-with-story-problems/

What does this practice look like in real classrooms?

Lomax, K., Alfonzo, K., Dietz, S., Kleyman, E., & Kazemi, E. (2017). Trying three-act tasks with primary students. *Teaching Children Mathematics*, *24*(2), 112–119.

8. Learn from and support families in promoting children's mathematical thinking.

Why is this practice important?

Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice*, 31(2), 132–141. Whe benefits from this practice?

Who benefits from this practice?

Thompson, K. M., Gillis, T. J., Fairman, J., & Mason, C. A. (2014). Effective strategies for engaging parents in students learning to support achievement. Maine Education Policy Research Institute. https://digitalcommons.library.umaine.edu/mepri

What does this practice look like in real classrooms?

Dominguez, A. M., Feldman, M., Battey, D., Lee, C. P., & Hunsdon, J. (2022). Centering families' mathematical practices in a multilingual space. The Mathematics Teacher, 115(9), 633–641.





Process for Development and Review

This document was developed by the Early Mathematics Task Force, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. The Task Force included representatives from the following organizations:

Alt+Shift	Michigan Association of Mathematics Teacher Educators
General Education Leadership Network of Intermediate School Districts in Michigan	Michigan Association of Superintendents & Administrators
	Michigan Council of Teachers of Mathematics
Grand Valley State University	Michigan Department of Education Michigan Mathematics and Science Leadership Network Michigan State University
MAISA Early Childhood Administrators Network	
MAISA Mathematics Network	
Michigan Assessment Consortium	
Michigan Association of Intermediate School Administrators	MiSTEM Network
	University of Michigan

Feedback on drafts of the document was elicited from other stakeholders, resulting in a number of revisions to the document.

Essential Instructional Practices in Early Mathematics: Prekindergarten to Grade 5

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General Education Leadership Network



08.17.23

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updated June 2023



General Education Leadership Network a MAISA Collaborative

Essential Instructional Practices in Early Literacy: Prekindergarten

This document was developed by the **Early Literacy Task Force**, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. For a full list of representatives, please see the back page.



INSTRUCTIONAL PRACTICES

This document is intended to be read in concert with Essential Instructional Practices in Language and Emergent Literacy: Birth to Age Three, and the Essential Instructional Practices in Early Literacy: Grades K to 3. There is important overlap and continuity in these three documents, and some children will benefit from instructional practices identified in multiple documents.

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To reference this document: Michigan Association of Intermediate School Administrators General Education Leadership Network Early Literacy Task Force (2023). *Essential instructional practices in early literacy: Prekindergarten.* Lansing, MI: Authors

Purpose

The purpose of this document is to increase Michigan's capacity to provide effective and equitable early literacy practices for every child every day. The document identifies research-supported instructional practices in prekindergarten that should be a basis of professional learning, policy, and instruction throughout the state. Research indicates that each of these practices can have a positive impact on literacy development. The use of these practices in every classroom every day is expected to make a measurable positive difference in the state's literacy achievement. The practices should be viewed, as in practice guides in medicine, as presenting a minimum "standard of care" for Michigan's children. Other documents available at <u>literacyessentials.org</u> address other age groups, grade levels, and aspects of education systems, including coaching practices, school-level practices, and systems-level practices.

Throughout this document, we use the term "teachers" to encompass educators in home-based, center-based, and school-based settings. We use the term "classroom" broadly to encompass any indoor and outdoor learning environments that are used to provide education to young children. We use the term "prekindergarten" to encompass the two to three years after toddlerhood and before beginning kindergarten.

Core Commitments

The MAISA GELN Early Literacy Task Force is united in our belief that all children thrive when research deeply informs practice; education builds on every child's interests and individual, cultural, and linguistic assets; and educators hold high expectations for all children's development. Indeed, the Essential Instructional Practices in Early Literacy were built upon the premise that it is unacceptable for some Michigan children to experience research-supported instructional practices while others do not—especially in cases in which the quality of instruction is determined by children's socioeconomic, racial, linguistic, cultural, or other background characteristics. We are committed to an education system in which educators, families, communities, and children are respected and supported. We are also committed to working against all forms of bias that cause harm and that lead to inequitable education, in literacy and across all areas of development.

Enabling Conditions

Use of the *Essential Instructional Practices in Early Literacy* should occur daily in school or childcare settings that are supportive and effective for children not only in literacy, but in all areas of development. There are many wide-ranging conditions that enable children to thrive in all areas of development, including literacy. A few key examples of such conditions include:

- an asset orientation toward children and their families and communities
- positive relationships between and among teachers, children, and families
- opportunities for children to develop healthy identities
- culturally relevant¹, responsive², and sustaining³ pedagogical approaches throughout the day
- a playful approach to teaching and learning and lots of opportunities for children to play
- sufficient time for physical activity, meals, and play

For additional information about enabling conditions, see the <u>Essential School-Wide and Center-Wide Practices in Literacy</u> and Mathematics, Prekindergarten and Elementary Grades.

Robust Resources

This document offers instructional practices, not a curriculum or curricular resources. Districts and other educational organizations, in consultation with educators and other experts, should provide, at minimum, curriculum materials that address all areas encompassed in early childhood curricula and that include abundant materials to read to young children (see Essential Eight). Educators, districts, and other educational organizations should use frameworks⁴ that can guide the selection of materials and the design of curricular units and lessons. Frameworks that are used should attend to such factors as alignment to research; diversity, equity, and inclusion; and the goals of multiple stakeholders, including national and state organizations (e.g., standards documents), local educators, library media specialists, members of the local community, families, and children themselves. Materials should be coordinated and adapted as needed to reflect findings from research.

Essential Practices

The recommended instructional practices are to occur throughout the day, largely integrated into opportunities for learning in all other areas, not in an isolated block identified as "English Language Arts" or "Literacy." Oral and written language development should not be the only focus of prekindergarten education. There should be ample room for development in other areas. Later academic achievement is predicted not only by oral and written knowledge and skill but also by mathematics learning, knowledge of the natural and social world, and certain aspects of social, emotional, and physical development⁵.

It is also important to understand that this is not an exhaustive list of research-supported instructional practices, although practices not on this list should be carefully scrutinized with respect to alignment to research on literacy instruction. We should actively resist neglecting any of these research-supported practices. Every child in every classroom deserves teachers who implement each of these research-supported practices because they are important, interconnected, and necessary.

Within and across the prekindergarten years, practices should be implemented in developmentally sensitive and responsive ways. All practices listed below are for regular classroom instruction (i.e., Tier 1) and are appropriate for children of all linguistic backgrounds who are learning an alphabetic language. Within all practices, opportunities should be provided for translanguaging, that is, for children to draw on their full linguistic repertoire, including both nonverbal and verbal means of communication and all dialects and languages they are learning.

Reading and writing materials are not only present but used throughout the learning environment in both teacher-led and child-led play.

- Within daily opportunities for dramatic play, the teacher provides, models use of, and encourages children's engagement with appropriate literacy artifacts, such as:
 - order pads, menus, and placemats for a pizza parlor
 - traffic signs, maps, blueprints, and building-related books in the block/construction area
 - envelopes, stationery, postcards, stamps, and actual mail for a post office
 - waiting room reading material, a schedule, and a prescription pad for a doctor's office

- Within centers and other areas of the classroom, children are encouraged to interact with reading and writing materials, such as:
 - books related to construction or building in the block or construction area
 - simple recipes for making snacks
 - · labels that indicate where items go
 - children's names, for example, on cubbies and signin sheets, which may vary over time (e.g., first, with photos, then later, without photos)
 - writing materials in each area of the classroom for drawing and writing—for example about objects being observed in the science area
 - story-related and replica toys (e.g., a miniature fire station play set)
 - digital tools aligned to screen-use guidelines and with carefully curated, research-aligned digital games and applications, digital picture books, e-books, and videos

2. Read aloud with reference to print ⁷

Daily read-alouds include verbal and nonverbal strategies for drawing children's attention to print, such as:

- running fingers under words
- noting specific features of print and letters (e.g., "That is the letter 'd', like in Deondre's name.")
- asking children where to start reading and where to go next at the end of a line of text (i.e., return sweep)
- counting words
- pointing out print within pictures

3. Interactive read-alouds with a comprehension and vocabulary focus ⁸

The teacher reads aloud, in culturally and developmentally responsive ways, age-appropriate books and other materials, print or digital, described in Essential Eight, including by:

- reading sets of texts that are thematically and conceptually related
- reading some texts multiple times with varied instructional foci
- engaging in higher-order discussion among children and teacher before, during, and after reading (e.g., with open-ended questions that invite children to respond in their own words and draw upon their knowledge and experiences)
- providing child-friendly, culturally relevant explanations of words within the text

- revisiting words after reading using tools such as movement, props, video, photo, examples, and nonexamples that support children in relating new words to known words and encourage children to say the words aloud
- using the words at other points in the day and over time
- teaching clusters of words related to those in the text, such as vocabulary related to garden or gardening

4. Play with sounds inside words ⁹

Although phonological awareness as a construct does not involve letters, phonological awareness instruction is best provided primarily in connection to letters. Teachers support phonological awareness development through various activities, such as:

- listening to and creating variations on books with rhyming or alliteration
- singing certain songs (e.g., "Willoughby, Wallaby Woo," "Down by the Bay," "The Name Game," "Apples and Bananas")
- sorting pictures and objects by a sound or sounds in the name of each object
- playing games and leading transitions that feature play with sounds (e.g., alliteration games, a transition that asks all children whose names begin with the "mmm" sound to move to the next activity)
- engaging in "robot talk" or the like (e.g., the teacher has a robot-sounding puppet say the sounds "ffff" "iiii" "shhhhh," and children say "fish")

5. Brief, clear, systematic, and explicit instruction ¹⁰ in letter names, the sound(s) associated with the letters, and how the letters are shaped and formed ¹¹

Instruction that has been shown to be effective in fostering the development of letter-sound knowledge is supported by tools and practices such as:

- a high-quality alphabet chart¹²
- cards with children's names
- attention to how the teacher and children form and articulate sounds¹³
- opportunities to write the letters while learning their sounds
- alphabet books with appropriate keywords (please see the first bullet of this Essential)
- lowercase letters embedded in pictures of objects that begin with a primary sound of that letter (e.g., a lowercase "a" embedded in the image of an apple)
- references throughout the day (e.g., "That sign says the store is open. The first letter is 'o.' It makes the 'oh' sound: ooooopen.")

Research suggests that we should set a benchmark of children naming 18 uppercase and 15 lowercase letters by the end of prekindergarten and should teach letter-sound associations rather than letter names or sounds alone. High-frequency word instruction is not appropriate for prekindergarten.

6. Interactions around writing ¹⁴

Adults engage in deliberate interactions with children around writing. Opportunities for children to write their names, informational, narrative, and other texts that are personally meaningful to them are at the heart of writing experiences. Children progress through a series of phases of writing development, from drawing as writing to scribbling to letter-like forms to random letter strings to representing some sounds in words with letters to (after preschool) representing all sounds in words. Attention should focus on sharing ideas, rather than just forming letters and spelling words, as children move through phases of writing development. Deliberate interactions around writing include the use of interactive writing and scaffolded writing techniques.

- Interactive writing involves children in contributing to a piece of writing in which the teacher leads the writing and addresses children's developmental strengths and needs through explicit teaching, modeling, and involving children in writing in order to jointly compose a text. With the teacher's support, children determine/compose the content of the message, count the words, stretch words, listen for sounds within words, think about letters that represent those sounds, and write some of the letters. The teacher uses interactive writing as an opportunity for instruction—for example, regarding the directionality of writing, purposes for writing, and specific soundletter relationships.
- Scaffolded writing involves the individual child in generating a message the child would like to write. The message is negotiated and repeated with the child until it is internalized. The teacher draws one line for each word in the message using a highlighter or pen. The child writes one "word" per line, where the "word" might be a scribble, letter-like form, random letter string, or one or a few letters within the word.

As indicated in Essential One of this document, materials for writing are available throughout the classroom as well as in an area primarily devoted to opportunities to write, and adults engage regularly to support children in classroom areas where writing may occur.

Adults engage in interactions with children that regularly include:

- responding to and initiating conversations with children, with repeated turns back and forth on the same topic
- encouraging talk among children through the selective use of open-ended questions, commenting on what children are doing, offering prompts (e.g., "Try asking your friend how you can help."), and scaffolding higher-order discussion, particularly during content-area learning
- modeling and providing practice with discussion that encourages a variety of ways for children to communicate with one another and the teacher (e.g.,

gestures, multiple languages, multiple dialects, and all of their linguistic resources)

- talking, including narrating and explaining, within dramatic play experiences and content-area learning, including intentional vocabulary-building efforts
- extending children's language (e.g., The child says, "Fuzzy." The adult says, "That peach feels fuzzy to me, too. What else do you notice about it?")
- discussing past and future events
- storytelling/story acting (individually and collaboratively dictating stories, acting out stories, and serving as an audience for others' stories)

8. Provision of abundant reading, listening, and viewing material in the classroom ¹⁶

The teacher reads aloud, interacts with children around, and provides access to:

- a wide range of books and other texts, print and digital, including information books, poetry, and storybooks that are physically accessible to children (i.e., within children's reach), that portray groups of people in ways that are multidimensional, not all the same, and that challenge stereotypes
- books and other materials connected to children's interests, including texts that reflect children's backgrounds and cultural experiences, texts that reflect the backgrounds and cultural experiences of others, and texts that incorporate both, including class- and child-made books
- recorded books, videos, and digital picture books with and without written words and animations
- books from the classroom, school, and/or public library that teachers support children in borrowing to bring home and/or in accessing digitally (e.g., through <u>MeL.org</u>)
- comfortable places in which to look at books, frequently visited by the teacher(s) and by volunteers recruited to the classroom in order to support and encourage children's engagement with texts

Ongoing observation and other forms of assessment of children's language and literacy development that informs their education

The teacher:

- engages in observation and other forms of assessment that are not biased by race, socioeconomic status, or other factors and that are guided by:
 - the teacher's understanding of language and literacy development
 - the Early Childhood Standards of Quality for Prekindergarten and, if applicable, the Head Start Early Learning Outcomes Framework
- observes in multiple authentic contexts—including play, learning centers, outdoors, and whole- and small-group experiences—to inform specific instructional targets
- employs assessment tools that are considered appropriate for prekindergarten contexts
- uses information from observations and assessment tools to plan and carry out instruction and engage in interactions with children

10. Collaboration with families, caregivers, and the community in promoting literacy ¹⁷

Families, caregivers, and the community engage in language and literacy interactions with their children that can be drawn upon and extended in preschool. Preschool educators should work together to incorporate family, caregivers, and community funds of knowledge, assets, and perspectives into the classroom. Classroom teachers should serve as connectors between schools and families by:

- inviting families, caregivers, and community members:
 - to read, present, and lead activities that share their personal and professional knowledge and engage children in literacy experiences in school
 - to work together with teachers to develop ways to build upon and further incorporate literacypromoting strategies into everyday activities, such as cooking, communicating with friends and family, and traveling in the bus or car
- collaborating with families and caregivers regarding ways to read aloud to children and engage children in discussions during reading and writing
- incorporating songs, oral storytelling, and other texts from children's homes and communities into classroom activities (e.g., from cultural institutions in the community, neighborhood businesses)
- promoting literacy milestones (e.g., pretendreading, which some parents mistakenly believe is "cheating" but is actually a desired activity in literacy development)
- encouraging families to speak with children in their home/most comfortable language, whether or not that language is English

- providing literacy-supporting resources, such as:
 - books and other materials from the classroom and digital libraries that children can borrow, use, or keep that reflect Essential Eight, bullet one
 - children's magazines, videos, and digital picture books with and without words
 - information about judicious, adult-supported use of educational television and applications that can, with guidance, support literacy development
 - announcements about local events
 - passes to local museums (for example, through www.michiganactivitypass.info)
 - ideas that promote children's interactions with family members while engaging in literacy and language activities (e.g., writing books together about the child and their family)

See also Essentials Eight, Nine, and Ten of the <u>Essential</u> <u>School-Wide and Center-Wide Practices in Literacy and</u> <u>Mathematics, Prekindergarten and Elementary Grades</u>.

- Term from Ladson-Billings, G. (1992). Culturally relevant teaching: The key to making multicultural education work. In C. A. Grant (Ed.), *Research in multicultural education: From the margins to the mainstream* (pp. 106-121). Routledge.
- 2 Term from Gay, G. (2000). *Culturally responsive teaching: Theory, research, and practice*. Teachers College Press.
- 3 Term from Paris, D. (2012). <u>Culturally sustaining pedagogy: A needed change</u> in stance, terminology, and practice. *Educational Researcher*, *41*(3), 93-97.
- 4 For example, National Center on Quality Teaching and Learning. (2011). Curriculum, assessment and the head start framework: An alignment review tool.; National Association for the Education of Young Children (2019). Advancing equity in early childhood education: A position statement of the National Association for the Education of Young Children.
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- 12 For example, the uppercase and lowercase forms of the letter are shown; there is a picture or are pictures to go with the keyword or keywords for each letter; the keywords begin with a sound being targeted in instruction (for example, not "o" is for orange, because that "o" is "r"-controlled, but "o" is for octopus); the keywords are largely familiar to children or easily taught and not easily confused (e.g., ship for boat); the keywords do not begin with a blend or consonant cluster (e.g., not drum but dog); the keywords do not begin with a letter's name (e.g., not elephant, which begins with the name for the letter "l," but edge or Ed).
- 13 Children's linguistic backgrounds and their speech and language development affect how they pronounce sounds. Teachers should not focus on getting children to pronounce sounds the way that they do. Rather, teachers' focus should be on making sure that each child has a sound that they consistently associate with that letter, and teachers should make sure that the way the child pronounces the sound in a word allows them to connect that word to the concept. It is extremely important to be aware of children's speech and language development and linguistic backgrounds when teaching the alphabet and to approach the process with an asset-oriented view of children's language(s).
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Process for Development and Review

This document was developed in 2016 by the Early Literacy Task Force, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. Its update was published in 2023 (lead updating team, in alphabetical order: Emily Caylor, Nell K. Duke, Gwendolyn Thompson McMillon, Mary Patillo-Dunn, and Tanya S. Wright). The Task Force included representatives from the following organizations, although their participation does not necessarily indicate endorsement by the organization they represent:

313 Reads	Michigan Elementary and Middle School Principals Association	
Early Childhood Administrators' Network, Michigan	Michigan's Integrated Behavior and Learning Support Initiative	
Association of Intermediate School Districts	Michigan Reading Association	
English Language Arts Leadership Network of Michigan Association of Intermediate School Districts	Michigan State University	
General Education Leadership Network of Intermediate School Districts in Michigan	Michigan Virtual University	
	Oakland University	
Michigan Association for Computer Users in Learning	Reading NOW Network	
Michigan Association of Intermediate School Administrators	Regional Educational Media Centers Association of Michigan	
Michigan Association of Media Educators	Southwest Michigan Reading Council	
Michigan Association of Supervisors of Special Education	Technology Readiness Infrastructure Grant	
Michigan Department of Education	University of Michigan	

Feedback on drafts of the document was elicited from other stakeholders, resulting in a number of revisions to the document." to "Input and feedback on drafts of the original and updated document were elicited from other stakeholders, resulting in a number of revisions to the document.

Essential Instructional Practices in Early Literacy: Prekindergarten







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GRADES K TO 3

updated September 2023



General Education Leadership Network

a MAISA Collaborative

Essential Instructional Practices in Early Literacy

This document was developed by the **Early Literacy Task Force**, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. For a full list of representatives, please see the back page.

INSTRUCTIONAL PRACTICES

This document is intended to be read in concert with Essential Instructional Practices in Literacy, Prekindergarten. There is important overlap and continuity in these two documents, and some children will benefit from instructional practices identified in the prekindergarten document beyond the prekindergarten year.

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To reference this document: Michigan Association of Intermediate School Administrators General Education Leadership Network Early Literacy Task Force (2023). *Essential instructional practices in early literacy: K to 3.* Lansing, MI: Authors.

Purpose

The purpose of this document is to increase Michigan's capacity to provide effective and equitable early literacy practices for every child every day. The document identifies research-supported instructional practices for kindergarten through third grade that should be a basis of professional learning, policy, and instruction throughout the state. Research indicates that each of these practices can have a positive impact on literacy development. The use of these practices in every classroom every day is expected to make a measurable positive difference in the state's literacy achievement. The practices should be viewed, as in practice guides in medicine, as presenting a minimum "standard of care" for Michigan's children. Other documents available at <u>literacyessentials.org</u> address other age groups, grade levels, and aspects of education systems, including coaching practices, school-level practices, and systems-level practices.

Core Commitments

The MAISA GELN Early Literacy Task Force is united in our belief that all children thrive when research deeply informs practice; education builds on every child's interests and individual, cultural, and linguistic assets; and educators hold high expectations for all children's development. Indeed, the *Essential Instructional Practices in Early Literacy* were built upon the premise that it is unacceptable for some Michigan children to experience research-supported instructional practices while others do not—especially in cases in which the quality of instruction is determined by children's socioeconomic, racial, linguistic, cultural, or other background characteristics. We are committed to an education system in which educators, families, communities, and children are respected and supported. We are also committed to working against all forms of bias that cause harm and lead to inequitable education, in literacy and across all subjects and domains.

Enabling Conditions

Use of the *Essential Instructional Practices in Early Literacy* should occur in a school day that is supportive and effective for children not only in literacy, but in all areas of development. There are many wide-ranging conditions that enable children to thrive in all school subjects and domains, including literacy. A few key examples of such conditions include:

- an asset orientation toward children and their families and communities
- positive relationships between and among teachers, children, and families
- opportunities for children to develop healthy identities
- culturally relevant¹, responsive², and sustaining³ pedagogical approaches throughout the day
- sufficient time for physical activity, meals, and play

For additional information about enabling conditions, see the <u>Essential School-Wide and Center-Wide Practices</u> in Literacy and Mathematics, Prekindergarten and <u>Elementary Grades</u>.

Robust Resources

This document offers instructional practices, not a curriculum or curricular resources. Districts and other educational organizations, in consultation with educators and other experts, should provide, at minimum, curriculum materials that address literacy development, science, social studies, and mathematics and that include abundant materials for young children to read (see Essential Eight). Educators, districts, and other educational organizations should use frameworks⁴ that can guide the selection of reading materials and the design of curricular units and lessons. These frameworks should attend to such factors as alignment to research; diversity, equity, and inclusion; and the goals of multiple stakeholders, including national and state organizations (e.g., standards documents), local educators, library media specialists, members of the local community, families, and children themselves. Materials should be coordinated and adapted as needed to reflect findings from research.

Essential Practices

The *Essential Instructional Practices in Early Literacy* should occur throughout the day, including in science and social studies, not exclusively in an isolated block identified as "English Language Arts" or "Literacy." At the same time, literacy instruction should not take the place of science, social studies, or other curricular areas, nor of addressing standards in all other areas. That approach is counterproductive because later academic achievement is predicted not only by literacy knowledge and skills but also by mathematics learning, knowledge of the natural and social world, and certain aspects of physical, social, and emotional development.

It is also important to understand that this is not an exhaustive list of research-supported instructional practices, although practices not on this list should be carefully scrutinized with respect to alignment to research on literacy instruction. We should actively resist neglecting any of these research-supported practices. Every child in every classroom deserves teachers who implement each of these research-supported practices because they are important, interconnected, and necessary.

All practices listed below are for regular classroom instruction (i.e., Tier 1) and are appropriate for children of all linguistic backgrounds who are learning an alphabetic language. Within all practices, opportunities should be provided for translanguaging, that is, for children to draw on their full linguistic repertoire, including both nonverbal and verbal means of communication and all dialects and languages they are learning.

1. Deliberate, research-informed efforts to foster literacy motivation and engagement within and across lessons ⁵

The teacher:

- creates opportunities for children to see themselves as successful readers and writers by providing appropriately challenging tasks, defining success criteria, scaffolding, providing explicit feedback, incorporating diverse texts and authors that allow children to see that people who are like them in various ways can be successful authors, and other practices
- provides daily opportunities for children to make choices in their reading and writing (choices may be a limited set of options or from extensive options but within a specified topic or genre)
- offers regular opportunities for children to collaborate with peers in reading, writing, speaking, and listening, such as through pair and small-group discussions of texts of interest and opportunities to write within group projects

- helps establish purposes for children to read, write, and discuss in and out of school, beyond being assigned or expected to do so, such as for their enjoyment/interest, to answer their questions about the natural and social world, to address community needs, to communicate with a specific audience, and to draw on and affirm their identities
- uses additional strategies to generate excitement about reading and writing, such as book talks, updates about book series, and child-centered activities, including incorporating children's interests, involving children in classroom management decision-making processes, and engaging them in creating a positive learning environment. The teacher avoids attempting to incentivize reading through nonreading-related prizes, such as stickers, coupons, or toys, and avoids using reading and writing as "punishment" (e.g., "If you can't listen, I'm going to send you to sit and read")

2. Read-alouds of age-appropriate books and other materials, print or digital, including culturally relevant texts ⁶

Read-alouds involve:

- sets of texts across read-aloud sessions that are thematically and conceptually related and that offer opportunities to learn that children could not yet experience independently
- modeling of appropriate fluency (accuracy, automaticity, and prosody) in reading
- child-friendly explanations of words, concepts, and information within the text; revisiting words after reading and using tools such as movement, props, videos, photos, examples, and nonexamples; and engaging children in saying the words aloud and using the words at other points in the day and over time
- interactivity, including higher-order discussion among children and between children and teachers before, during, and after reading
- instruction depending on the grade level and children's needs that:
 - develops **print concepts**, such as developing children's directionality by running a finger under

the words and asking where to start, with texts being sufficiently visible to children so they can see specific features of print

- models application of knowledge and strategies for word recognition (see Essential Three)
- builds **knowledge of the structure and features of text**, including, with regard to structure, key story elements and common informational text structures (compare-contrast, cause-effect, problem-solution, description, and sequence), and with regard to text features, tables of contents, diagrams, captions, and indexes
- describes and models **comprehension strategies**, including activating prior knowledge/predicting, questioning, visualizing, monitoring and fix-up, drawing inferences, and summarizing/retelling
- describes and models strategies for ascertaining the meaning of unfamiliar **vocabulary**

3. Small group and individual instruction, using a variety of grouping strategies, most often with flexible groups formed and instruction targeted to (i.e., differentiated by) children's observed and assessed needs in specific aspects of literacy, including both writing and reading development (and therefore not by perceived general "ability" or "level")⁷

The teacher:

- ensures that children frequently experience smallgroup instruction and use most of their time in small groups to actually read and write (or work toward this goal in kindergarten and early first grade)
- coaches children as they engage in reading and writing—for example, with reading prompts focusing primarily on identifying words based on letters and groups of letters in words, monitoring for meaning, and rereading and with writing prompts focused on genre, ideation, organization/structure, and mechanics
- employs practices for developing reading **fluency**, such as repeated reading; echo reading; paired, partner, or dyad reading; and continuous or wide reading (many of these practices can also be used with the whole group)

- includes explicit instruction, as needed, in **word recognition strategies**, including multisyllabic word decoding, **text structure**, **comprehension strategies**, oral language, vocabulary, writing goalsetting, and **writing strategies**
- is deliberate in providing quality instruction to children in all groups, with meaning-making the ultimate goal of each group's work

While the teacher is with children in small groups, examples of research-supported activities in which children could engage include writing (e.g., in response to reading, in alignment with content-area instruction), repeated reading, dyad reading, brief handwriting practice, research-proven computer-adaptive literacy programs, listening to and reading along with recorded books.

4. Activities that build phonological awareness (grades K and 1)^{8,9}

Teachers promote phonological awareness development, particularly phonemic awareness development. Although phonological awareness as a construct does not involve letters, phonological awareness instruction is best provided primarily in connection to letters. It entails explicit instruction¹⁰, demonstration, play with sounds in words, and engaged study of words, such as by:

- listening to and creating variations on books and songs with rhyming or alliteration
- sorting pictures, objects, and written words by a sound or sounds (e.g., words with a short-"e" sound versus words with a long-"e" sound)
- doing activities that involve segmenting sounds in words (e.g., Elkonin boxes, in which children move tokens or letters into boxes, with one box for each sound in the word), which supports orthographic mapping and spelling unfamiliar words
- doing activities that involve blending sounds in words (e.g., "robot talk" in which the teacher says "/f/ /ĭ/ /sh/" [i.e., the sounds "fffff" "iiiii" "shhhh"] and children say "fish"), which supports decoding
- creating daily opportunities to write meaningful texts in which children listen for the sounds in words to estimate their spellings

5. Explicit instruction ¹¹ in letter-sound and sound-letter relationships ¹²

Earlier in children's development, such instruction will focus on letter names, the sound(s) associated with the letters, how letters are shaped and formed, and decoding and spelling simple words (e.g., consonant-vowel-consonant [CVC] words with short vowels).

Later in children's development, the focus will be on more complex letter-sound relationships, including digraphs (two letters representing one sound, as in "sh," "th," "ch," "oa," "ee," and "ie"), blends or consonant clusters (two or three letters representing each of their sounds pronounced in immediate succession within a syllable, as in "bl" in "blue," "str" in "string," or "ft" as in "left"), diphthongs (two letters representing a single glided phoneme as in "oi" in "oil" and "ou" in "out"), common and less common spelling patterns (e.g., "-ake" in "cake" or "rake," "-all," "-ould"), and patterns in multisyllabic words, all as reflected in each child's oral language.

Instruction fosters flexibility in children, given that, in English, there are often multiple ways to spell a given sound and multiple sounds that a given spelling can represent.

High-frequency words are taught with full

analysis of letter-sound relationships within the words (i.e., not by sight/memory), even in those that are not spelled as would be expected and/or that reflect relationships not yet learned.

Instruction in letter-sound relationships is:

- verbally precise and involves multiple channels, including opportunities to say, read, and write/spell words
- informed by careful observations of children's reading and writing and, as needed, assessments that systematically examine knowledge of specific sound-letter relationships
- taught systematically in relation to students' needs and aligned with the expectations of the Michigan K-3 Standards for English Language Arts
- accompanied by opportunities to apply the knowledge of the letter-sound relationships taught by reading books or other connected texts that include those relationships (i.e., texts in which most of the words are decodable based on what children have learned up to that point in the scope and sequence in addition to being written with attention to other factors, such as engagingness and the extent to which the reader is likely to be able to create a mental image associated with the meaning of the word [imageability])
- reinforced by coaching children during reading, most notably by prompting children to attend to the letters in words, recognize letter-sound relationships they have been taught, and monitor for meaning (not to identify words but to monitor/cross-check whether the word that has been decoded makes sense)

6. Research- and standards-aligned writing instruction on a daily basis and across content areas in the school day ¹³

The teacher provides opportunities for children to write a variety of texts for a variety of purposes and audiences. To support children in doing so, the teacher provides:

- interactive writing experiences in grades K and 1, in which the teacher leads the writing and addresses children's developmental strengths and needs through explicit teaching, modeling, and involving children in writing in order to jointly compose a text
- instruction that fosters children's motivation and engagement with writing in alignment with Essential One
- instruction in writing processes and strategies—that is, teaching children a set of steps they can engage in independently to research, plan, revise, and edit writing, using a gradual release of responsibility
- opportunities to study models of writing, particularly opinion, informative/explanatory, and narrative texts (real and imagined), including texts by diverse authors (see Essential 8)
- explicit instruction in letter formation, with frequent, brief practice in writing specific letters, handwriting fluency (moving toward automaticity with authentic writing while maintaining legibility), spelling strategies (e.g., listening for sounds in words, syllable breaking, morphemic analysis), capitalization, punctuation, sentence construction (e.g., sentence combining), keyboarding (first expected by the end of grade 3¹³), and word processing

7. Intentional and ambitious efforts to build vocabulary and knowledge, including content and other cultural knowledge, throughout the day ¹⁴

The teacher:

- selects vocabulary words to teach from read-alouds of literature and informational texts and from content-area curricula
- introduces word meanings to children during reading and content-area instruction using child-friendly explanations and providing opportunities for children to pronounce the new words and see the spelling of the new words
- provides many opportunities for children to review and use new vocabulary over time, including discussing ways that new vocabulary words relate to one another and to children's existing knowledge, addressing multiple meanings or nuanced meanings of a word across different contexts, and encouraging children to use new words in meaningful contexts (e.g., discussion of texts, discussion of content-area learning, semantic maps, writing)
- teaches, models, and provides practice with discussion processes and protocols and encourages a variety of ways for children to communicate with one another and the teacher (e.g., gestures, multiple languages, and all of their linguistic resources)
- teaches morphology (i.e., the meaning of word parts), including common word roots, cognates, prefixes, and suffixes

8. Abundant reading material in classroom and school libraries and reading opportunities in the classroom ¹⁵

The classroom includes:

- a wide range of books and other texts (print, audio, video, and digital), including information books, poetry, and storybooks that children are supported in physically accessing (rather than being hidden away) that portray groups of people in ways that are multidimensional, not monolithic, and that challenge stereotypes
- books and other materials connected to children's interests, including texts that reflect children's backgrounds and cultural experiences, texts that reflect the backgrounds and cultural experiences of others, and texts that incorporate both, including class- and child-made books
- teacher-supported access to books from the classroom, school, and/or public library that children can borrow to bring home and/or access digitally

- comfortable places in which to read books, frequently visited by the teacher(s) and adult volunteers recruited to the classroom in order to support and encourage children's engagement with texts
- opportunities for children to engage in the reading of materials of their choice every day, with supports that include:
 - a) instruction and coaching in how to select texts,
 - b) instruction and coaching in employing productive strategies during reading,
 - c) feedback on children's reading, and
 - d) post-reading response activities, including text discussion

9. Ongoing observation and other forms of assessment of children's language and literacy development that informs their education ¹⁶

The teacher:

- engages in observation and other forms of assessment that are not biased by race, socioeconomic status, or other factors and that are guided by
 - the teacher's understanding of language and literacy development (which must be continuously developed)
 - the Michigan K to 12 Standards for English Language Arts
- prioritizes observations during reading and writing, with a focus on observations informing the next steps in instruction (e.g., specific spelling patterns to reteach, specific genre features that don't appear to require further instruction)
- administers assessments of specific aspects of literacy development and of reading and writing as a source of information to identify children who may need additional instructional support and to build on the strengths of each child
- employs formative and diagnostic assessment tools for the purpose of identifying specific instructional strengths and needs (e.g., assessing knowledge of specific sound(s)-letter(s) relationships, assessing knowledge of specific vocabulary words taught, reading and writing strategies being used and not used) in order to inform next steps in classroom instruction

10. Collaboration with families, caregivers, and the community in promoting literacy ¹⁷

Families, caregivers, and the community engage in language and literacy interactions with children that can be drawn upon and extended in kindergarten through third grade. Educators should work together to incorporate family, caregivers, and community funds of knowledge, assets, and perspectives into the classroom. Classroom teachers should serve as connectors between schools and families by:

- inviting families, caregivers, and community members:
 - to read, present, and lead activities that share their personal and professional knowledge and engage children in literacy experiences in school
 - to work with teachers to develop ways to build upon and further incorporate literacy-promoting strategies into everyday activities, such as cooking, communicating with friends and family, and traveling in the bus or car
- collaborating with families and caregivers regarding ways to read aloud to children and engage children in discussions during reading and writing
- incorporating songs, oral storytelling, and other texts from children's homes and communities into classroom activities (e.g., from cultural institutions in the community, neighborhood businesses)
- promoting children's out-of-school reading

- supporting families in fostering academic literacy learning at home and in after-school settings, including over the summer months (e.g., staffing after-school tutoring programs, providing materials for summer reading, providing structures for summer reading)
- encouraging families to speak with children in their home/most comfortable language, whether or not that language is English
- providing literacy-supporting resources, such as:
 - books and other materials from the classroom and digital libraries that children can use or keep that reflect Essential 8, bullet one
 - information about judicious, adult-supported use of educational television and applications that can, with guidance, support literacy development
 - announcements about local events
 - passes to local museums (for example, through <u>www.michiganactivitypass.info</u>)

See also Essentials Eight, Nine, and Ten of the <u>Essential School-Wide and Center-Wide Practices in Literacy and</u> <u>Mathematics, Prekindergarten and Elementary Grades</u>.

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- 11 Explicit instruction involves telling children what you want them to know rather than expecting that they will infer this information. For example, explicit instruction about the letter "I" might include (although not necessarily all at once) the following: "This [pointing] is the letter called ell. *Ell* stands for the /III/ sound. Latoya's name starts with the /III/ sound: LLLatoya. Lion

also starts with the /lll/ sound: /llllion/. You can make *ell* with a straight line down and a short line across, like this [demonstrating], or you can make *ell* with just a straight line down, like this [demonstrating]."

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Process for Development and Review

This document was developed in 2016 by the Early Literacy Task Force, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. Its update was published in 2023 (lead updating team, in alphabetical order: Emily Caylor, Nell K. Duke, Gwendolyn Thompson McMillon, Mary Patillo-Dunn, Amanda Wowra, and Tanya S. Wright). The Task Force included representatives from the following organizations, although their participation does not necessarily indicate endorsement by the organization they represent:

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Early Childhood Administrators' Network, Michigan	Michigan's Integrated Behavior and Learning Support Initiative	
Association of Intermediate School Districts	Michigan Reading Association	
English Language Arts Leadership Network of Michigan Association of Intermediate School Districts	Michigan State University	
General Education Leadership Network of Intermediate School Districts in Michigan	Michigan Virtual University	
	Oakland University	
Michigan Association for Computer Users in Learning	Reading NOW Network	
Michigan Association of Intermediate School Administrators	Regional Educational Media Centers Association of Michigan	
Michigan Association of Media Educators	Southwest Michigan Reading Council	
Michigan Association of Supervisors of Special Education	Technology Readiness Infrastructure Grant	
Michigan Department of Education	University of Michigan	

Input and feedback on drafts of the original and updated document were elicited from other stakeholders, resulting in a number of revisions to the document.

Essential Instructional Practices in Early Literacy: Grades K to 3







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GRADES 4 TO 5

updated June 2023



General Education Leadership Network

Essential Instructional Practices in Literacy

This document was developed by the **Early Literacy Task Force**, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. For a full list of representatives, please see the back page.



INSTRUCTIONAL PRACTICES

This document is intended to be read in concert with Essential Instructional Practices in Literacy, Grades K to 3. There is important overlap and continuity in these two documents, and some students will benefit from instructional practices identified in the K to 3 document beyond the K to 3 years.

Purpose

The purpose of the document is to increase Michigan's capacity to improve children's literacy by identifying a small set of research-supported instructional practices that could be the focus of professional development throughout the state. The focus of the document is on classroom practices, rather than on school- or systems-level practices (which are addressed in the document: Essential School-Wide and Center-Wide Practices in Literacy). Research suggests that each of these ten practices in every classroom every day could make a measurable positive difference in the State's literacy achievement. They should be viewed, as in practice guides in medicine, as presenting a minimum 'standard of care' for Michigan's children.

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The practices listed can be used within a variety of overall approaches to literacy instruction and within many different structures of the school day; the document does not specify one particular program or approach to literacy instruction. We limited the list to ten practices; there are other literacy instructional practices that may be worthy of attention. In addition, new literacy research could alter or add to the instructional practices recommended here. For these reasons, choosing to enact the practices on this list would leave considerable agency and choice for individual districts, schools, and teachers.

The recommended practices should occur throughout the day, including being integrated into opportunities for science and social studies learning, not exclusively in an isolated block identified as "English Language Arts" or "Literacy." At the same time, literacy instruction should not take the place of science and social studies inquiry nor addressing the Michigan Grade Level Content Expectations for Social Studies nor addressing the Michigan K-12 Science Standards. In the long term, that approach is counterproductive; later academic achievement is predicted not only by literacy knowledge and skills, but by mathematics learning, knowledge of the natural and social world, and certain aspects of physical, social, and emotional development. Finally, it is important to read this document in relation to the State of Michigan's specific standards for literacy development in fourth and fifth grade, which should garner careful attention in all Michigan fourthand fifth-grade classrooms and be one focus in observing classroom practice and children's development. The endnotes indicate some connections between the ten instructional practices and the Michigan Standards, and they reference research studies that support the practices listed.

1. Deliberate, research-informed efforts to foster motivation and engagement within and across lessons⁴

The teacher:

- Creates opportunities for children to identify as successful readers and writers (e.g., "I am a reader.") 5
- Provides daily opportunities for children to make choices in their reading and writing across disciplines (choices may be a limited set of options or from extensive options but within a specific disciplinary topic or genre)
- Offers regular opportunities for children to collaborate with peers in reading and writing, such as through small-group discussion of texts of interest and opportunities to write within group projects⁶
- Helps establish meaningful purposes for children to read and write beyond being assigned or expected to do so, such as for their enjoyment/interest, to answer general or discipline-specific questions about the natural and social world, to address community needs, or to communicate with specific audiences⁷
- Builds positive learning environments that encourage students to set and achieve goals, as well as promote student independence
- Attends to and cultivates student interest by connecting literacy experiences to students' family and community experiences

2. Intentional, research-informed instruction using increasingly complex texts and tasks that build comprehension, knowledge, and strategic reading activity⁸

An important aspect of literacy instruction is foregrounding the use of reading and writing for the purpose of building knowledge about the world and about oneself. Ideally, comprehension instruction, including strategy instruction, is always in the service of supporting knowledge building. At times, the teacher needs to be very explicit about how to construct meaning from text, but this activity is always embedded in sense making with text. One dimension of comprehension instruction is signaling that there are many possible causes for comprehension breakdowns (e.g., poorly constructed text, insufficient prior knowledge, challenging concepts and vocabulary). It is important that students be encouraged to monitor their understanding and, when there has been a breakdown, have a repertoire of fix-up strategies. While teachers can model these fix-up strategies, the goal is for students to practice the use of these fix-up strategies so that they become independent readers.

To build comprehension, knowledge, and strategic reading, the teacher:

- Facilitates discussion of text meaning to support students to interpret the ideas in a text⁷
- Provides experiences for students to build knowledge to support their interpretation of text prior to reading (e.g., to build prior knowledge), during reading (e.g., to support text interpretation), and after reading (e.g., to extend learning)⁹
- Models and guides students to be metacognitive while reading (i.e., monitor for comprehension and use fix-up strategies when there are breakdowns in comprehension)
- Provides explicit comprehension strategy instruction (e.g., finding main ideas, summarizing, making connections between new text information and prior knowledge, drawing inferences). High quality strategy instruction includes:
 - Thoughtful selection of the text to use when introducing and teaching a comprehension strategy
 - Attending to the demands the text places on the readers to inform appropriate selection of texts
 - Demonstrating and describing how to apply the strategies that students are learning to different texts
 - Providing guided practice that reflects the difficulty level of the strategies that students are learning, as well as the demands of the text, and purposes for reading

3. Small group instruction, using a variety of grouping strategies, most often with flexible groups formed and instruction targeted to children's observed and assessed needs in specific aspects of literacy development¹⁰

The teacher:

- Is deliberate in providing quality instruction to children in all groups, with meaning-making the ultimate goal of each group's work, and ensures that children use most of their time actually reading and writing
- Provides and supports opportunities for small group discussion of literature and disciplinary text (e.g., Instructional Conversations and Literature Circles) so that students can draw on their own knowledge and the knowledge of their peers to co-construct the meaning of text
- Provides opportunities for developing reading fluency during small group work, such as paired and partner reading
- Uses small group routines (e.g., cooperative and collaborative learning, such as Reciprocal Teaching and Collaborative Strategic Reading) for fostering strategic reading and knowledge-building using text
- Provides opportunities for students to plan, draft, revise, and/or edit writing together, framed by specific guidelines for working together

4. Activities that build reading fluency and stamina with increasingly complex text"

Activities include:

- Listening to models of fluent reading (reading with appropriate accuracy, automaticity, and prosody) of age-appropriate books and other print or digital materials
- Engaging in repeated readings of familiar texts
- Engaging in wide reading of texts, including multiple modes (e.g., print, digital, visual, audio), genres, and topics
- Using reading materials of increasing text difficulty
- Opportunities to read independently for specific purposes, including for pleasure, for sustained periods of time
- Paired or partner reading

5. Discussion of the ideas in texts and how to construct text meaning across texts and disciplines¹²

The teacher:

- Reads aloud age-appropriate books and other materials, print or digital¹³
- Carefully selects texts that provide the grist for rich discussion, and analyses texts to identify specific learning goals, challenges (e.g., the complexity of the ideas in the text, insufficient information) and affordances (e.g., text organization, such as problem-solution or compare-contrast; text features, such as graphics or headings)⁷
- Uses discussion moves (e.g., linking students' ideas, probing children's thinking, having students return to the text to support claims about the ideas in the text) that help provide continuity and extend the discussion of the ideas in the text
- Provides tasks or discussion routines students know how to follow (e.g., Instructional Conversations and Literature Circles) when students discuss texts in small groups
- Provides regular opportunities for peer-assisted learning, especially for emergent bilingual learners, by pairing students at different levels of English proficiency

6. Research-informed and standards-aligned writing instruction¹⁴

The teacher provides:

- Daily time for student writing across disciplines, including opportunities for students to write using digital tools (e.g., word processing)¹⁵
- Opportunities to study text models of (e.g., mentor and student-written texts) and write texts for a variety of purposes and audiences, particularly opinion, informative/explanatory, and narrative texts (real and imagined)
- Occasions for students to use writing as a tool for learning disciplinary content and engaging in disciplinary practices (e.g., writing scientific explanations), and that provide clear and specific goals for writing (e.g., address both sides of an argument)
- Explicit instruction in and guided practice using writing strategies for planning, drafting, revising, and editing writing
- Explicit instruction in spelling strategies, capitalization, punctuation, sentence and paragraph construction, purpose-driven text structure and organization, keyboarding, and word processing¹⁶

7. Intentional and ambitious efforts to build vocabulary, academic language, and content knowledge¹⁷

The teacher engages in:

- Teaching morphology (e.g., common word roots, inflections, prefixes, and affixes) and syntax¹⁸
- Attending to word relations (e.g., semantic maps, concept mapping, etc.)
- Providing explicit instruction in both general academic and content area vocabulary during reading and disciplinary instruction¹⁹
- Engaging students in wide reading that exposes them to rich and discipline-specific academic language, and provides the opportunity for vocabulary learning in the context of reading²⁰
- Encouraging the use of new vocabulary in a variety of contexts and modes, including reading, writing, and discussion of print or digital texts for discipline-specific purposes²¹

8. Abundant and diverse reading material, including digital texts, and opportunities to read in the classroom²²

The classroom includes:

- A wide range of books and other texts (e.g., print, audio, video, and digital), including information books, poetry, literature, and magazines²⁰
- Books and other materials connected to children's interest and that reflect children's backgrounds and cultural experiences, including class- and child-made books
- Books and other reading materials children can borrow and bring home and/or access digitally at home
- Reading materials that expose students to rich language and vocabulary learning²¹

- Daily opportunities for children to engage in independent reading of materials of their choice, with the teacher providing instruction and coaching in how to select texts and employ productive strategies during reading, feedback on children's reading, and postreading response activities including text discussion²⁰
- 9. Ongoing observation of children's language and literacy development that informs small group and individual instruction²³

The teacher:

- Observes and assesses students during reading and writing activities using an array of indicators (e.g., ratings of fluency, retellings/summary and discussion to assess comprehension, productivity to assess writing fluency, and accuracy of mechanics in writing) (*Note: Use of formative assessments in these areas is particularly important for emergent bilingual speakers*)
- Uses formative/benchmark assessments to monitor progress in literacy development and to guide instructional decision-making (e.g., differentiated instruction) for all students, including adding additional supports and providing opportunities for enrichment
- Uses diagnostic and ongoing assessment data to identify students who are struggling with reading and writing, and to design intensive, systematic instruction that focuses on identified learning needs
- Provides explicit feedback, related to reading and writing development, in which the teacher points out what the learner is doing correctly and incorrectly, and builds on earlier feedback

10. Collaboration with families in promoting literacy²⁴

Teachers engage in:

- Supporting families to continue to provide reading and academic learning opportunities at home and during the summer months (e.g., book lending programs)
- Building on students' family and cultural resources and knowledge in reading and writing instruction
- Promoting children's independent reading outside of school
- Speaking with children in their home/most comfortable language, whether or not that language is English²⁵
- Providing literacy-supporting resources, such as the following:
 - Books from the classroom that children can borrow or keep
 - Children's magazines
 - Information about judicious, adult-supported use of educational television and applications, or "apps," that can, with guidance, support literacy development
 - Passes to local museums (for example, through www.michiganactivitypass.info)

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Process for Development and Review

This document was developed by the Early Literacy Task Force, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. The Task Force included representatives from the following organizations, although their participation does not necessarily indicate endorsement by the organization they represent:

Early Childhood Administrators' Network, Michigan Association of Intermediate School Districts English Language Arts Leadership Network of Michigan Association of

Intermediate School Districts General Education Leadership Network of Intermediate School Districts in Michigan

Michigan Association for Computer Users in Learning

Michigan Association of Intermediate School Administrators

Michigan Association of Media Educators

Michigan Association of Supervisors of Special Education

Michigan Department of Education

Michigan Elementary and Middle School Principals Association Michigan's Integrated Behavior and Learning Support Initiative Michigan Reading Association Michigan State University Michigan Virtual University Reading NOW Network Regional Educational Media Centers Association of Michigan Southwest Michigan Reading Council Technology Readiness Infrastructure Grant University of Michigan

Feedback on drafts of the document was elicited from other stakeholders, resulting in a number of revisions to the document.

Essential Instructional Practices in Literacy Grades 4-5







Online | gomaisa.org/geln

Online | literacyessentials.org

Twitter | #MichiganLiteracy

COACHING



General Education Leadership Network

Essential Coaching Practices for Elementary Literacy

This document was developed by the **Early Literacy Task Force**, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. For a full list of representatives, please see the back page.

COACHING PRACTICES

This document is intended to be partnered with Essential Instructional Practices in Early Literacy: Prekindergarten and Essential Instructional Practices in Early Literacy: K to 3 as well as Essential School-Wide and Center-Wide Practices in Literacy.

Purpose

The purpose of this document is to increase Michigan's capacity to improve children's literacy by identifying a small set of research-supported literacy coaching practices that should be a focus of professional development throughout the state. Literacy coaching can provide powerful job-embedded, ongoing professional development with a primary goal of enhancing classroom literacy instruction through improving teacher expertise.¹ Effective literacy coaching supports teachers to successfully navigate the daily challenges they face in their classrooms. As a result, instructional capacity and sustainability within the schools increases.² In addition, through improving teacher expertise and the quality of core instruction, student achievement increases.³

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The focus of this document is to identify the critical qualifications, dispositions, activities, and roles of effective elementary literacy coaches. Research suggests that each of the seven essentials is an important contributor to literacy coaching that results in increased student literacy learning. They should be viewed, as in practice guides in medicine, as presenting minimum expectations for Michigan's literacy coaches.

1. Effective literacy coaches have specialized literacy knowledge and skills beyond that of initial teacher preparation.⁴

Literacy coaches, due to the complexity of literacy instruction, must:

- have an in-depth knowledge of reading and writing processes and acquisition⁵
- recognize the varied purposes for assessment (e.g., screening, diagnostic, monitoring progress, achievement), select specific assessments that meet those purposes, administer and score assessments, and use assessment results to inform instruction⁶
- know and appropriately use research-informed instructional practices to help all students develop literacy knowledge, skills, and abilities including concepts of print, phonemic awareness, lettersound knowledge, word reading, comprehension, vocabulary, fluency, writing, critical thinking, and motivation⁷
- be able to create a literate learning environment that considers how the physical arrangement, materials, group work, routines, and motivational factors such as choice and purpose contribute to learning in today's diverse classrooms⁸

Literacy coaches develop in-depth literacy knowledge and skills⁹ by:

- completing advanced course work in literacy that results in a reading teacher or reading or literacy specialist endorsement
- having successful classroom teaching experience as evidenced by positive student learning
- continually updating their knowledge through professional reading, active participation in professional development workshops, and attendance at local, state, and national professional conferences

Teachers report that literacy coaches need advanced

literacy knowledge and skills in order to carry out their responsibilities such as modeling research-informed literacy practices, helping teachers analyze assessment data and solve instructional problems, and recommending appropriate materials and resources.¹⁰

When literacy coaches have completed advanced course work in literacy and been successful classroom teachers, students of teachers they coached exhibited more literacy growth than students of teachers coached by literacy coaches who had not completed advanced course work in literacy.¹¹

2. Effective literacy coaches apply adult learning principles in their work. $^{1,\,2,\,13,\,14}$

Effective literacy coaches also have specialized knowledge about adult learning principles, and they apply those principles when working with teachers.

- Adults are most interested in learning when it has immediate relevance to their job. Thus, the focus of literacy coaching should be on classroom instructional practices that foster literacy development.
- Adults want to be actively involved in the planning, implementation, and evaluation of their learning. Thus, effective literacy coaches work with teachers to develop goals and methods for addressing and assessing those goals.
- Adults learn from reflecting on the problems that arise during the implementation of new knowledge/ skills. Thus, effective literacy coaches guide teachers to reflect deeply on their practice and on the results of implementing new strategies with their learners.
- Adults learn best when they can integrate new knowledge and skills with previous experiences. Thus, effective literacy coaches help teachers understand how new concepts and strategies are similar and different from concepts they know and strategies they are currently learning.

3. Whether working with large groups, small groups, or individual teachers, effective literacy coaches demonstrate specific skills and dispositions in order to engage teachers and build collaborative relationships.¹⁵

Effective literacy coaches:

- use a variety of strategies to establish rapport and trust as the initial steps in building collaborative relationships (e.g., one-on-one conversations about teaching or student learning in general, attending grade level/team meetings as an interested listener/ learner, finding specific resources/materials for a teacher)¹⁶
- strive to determine the underlying beliefs about literacy of the teachers with whom they are working in order to develop collaborative relationships¹⁷
- use language when engaging in conversations with teachers that is encouraging and supportive, not evaluative¹⁸
- position themselves as co-learners¹⁹ and/or facilitators of teacher learning²⁰
- are intentional, collaborating with teachers to set specific goals for their work with a respect for teachers' time and expertise. However, literacy coaches also demonstrate flexibility by being open to conversations and questions as they arise conversations and questions that may lead to more intentional coaching.²¹
- are reflective—regarding their demonstration teaching, their observations of teacher's instruction, and the conversations they have with teachers²²
- 4. Literacy coaching is most effective when it is done within a multi-year school-wide or district-wide initiative focused on student learning and is supported by building and district administrators.

Research results indicate that initiatives, including those that involve a literacy coaching component²³, may require three to five years to show impact on student learning.²⁴

Support from building and district administrators is evidenced in various ways.

- Teacher participation in activities with the coach is higher when principals:²⁵
 - > present the coaches as sources of literacy expertise
 - actively participate in the professional development sessions designed for coaches and administrators as well as in activities facilitated by

the coaches (e.g., modeling instruction, conferring with teachers)^{26}

- exhibit respect for the coaches as valued professionals
- > give coaches autonomy over their schedules
- Principals support coaches by:27
 - presenting them as sources of literacy expertise to the teachers
 - clearly describing and endorsing the coaching foci to the teachers
 - explicitly encouraging teachers to work with their coach
 - > observing their work with teachers
 - explicitly communicating to them personally how much their work is valued²⁸

5. Effective literacy coaches spend most of their time working with teachers to enhance teacher practice and improve student learning. They make effective use of their time by using a multi-faceted approach to coaching.

Effective literacy coaches:

- Spend time working directly with teachers, helping teachers to align their beliefs with research-informed instructional practices and enhance their:
 - classroom literacy environments²⁹
 - ➤ use of research-informed literacy strategies³⁰
 - implementation of new literacy programs and strategies³¹
 - use of practices aligned with state standards or curricular initiatives³²
- Schedule their time so that they are spending as much time as possible working directly with teachers because more coaching with teachers has been associated with higher student achievement at both the school³³ and coach³⁴ level.
- Spend more time interacting with teachers by using a multi-faceted approach to coaching, carefully determining what types of coaching can be done effectively with large groups, small groups, and individual teachers.³⁵
- Consistently monitor the amount of time they spend working with teachers. Time spent on managerial tasks (e.g., maintaining an assessment database, ordering materials) or attending meetings not directly related to their coaching work reduces the time spent addressing literacy initiatives and lowers teachers' perceptions about how helpful coaches are.³⁶

6. When coaching individual teachers, effective literacy coaches employ a core set of coaching activities that are predictors of student literacy growth at one or more grade levels.³⁷

Conferencing. Coaches and teachers hold one-onone conferences for numerous purposes³⁸, including the following:

- to determine specific purposes for collaborations between the literacy coach and the teacher
- to analyze the critical instructional elements and benefits of a lesson taught by the coach to demonstrate a specific strategy or scaffolding technique
- to analyze the critical instructional elements and benefits of a lesson taught by the teacher
- to examine and select appropriate texts and materials for specific lessons and/or students
- to evaluate and make changes to the literacy environment of the classroom
- to discuss assessment results to determine instructional needs and plan instruction for the whole class, small groups of students, and individual students, particularly when the teacher is concerned about the progress of one or more students³⁹

Modeling. Coaches engage in modeling for numerous purposes, including the following⁴⁰:

- to enable teachers to learn how instructional practices work with their own students, giving them confidence to implement these practices
- to demonstrate how appropriate pacing, scaffolding, and materials contribute to students' engagement and learning
- to provide teachers with opportunities to observe and document students' literacy behaviors and response to instruction
- to demonstrate how to administer assessments and use data to inform instruction

Observing. Coaches engage in observation for numerous purposes, determined in collaboration with teachers⁴¹, including the following:

- to observe and document specific literacy behaviors of students whose progress is of concern to the teacher
- to observe how literacy instructional practices are

being implemented across the school to inform future professional development efforts at the school, grade, or individual teacher level

 to observe a teacher's instruction in order to provide support related to various aspects of instruction (e.g., planning, scaffolding, pacing, selecting materials, grouping, assessing progress toward instructional objectives)

Co-planning. Coaches and teachers co-plan⁴² instruction in order to:

- help build collaborative relationships as both coach and teacher are seen as important contributors to the process
- ensure that instructional planning includes delineating learner outcomes, selecting appropriate practices, determining grouping options, and developing outcome-based assessment
- inform additional support from the coach which may include modeling, co-teaching, and/or observation of the co-planned instruction
- use assessment data to meet the instructional needs of students

7. Effective literacy coaches are integral members of literacy leadership teams at the school and/or district level. 43

Literacy coaches serve as literacy leaders within their schools⁴⁴ by:

- providing grade/team-level professional development
- collaborating with special educators about literacy instruction for students who have special needs⁴⁵
- serving on school committees that focus on literacy-related and student achievement issues, including being a member of the intervention and student support teams⁴⁶
- working with administrators and other teachers to establish a school-wide literacy vision and to develop/refine and manage the school's literacy program
- analyzing data and helping teachers use the data to make decisions⁴⁷
- serving as a liaison between the district and their schools by attending district-level meetings/ workshops and sharing the information with the appropriate stakeholders (e.g., administrators, teachers, support personnel)

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Process for Development and Review

This document was developed by the Early Literacy Task Force, a subcommittee of the Michigan Association of Intermediate School Administrators (MAISA) General Education Leadership Network (GELN), which represents Michigan's 56 Intermediate School Districts. The Task Force included representatives from the following organizations, although their participation does not necessarily indicate endorsement by the organization they represent:

Early Childhood Administrators' Network, MAISA	Michigan Reading Association
English Language Arts Leadership Network , MAISA	Michigan State University
General Education Leadership Network, MAISA	Michigan Virtual University
Kalamazoo Public Schools	Reading NOW Network
Michigan Association for Computer Users in Learning	REMC Association of Michigan
Michigan Association of Supervisors of Special Education	Southwest Michigan Reading Council
Michigan Department of Education	Technology Readiness Infrastructure Grant
Michigan Elementary and Middle School Principals Association	University of Michigan
Michigan's Integrated Behavior and Learning Support Initiative	

Feedback on drafts of the document was elicited from other stakeholders, resulting in a number of revisions to the document.

Essential Coaching Practices for Elementary Literacy





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