Indiana State LITERACY ASSOCIATION

Celebrating Diverse Voices

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Dear Teaching Colleagues and Literacy Champions,

In this issue, *Celebrating Diverse Voices*, we hear from a variety of perspectives and interests that seek to empower young people with diverse literature, broad our students' knowledge with science literature, and encourage students to pursue their inquiries of our world. The call for this issue stated, "Throughout history, society has relied on traditional dominant voices to tell stories. In a way, stories have been comprised of only a few patterns of experiences—like a simple quilt. In reality, society is comprised of rich lives full of colorful experiences that, when woven together, tell a complex, harrowing, and beautiful tale of humanity." Throughout this issue, we hear how teachers can incorporate science literature into their classrooms, multimodal literacies to improve comprehension and knowledge building, and instructional practices that empower students in the classroom to explore and share ideas.

As we survey the current literacy landscape and climate, we all most likely have a range of feelings and thoughts. We are thankful for the focus and attention that literacy achievement is getting within our nation and state, yet we question whether it is a view that considers all voices and perspectives. The current push for the Science of Reading is a worthy endeavor to improve literacy instructional practices that align with what research shows is important and effective for giving students the foundations in learning how to read. However, an over-emphasis on word recognition and decoding can create another pendulum swing toward one aspect of reading, that leaves out the language comprehension portion of the Simple View of Reading Model (Gough & Tunmer, 1986) or the many other aspects that Duke and Cartwright (2021) share in their Self-Regulated Model of Reading including readers' motivation, cultural knowledge, and self-regulation of understanding. With a narrow focus on decoding, literacy educators can lose sight of the importance of building knowledge, of supporting diverse learners from a variety of backgrounds, and of building students' proficiencies and self-confidence in expressive areas of literacy including written and oral communication.

You will find in this issue, we hear from a variety of voices that are often not heard loud enough in current circles in education, those of students and teachers. It is important to give our students the skills they need, but we also need to listen to them and include them in their educational trajectories. How do students play a role in selecting their own texts in school and choosing how to respond to them? How do students build knowledge in topics that broadens their understanding of the world around them and provides them with intellectual currency? How do we empower them to find themselves through mirror texts and learn about others through window or sliding glass door texts? These are all questions we should explore as we seek to mentor them into life-long learners who see reading and writing as part of who they are as individuals.

Within the current political debates on how reading should be taught, we often hear from those who are in state and federal government positions, media journalists who have an interest in education, and researchers in neuroscience and literacy. However, the voices we don't often hear are teachers who are working in the field. In this issue, we hear from those involved in working with students in schools in a sustained manner. Teachers need to have a role in influencing

current literacy initiatives in education as they bring the contextualized, authentic experiences that help us apply instructional pedagogies and strategies in practical ways.

We hope you learn from the diverse voices in this issue and that it will influence your own literacy learning, teaching, and leading!

Your Indiana Literacy Journal Editors,

Dr. Benjamin Boche
Dr. Sharon Pratt

Encouraging Children's Voices: Supporting Primary Students' Questioning and Seeking

Nicole M. Martin
Ball State University

"But did you hear what Caleb was saying?" and "Did you hear what my genius Lukas said?" are examples of what I often hear during Diana Foster's reading lessons when I spend time in her first-grade classroom. The teacher's talk routinely draws attention to children's thinking and interests. Children have frequent and multiple opportunities to ask questions, express feelings, and share ideas and information.

Mrs. Foster's reading lessons offer important insights into teachers' celebrating of diverse voices. Her lessons include simultaneous attention to English Language Arts [ELA] and science or social studies, and they engage children in the tasks of constructing new knowledge and effecting change in the school or local community. The teacher includes teaching moves that showcase and use children's questions and statements to achieve learning goals. In her lessons, children have time and support for developing their voices.

The purpose of this article is to discuss the insights gained from Mrs. Foster's reading lessons. First, I will provide background information about the teacher's instruction. Then, I will share one of her reading lessons and describe how she worked toward her students' growth in asking questions and seeking answers. Finally, I will highlight how the teaching moves encouraged children's voices.

The Instructional Setting: Children's Reading, Writing, and Talking

Mrs. Foster's reading lessons are situated in extended units of study that ask children to develop solutions to problems or to create products that help others (e.g., Duke & Martin, 2019). Within and across the units, the teacher simultaneously addresses ELA and science or social studies learning standards. She devotes separate time to children's learning to read and to write, using Reading and Writing Workshop (i.e., whole-group minilessons, small-group instruction alongside independent reading, and whole-group sharing periods; e.g., Calkins, 2000). Also, the teacher relies on a range of texts, including fiction and nonfiction books and digital media. Children are asked to read, write, and talk daily, and their work and learning are focused on world knowledge and affecting change.

Mrs. Foster's simultaneous attention to ELA and science or social studies learning standards aligns with contemporary recommendations. Scholars and professional organizations advocate for teachers' simultaneous attention during kindergarten through second-grade lessons (e.g., Cabell & Hwang, 2020; National Research Council, 2012). The integrated instruction benefits children's learning (e.g., Wright & Gotwals, 2017). Children have opportunities to gain knowledge and skill related to (a) language and literacy, (b) the natural or social world, and (c) disciplinary literacy (e.g., Cervetti et al, 2012). Disciplinary literacy is the "ability to engage in social, semiotic, and cognitive practices, consistent with those of content experts" (Fang, 2012, p. 19) and involves use of the kinds of texts and literacy strategies that are central to the work of practitioners such as historians or scientists (e.g., Shanahan et al., 2011). Historians and scientists seek to construct and share knowledge and to affect change in the natural or social world. Their reading, writing, and talking are focused on learning, teaching, and advocacy. Children's

development in all three areas are believed to be foundational to school success beyond the primary grades, college and career readiness, and adulthood goals (e.g., Moje, 2015).

Moreover, Mrs. Foster's teaching incorporates the available guidance for equitably addressing children's learning through integrated instruction (e.g., Pearson et al., 2010). Children's reading, writing, and talking are central to the instruction and occur within units of study (e.g., Brock et al., 2014). Teachers lead demonstrations and discussions, offer clarifications and practice, and engage children in inquiry, read-aloud, and writing activities (e.g., Vitale & Romance, 2012; Welsh et al., 2020). For example, Welsh et al. (2020) observed the second-grade teacher in their study enacting an ELA-science unit driven by children's inquiry and replete with read-aloud and writing (including drawing) activities. Rather than just reading nonfiction books focused on scientific topics during ELA instruction or using a science-focused theme to connect lessons across the school day, the teacher's addressing of the children's ELA and science learning was combined and balanced.

The Reading Lesson: Question-Driven Reading

Mrs. Foster's reading lesson focused on asking questions and seeking answers within texts. The lesson included a whole-group minilesson. Then children read independently while the teacher taught two small-group segments. Finally, an end-of-lesson sharing period was offered. Below, I share information about the lesson's background. Then the transcript of the minilesson and sharing period are provided.

Lesson Background

Mrs. Foster's reading lesson was one of many lessons I observed during my first semester in her classroom. She (alongside other primary teachers) was part of a research project exploring kindergarten through second-grade teachers' professional learning (e.g., Martin & Snow, 2022). The teachers invited my research team into their classrooms to observe their 90-minute ELA instructional block and responded to our interview questions as they completed a series of ELA-focused professional development activities and applied their learning to their own classroom teaching. All teachers taught in the same primary school, which served children living in a sprawling region that included a small town outside of a densely-populated city and the town's surrounding rural zones. In 2020-2021, the school's enrollment included 637 kindergarten through second-grade students (National Center for Education Statistics, 2023). Of these students, 84% were White; 16% Black, Indigenous, People of Color [BIPOC]; and 36% eligible for free- and reduced-price federal lunch programs. All teachers in the school had access to book collections within their classrooms, titles borrowed from the school library, and digital media available through the teacher's laptop and children's iPads. Mrs. Foster's classroom included first-grade students demonstrating varied achievement levels, ranging from below- to above-grade level in reading. She had a large collection of fiction and nonfiction books, supplemented with tubs of the school library's books and digital media.

Mrs. Foster's reading lesson occurred during one of my 90-minute observations of her classroom. I sought greater understanding of how she supported children's learning by identifying, categorizing, and compiling the teaching moves intended to enable them to ask and answer questions (e.g., Corbin & Strauss, 2014). The lesson analysis yielded four insights into Mrs. Foster's support of children's question-driven reading, which are detailed in the subsequent section ("Insights Gained from the Reading Lesson").

Whole-Group Minilesson: Interactive Read-Aloud

The teacher read aloud and led a discussion of a nonfiction book that disseminated information about Earth's oceans (Gregory, 2014). Throughout, she focused on questioning and the group's collective answering of those questions.

Mrs. Foster: But did you hear what Caleb was saying? He doesn't understand how the water stays on the Earth. He doesn't understand when you have water that is just sitting around, it spills, right? So his question is why isn't the water falling off the Earth into space? What do you think, Dean?

Dean: It's the gravity that's pushing it up.

Mrs. Foster: You think the gravity in the Earth—okay, so now we have another question. What's gravity?

Students: Oh!

Mrs. Foster: Oh, all of these questions, friends! Oakley?

Oakley: Is it gravity because it's always down?

Mrs. Foster: Right, because when you see pictures of astronauts, they're just floating around in the spaceship. We don't do that here. Right? Because gravity is what holds us on the Earth. And it holds the water on the Earth, too, Caleb. We could probably study that a little more if we wanted to. Where could we find that information about gravity? Where could we find information about gravity, Asher?

Asher: On Earth, they have gravity. The gravity is pulling down.

Mrs. Foster: Where could we find information about gravity?

Asher: In a book.

Mrs. Foster: In a book or the Google, like you said yesterday… Siri, yes.

Caleb: I'm asking my question because we once watched a Magic School Bus where there was gravity pulling down.

Mrs. Foster: Okay, so gravity is the same thing pulling down the water, yes?

Asher: Sometimes people think it's like gravity is pulling down, but if you look closer, I sometimes think it's the moon.

Mrs. Foster: Yeah, there's something to do with the moon and the tides and, yeah, we've got a lot to discover. We do. Can I tell you something truthful? Can I be really

really honest with you? I don't really know how it works either… I'm going to be learning with you, right?

(Teacher and students discuss what they already know about the ocean. Teacher begins to introduce the lesson's nonfiction book.)

Mrs. Foster: So, look at this book. What kind of book do you think this is going to be? … A fiction book or a nonfiction book? What do you think, Skyler?

Skyler: Nonfiction.

Mrs. Foster: Nonfiction because nonfiction means it has real facts, right? It has information in it that we can learn. I'm going to ask you some questions, and I want you to listen while I read and see if you can find the answers to my questions. Because that's what good readers do. They come to a book with questions, and they read to find the answers….

(Students and teacher discuss why the book is nonfiction.)

Mrs. Foster: Let's listen to the questions. You're so curious. "What is the ocean?" is my first question. "How many oceans are there?" is my second question. And "How much of the ocean is covered by ocean water?" That's my third question. We're going to *listen* to me read…

(Teacher finishes the book introduction, reviews highlighted words and the glossary, and begins reading aloud and helping students to articulate answers.)

Mrs. Foster: Well, I think that we have to go with what the scientists that wrote the book are telling us, and they said 72%, right? We can't just make stuff up. We have to go with the facts that we find. Okay? So let's read the next card. We are trying to figure out how many oceans there are. So this says… five, or just one?

Bailey: I think there are five oceans.

Mrs. Foster: Let's listen. "You may have heard that there are five separate oceans on Earth. These oceans are described as the Atlantic, Pacific, Indian, Arctic, and Antarctic or Southern Oceans. But guess what?"

Mrs. Foster: But listen. "Guess what? There's actually just one*."*

Mrs. Foster: "The world ocean or the global ocean is one body of interconnected salt water." Look, this word, "interconnected," is highlighted. That means it's going to be in the glossary… It's right down here for us… Interconnected means "joined together and dependent on each other." So "interconnected salt water…" How many oceans are there?

Students: One!

Mrs. Foster: One. We have five names for parts of the oceans, but it's really just one great big ocean. Lukas?

Lukas: I knew it was one big ocean because on the globe the water isn't separated…

Mrs. Foster: Woah! Did you hear what my genius Lukas said? He said he knew it was just one because there's no separation! There's not a place where it's just separated completely, is it?

(Teacher and students continue to read and to answer the third question.)

Mrs. Foster: …. Did we answer all three of our questions?

Students: Yes. We did!

Mrs. Foster: Did we get smarter by reading that book?

Students: Yes.

Mrs. Foster: Yes, we did. We learned things we didn't know. Guess what? That's what readers do with informational text. That's what you do with nonfiction. The other thing I want to tell you… It is great to get your questions answered, but smart readers get more questions. What?! What?! What?! What did Mrs. F just say? When you read, you're reading to answer your questions, but smart readers also figure out that they have more questions once they get those questions answered. That's what we should be doing. When you're reading, you're trying to answer questions you have, but your brains are always thinking. You're always wondering. Right now, I'm wondering… why they call it the Pacific Ocean. Why did they come up with that name? Why is it the Atlantic Ocean? Why did they name one ocean five different names? Why did they do that? Did they just decide one day, I'm going to call this ocean this and this ocean this or is there a reason they named those oceans that? I don't know! But where could I find out?

Lukas: Oh! In a book!

Mrs. Foster: In a book! You're exactly right! I'm also wondering why have we only explored 5% of the ocean? Why?! Do you realize that the ocean is right here on the Earth, and do you know that they say some people think we know more about the moon than we do about the ocean? Okay.

(Teacher continues to talk about her question and about exploring the ocean.)

Hudson: This is too much learning for me. I think my brain's going to explode!

Mrs. Foster: Your brain is not going to explode. But I want you to think about these things when you're reading. You're getting answers to your questions, but good readers, big thinkers, always have more questions. Okay? Keep that in mind for the rest of your life…

(Teacher gives directions about their independent reading and launches a review.)

Mrs. Foster: What did Mrs. F say that all smart, good readers do? You know? You're going to answer your questions but you're also going to have…. Bailey?

Bailey: More questions.

Mrs. Foster: More questions. You're going to answer questions but you're going to have more questions and when you get more questions… what are you going to do? Lukas?

Lukas: Answer more questions.

Mrs. Foster: Answer more questions. And when you're answering those more questions, what are you going to do? Hudson?

Hudson: Get more questions.

Mrs. Foster: You're going to get more questions, and then you're going to answer those questions. And then you're going to get more questions. And then you're going to answer those questions. It's a never-ending process. Okay…

In the minilesson, Mrs. Foster introduced question-driven reading and the nonfiction book [*Lines 1-34*], shared a list of questions [*Lines 34-41*], helped children to find answers to each question [*Lines 42-67*], and reviewed the lesson [*Lines 68-104*]. Throughout, she focused on readers' question-asking and -answering.

Sharing Period: Children's Reflections

Mrs. Foster's reading lesson ended with a whole-group sharing period. The class reflected on their independent reading experiences and learning.

Mrs. Foster: I had friends who were taking notes on Post-Its, and I had boys who were creating new questions. The Red Group was creating questions and answering questions. It was phenomenal! Do you know what phenomenal means? Fabulous! You did very, very well. Okay. I want you to turn and tell somebody that you did not partner read with a new fact, or question that you had answered today….

(Students share with each other. Teacher calls group together again to share out.)

111 Mrs. Foster: Hudson, what's a question you had answered today?

112 Hudson: A question that I had answered was… if dolphins didn't have lungs, they
113 wouldn't be able to breathe.

114 Mrs. Foster: Right. Because dolphins have lungs. So we learned that dolphins have lungs…

115 Mrs. Foster: Did you learn something new today… or did a question get answered for you?

116 Finn: Dolphins breathe out of their blowhole.

117 Mrs. Foster: Dolphins breathe out of their blowhole…. Reagan?

118 Reagan: There's only one-third of dry land on the Earth.

119 Mrs. Foster: There's only a third of dry land on the Earth. Huh. So two-thirds of the Earth
120 is covered in water. Interesting. Thank you for sharing that fact with us today.
121 That's awesome. You blow me away every single time we start learning about
122 something. Because you have such great questions and you're such smart
123 thinkers. I'm so impressed.

During the sharing period, Mrs. Foster summarized and praised children's independent reading activities [*Lines 105-108*]. Then the teacher invited children to recall their questions and answers [*Lines 108-120*]. She closed the sharing period with additional praise for their questioning and thinking skills [*Lines 121-123*].

Insights Gained from the Reading Lesson

Mrs. Foster's reading lesson offers four insights into supporting children's asking of questions and seeking of answers. Her foundational teaching moves include modeling, leveraging, informing, and enabling children's question-driven reading.

Insight #1: Modeling Question-Driven Reading

Teachers' modeling involves verbalizing of questions and showcasing of attempts to find answers within nonfiction books and digital media. Displaying commitment to asking and answering questions while reading is also key.

In the lesson, Mrs. Foster often modeled question-driven reading. For example:

- "Can I tell you something truthful? Can I be really honest with you? I don't really know how it works either… I'm going to be learning with you, right?" (Lines 27-29).
- "'What is the ocean?' is my first question. 'How many oceans are there?' is my second question. And 'How much of the ocean is covered by ocean water?' That's my third question" (Lines 38-41).
- "Right now, I'm wondering… why they call it the Pacific Ocean. Why did they come up with that name? Why is it the Atlantic Ocean? Why did they name one ocean five different names?..." (Lines 76-79).

In these moments, Mrs. Foster told the class that she was interested in answering the question which had emerged during the before-reading discussion ("What is gravity?") and had questions of her own with which she wanted their help in answering. Also, the teacher identified new questions that emerged when the group addressed one of her original questions.

Teachers can use Mrs. Foster's teaching moves to model question-driven reading across the school day. Expressing the desire to ask and answer questions, sharing questions related to authors' main ideas in nonfiction books and digital media, and looking for answers to the questions can highlight the value of question-driven reading and help children to understand how experienced readers ask and answer questions while reading the texts.

Insight #2: Leveraging Children's Question-Driven Reading

Teachers' leveraging involves recognizing and publicizing instances when children (on their own initiative) verbalize questions, attempt to find answers, and display commitment to question-asking and -answering while reading. Teachers' own attempts to clarify children's answers also may be included.

In the lesson, Mrs. Foster routinely took action when the class exhibited question-driven reading behaviors. For instance:

- "But did you hear what Caleb was saying? He doesn't understand how the water stays on the Earth. He doesn't understand when you have water that is just sitting around, it spills, right? So his question is why isn't the water falling off the Earth into space?" (Lines 1-4).
- "…okay, so now we have another question. What's gravity?" (Lines 6-7).
- "Okay, so gravity is the same thing pulling down the water, yes?" (Line 23).
- "… Did you hear what my genius Lukas said? He said he knew it was just one because there's no separation! There's not a place where it's just separated completely, is it?" (Lines 61-63)
- "The Red Group was creating questions and answering questions. It was phenomenal! Do you know what phenomenal means? Fabulous!" (Lines 106-108).

In these moments, Mrs. Foster repeated children's individual and collective questions. The teacher also paraphrased children's attempts to answer questions, and she drew their attention to instances when they were choosing to engage in question-driven reading.

Teachers can follow Mrs. Foster's example when children display question-driven reading behaviors while reading or listening to read-alouds of nonfiction books and digital media. Repeating children's responses can help them to understand when they and their classmates are asking questions and seeking answers. Assisting children's attempts to articulate their own answers and inviting classmates' attention to the attempts also may encourage them to engage in question-driven reading.

Insight #3: Informing Children's Question-Driven Reading

Teachers' informing involves offering explanations of the processes central to asking questions and seeking answers within texts. Teachers also may clarify why and how readers ask and answer questions before, during, and after reading.

In the lesson, Mrs. Foster actively informed children's question-driven reading. For example:

- "Because that's what good readers do. They come to a book with questions, and they read to find the answers…" (Lines 36-37).

- "Well, I think that we have to go with what the scientists that wrote the book are telling us, and they said 72%, right? We can't just make stuff up. We have to go with the facts that we find" (Lines 42-44).
- "…. Did we answer all three of our questions?" (Line 64).
- "It is great to get your questions answered, but smart readers get more questions. What?! What?! What?! What did Mrs. F just say? When you read, you're reading to answer your questions, but smart readers also figure out that they have more questions once they get those questions answered" (Lines 70-74).

In these moments, Mrs. Foster explained that readers seek answers to questions and use the words and ideas in the text to answer the questions. The teacher drew attention to the parts of the text which held those answers. She also conveyed that question-driven reading includes readers' confirmation of answers and posing of new questions.

Teachers can inform children's question-driven reading during whole- and small-group lessons. Sharing brief explanations of why and how readers ask and answer questions as children listen to or read nonfiction books and digital media can help them to enhance their own asking of questions and seeking of answers.

Insight #4: Enabling Children's Question-Driven Reading

Teachers' enabling involves providing firsthand opportunities for children to engage in the processes central to asking questions and seeking answers. The opportunities include children's own question-asking and -answering and also their verbal rehearsal of the processes.

In the lesson, Mrs. Foster frequently invited children to experience and talk about question-driven reading. For instance:

- "Because gravity is what holds us on the Earth. And it holds the water on the Earth, too, Caleb. We could probably study that a little more if we wanted to. Where could we find that information about gravity?..." (Lines 13-15).
- "I'm going to ask you some questions, and I want you to listen while I read and see if you can find the answers to my questions" (Lines 34-35).
- "Look, this word 'interconnected,' is highlighted. That means it's going to be in the glossary… It's right down here for us… Interconnected means 'joined together and dependent on each other.' So 'interconnected salt water…' How many oceans are there?" (Lines 53-56).
- "Hudson, what's a question you had answered today?" (Line 111).

In these moments, Mrs. Foster provided teacher-guided and on-their-own practice opportunities. The teacher encouraged the class to answer the questions she had posed and to ask and answer their own questions. She also encouraged children to take stock of whether they had addressed each question and supported their use of the book's words and ideas when answering questions.

Moreover, Mrs. Foster created additional opportunities for children who needed further practice. After the teacher's minilesson, she conducted two small-group segments featuring question-driven reading. The segments can be found in Appendices 1 and 2.

As the appendices show, Mrs. Foster used the same teaching moves alongside different nonfiction books. In Appendix 1, the teacher explained the task and shared her questions [*Lines 1-5*]. After the group finished reading, she led a discussion in which children articulated their answers, and she supported their use of the nonfiction book's words and ideas [*Lines 6-21*]. In Appendix 2, Mrs. Foster's after-reading discussion drew attention to children's thinking and reviewed the importance of question-driven reading [*Lines 1-8*]. Then the teacher helped

children to share their answers to their questions [*Lines 9-28*]. Finally, she reviewed the group's experience and learning [*Lines 29-35*].

Teachers can enable children's question-driven reading with the nonfiction books and digital media used across the school day. Posing questions for the class to answer, asking children to come up with their own questions, and encouraging classmates to find answers to each other's questions can help children to gain firsthand experience. Also, reviewing children's questions and answers may help children to check and confirm they have addressed their questions and used the text's words and ideas in their answers.

Beyond the Reading Lesson: Encouraging Children's Voices

Teaching reading lessons is one approach to encouraging children's voices in the primary grades. As Mrs. Foster's lesson demonstrated, the teaching offers opportunities for teachers to model, leverage, and inform children's asking of questions and seeking of answers within texts. Also, the teaching offers children opportunities to experience and talk about the processes involved in question-driven reading.

Importantly, teaching lessons is not the only approach. Children's voices also can be encouraged through teaching moves that highlight the usefulness of asking questions and seeking answers and that value children's attempts to do so throughout the day. Examples include:

- Posing and addressing questions during the morning routine,
- Recording teachers' and children's questions about topics of study on charts,
- Noting children's individual questions and subsequently offering them nonfiction books and digital media that address their questions,
- Making connections to children's questions during read-alouds and science and social studies lessons, and
- Recounting anecdotes featuring question-driven reading from teachers' out-of-school lives throughout the school day.

These teaching moves can provide exposure to, and experience with, the processes central to asking questions and seeking answers. Teachers may model the processes and leverage or inform children's usage. Children may practice or verbally rehearse their question-asking and -answering. When teachers consistently and frequently support children's question-driven reading, the benefits can include growth in children's knowledge and skills related to language and literacy, the natural or social world, and disciplinary literacy. Like Mrs. Foster's students, children may "get smarter by reading that book" (Line 77) and may "[learn] things we didn't know" (Line 79). Like her students, children may come to be "always thinking and you're always learning and you're always questioning" (Appendix 2, Lines 21-22). In conclusion, teachers may help children to find and to use their voices to construct new knowledge and to effect change in the future.

References

Berger, M., & Berger, G. (2013). *Discovering my world: Dolphins.* Scholastic, Inc.

Brock, C. H., Goatley, V. J., Rapheal, T. E., Trost-Shahata, E., & Weber, C. M. (2014). *Engaging students in disciplinary literacy, K-6*. Teachers College Press.

Cabell, S. Q., & Hwang, H. (2020). Building content knowledge to boost comprehension in the primary grades. *Reading Research Quarterly, 55*(1), 99–107. https://doi.org/10.1002/rrq.338

Calkins, L. M. (2000). *The art of teaching reading.* Pearson.

Cervetti, G. N., Barber, J., Dorph, R., Pearson, P. D., & Goldschmidt, P. G. (2012). The impact of an integrated approach to science and literacy in elementary school classrooms. *Journal of Research in Science Teaching, 49*(5), 631-658. https://doi.org/610.1002/tea.21015

Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th ed.). SAGE.

Duke, N. K., & Martin, N. M. (2019). Best practices in informational text comprehension instruction. In L. B. Gambrell and L. M. Morrow (Eds.), *Best practices in literacy instruction* (6th ed., pp. 250-270). The Guilford Press.

Fang, Z. (2012). Language correlates of disciplinary literacy. *Topics in Language Disorders, 32*(1), 19-34. https://doi.org/10.1097/TLD.1090b1013e31824501de

Gregory, L. (2014). *Smart words reader - The ocean*. Scholastic, Inc.

Martin, N. M., & Snow, J. A. (2022). *Primary teachers' support of children's reading: Orchestrating strategic processing and independence* [Manuscript in preparation]. Department of Elementary Education, Ball State University.

Moje, E. B. (2015). Doing and teaching disciplinary literacy with adolescent learners: A social and cultural enterprise. *Harvard Educational Review, 85,* 254-278. https://doi.org/10.17763/0017-8055.85.2.254

National Center for Education Statistics. (2023). *Search for public schools: Common core of data.* https://nces.ed.gov/ccd/schoolsearch/

National Research Council. (Ed.). (2012). *A framework for K-12 science education: Practices, crosscutting concepts, and core ideas.* National Academies Press.

Pearson, P. D., Moje, E., & Greenleaf, C. (2010). Literacy and science: Each in the service of the other. *Science, 328*(5977), 459-463. https://doi.org/410.1126/science.1182595

Shanahan, C., Shanahan, T., & Misichia, C. (2011). Analysis of expert readers in three disciplines: History, mathematics, and chemistry. *Journal of Literacy Research, 43*(4), 393–429. https://doi.org/10.1177/1086296X11424071

Stewart, M. (2010). *National Geographic readers: Dolphins.* National Geographic Kids.

Vitale, M. R., & Romance, N. R. (2012). Using in-depth science instruction to accelerate student achievement in science and reading comprehension in grades 1-2. *International Journal of Science and Mathematics Education, 10*(2), 457-472. https://doi.org/410.1007/s10763-10011-19326-10768

Welsh, K. M., Brock, C. H., Robertson, D. A., & Thrailkill, L. (2020). Disciplinary literacy in a second-grade classroom: A science inquiry unit. *The Reading Teacher, 73*(6), 723-734. https://doi.org/10.1002/trtr.1881

Wright, T. S., & Domke, L. M. (2019). The role of language and literacy in K-5 science and social studies standards. *Journal of Literacy Research, 51*(1), 5-29. https://doi.org/10.1177/1086296X18821141

Wright, T. S., & Gotwals, A. W. (2017). Supporting kindergartners' science talk in the context of an integrated science and disciplinary literacy curriculum. *The Elementary School Journal, 117*(3), 513-537. https://doi.org/510.1086/690273

Author Notes

Nicole M. Martin 0000-0001-8035-5327

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My thanks also go to the primary teacher who invited us into her classroom and taught us so much.

Correspondence concerning this article should be addressed to Nicole M. Martin, Department of Elementary Education, Teachers College (TC), Room 319, Ball State University, Muncie, IN 47306, United States. Email: nmmartin2@bsu.edu

Author Bio

Nicole M. Martin is an associate professor in the Department of Elementary Education at Ball State University. Dr. Martin teaches graduate and undergraduate courses, serves as director for the undergraduate elementary teacher education programs, and consults for schools and districts. She also researches disciplinary literacy and integrated instruction in kindergarten through eighth-grade classrooms. Dr. Martin's recognitions include "Teacher of the Year" for her work in an urban school district.

Appendix 1

Mrs. Foster's First Small-Group Segment

The teacher introduced a nonfiction book about dolphins (Stewart, 2010) and explained students' reading task. Then students read the book, and she led an after-reading discussion.

Mrs. Foster: Okay, so here's what you need to do. I have some questions that I'd like for you to read to find out. Okay? Here are the questions I'd like for you to answer: Are dolphins whales? Do all dolphins live in the sea?—I don't want you to answer right now, I want you to read to find answers—What is a group of dolphins called? How do dolphins breathe air? And can dolphins do tricks?

(Teacher hands out whispering phones and reviews their use. Students read.)

Mrs. Foster: Has everybody read through at least once? Okay, so can you answer some of my questions?

Mrs. Foster: Okay. When you get the answer to the question, I want you to show me where you found the answer to the question. Can you do that for me? Okay, so the very first question. Are dolphins whales? Are dolphins whales? Oakley, what do you think?

Oakley: I think yeah. I think—

Mrs. Foster: Are dolphins whales? And where did you find the answer? You have to read the sentence to me.

Oakley: "Dolphins are small whales."

Mrs. Foster: "Dolphins are small whales." Dolphins are whales? Yes, our book told us that. Do all dolphins live in the sea? Do all dolphins live in the sea, Asher?

Asher: Most.

Mrs. Foster: But do all?

Asher: Some do, some don't.

Mrs. Foster: How do you know? Show me where you found that in the book.

(Students and teacher continue reading and discussing the answers to the questions.)

During the segment, Mrs. Foster's focus was on readers' question-asking and -answering. She posed questions, and students sought answers while reading. Afterward, they worked together to articulate each answer.

Appendix 2

Mrs. Foster's Second Small-Group Segment

The teacher introduced another nonfiction book about dolphins (Berger & Berger, 2013) and explained students' reading task. Then the group read the book. She led an after-reading discussion.

Mrs. Foster: Can everybody put their book down? Can I tell you something that made Mrs. F so happy? I'm proud of you guys! You read beautifully. But the thing that I loved was how excited you were when you found answers to the questions. It was so cool! Okay, but here's what I'm going to tell you. Why do you think I think it's so important? Why do you think I think it's so important for you to come up with new questions while you're reading? Because you get so excited when you find the answers, right?

Bailey: Because you know that what you found is right.

Mrs. Foster: You have the answers to the questions… Okay, so do dolphins have lungs?

Students: Yes.

Mrs. Foster: Okay so you have to prove it to me. Show me where you found it. Do dolphins have lungs?

Skyler: I found it on page six.

Mrs. Foster: Did everybody find it on page six?

Students: Yes.

(Students and teacher continue reading and discussing the answers to the questions.)

Mrs. Foster: …. You did an awesome job. You found all the answers to our questions, and we created tons of new questions, right? We have purpose when we go to read next time. We have answers to look for, don't we? Okay. When you're a reader, it's very important that you answer the questions you have, but you also want to create more questions. That's what's going to make you the smartest person I know. Okay? You don't just stop. You're always thinking and you're always learning and you're always questioning. Got it?

During the segment, Mrs. Foster's focus remained on readers' question-asking and -answering. After reading the book, the group worked together to articulate the answers to their questions. Then she reviewed their experiences and learning.

Making Meaningful Connections with Varied Literature Using Sketch Notes and Other Strategies

Michael Nelson
Kentucky Wesleyan College

Finding innovative ways to engage and motivate diverse readers to help them make meaningful connections from various forms of literature can sometimes be challenging. One strategy that has been gaining traction lately has been the use of sketch notes. This strategy has "fostered critical reflection and engagement with the text" (Mims & Whitefield, 2020, p. 172) in all content areas, especially literacy. So, what are sketch notes you might ask? Sketch notes can be defined as "visual maps combining written words and images while providing structure through variations of frames, dividers, bullets, icons, and connectors such as arrows and lines (Rohde, 2013). Simply put, they can be both visual representations and/or explanations of key concepts that the reader makes to go along with the text. "Sketchnoting can additionally be applied to organizing, planning, and making visual connections" (Paepcke-Hjeltness & Lu, 2018, p. 62). For instance, these notes can be used for multiple types of text – fiction or nonfiction, as a method for note-taking. Using sketch notes as a strategy can help students improve their comprehension, build a conceptual understanding of what they have read, and allow them to make personal connections to the text.

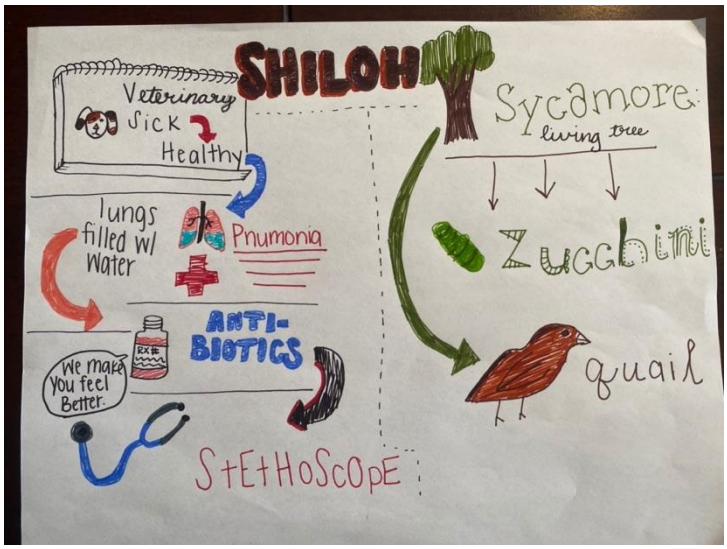
Improving comprehension can be linked to Paivio's Theory of Dual Coding, "which suggests that humans process information in more than one way, like audio and visuals, or both visual and verbal forms" (Steinbrink, 2022, p. 1). Teachers often use picture books and graphic novels to help students comprehend certain story elements such as characters, setting, or problem and solution. In the same manner, teachers can also implement sketch notes as another tool to help their students make purposeful connections between the reader and the text.

The research is clear on having students take multi-modal notes to improve comprehension and build a conceptual understanding of what they have read. There is a distinct correlation between notetaking and information retention as demonstrated in the following studies. Yonata (2017) conducted a quasi-experimental research design where the talk-to-the-text strategy was implemented. "This strategy required students to stop and reflect on what they have read. When they stop for a while, they write all the information related to the text based on some questions given to them before reading the text" (Vasquez, Hansen, & Smith. 2010, p. 73). She found "the strategy provides a higher effect toward the comprehension of eighth-grade students in reading narrative texts" (p.71). Likewise, Lloyd et al (2022) administered an experimental study to examine the effects of annotating a historical text as a reading comprehension strategy. They found that the strategy "increased student engagement, reading comprehension, and therefore academic achievement in social studies" (p. 218). The text annotation strategy helped students find critical information quickly when they reviewed a text. Similarly, students can benefit from reading notetaking. According to Chang & Ku (2015), who studied "the effects of a five-week note-taking instructional program with 349 fourth-grade students found that the students' note-taking abilities and reading comprehension improved over time with the greatest gains coming from poor readers" (p. 278). When using this strategy, one should write down their notes in their own words, instead of copying directly from the text. This will help create a "text to self" connection with the topic.

Sketch notes can be an important instructional tool for students to add their strategy toolboxes to make connections with what they read. Students often use the modalities that work best for them to learn new information and make meaningful connections. “Research suggests that learning styles and teaching styles should be well matched to enhance students’ motivation of learning” (Chetty et. al, 2019, p. 611). Adding sketch notes to the list of viable strategies would be both wise and prudent for teachers for several reasons. Many students may not be motivated or engaged to take conventional notes. Whether it is the content or not, some students just have trouble sorting through what is essential when reading higher-level texts in the classroom. Moreover, sketch notes can be a form of active listening where students can identify the main ideas and/or concepts through drawing. Students can create meaning by remembering important facts using this strategy. Most students value their sketch notes as a form of artwork and take ownership of their learning if they create it versus something that is given or reproduced for them.

How can teachers begin using sketch notes in their classrooms? Most experts would agree and say that any time someone uses a new strategy they should expect to make mistakes and be patient with it. Before the students can be successful, it is critical that the teacher master the strategy first. This doesn’t mean teachers should be at an expert level, but they should be able to model and demonstrate how to use the strategy for students to buy in and want to take part. Next, teachers should begin by repeatedly practicing so both the students and the teacher are comfortable using the strategy. Then, students need to practice with the teacher explicitly. Just like reviewing procedures and routines at the beginning of a new school year, one should practice the strategy regularly to ensure students are mastering it. Finally, as with anything in the classroom, teachers need to provide opportunities for student sharing and feedback with one another. We know students sometimes learn better from their peers than from us, so this should be recognized when using sketch notes as well.

Sketch notes can be used in a variety of ways to help students improve their literacy skills in the classroom. One sample of a way teachers can use this strategy is to introduce or reinforce story vocabulary. “Vocabulary knowledge in reading comprehension refers to a kind of knowledge that facilitates text comprehension by single, double, or more words/characters’ semantic meaning identification, providing the possibility of necessary cognitive capacity for higher-level reading processes” (Dong et al., 2020, p. 2). Having students sketch or draw out the definition of the word helps them retain its meaning. For example, students may read a fictional story such as “Shiloh” by Phyllis Reynolds Naylor and be given several vocabulary words – veterinary, pneumonia, sycamore, zucchini, quail, and stethoscope to create visual representations to help as they read the story. It is important to note that it isn’t about the quality of the artwork, but the student’s thoughts that fill the page for the teacher to consider. This is



where students can share their thoughts with others and start a discussion or dialogue with one another.

Students should be allowed to make connections with the content in the manner that works best for them. Not every student will benefit from using sketch notes, but again it is an additional tool to add to their collective toolboxes. The more strategies one can introduce to their students, the likelihood they will stay engaged and increase their conceptual understanding of the topic at hand.

References

Chang, W., & Ku, Y. (2015). The effects of note-taking skills instruction on elementary students' reading. *The Journal of Educational Research*, *108*(4), 278-291.

Chetty, N. D. S., Handayani, L., Sahabudin, N. A., Ali, Z., Hamzah, N., Rahman, N. S. A., & Kasim, S. (2019). Learning styles and teaching styles determine students' academic performances. *International Journal of Evaluation and Research in Education*, *8*(4), 611.

Dong, Y., Tang, Y., Chow, B. W., Wang, W., & Dong, W. (2020). Contribution of vocabulary knowledge to reading comprehension among Chinese students: A meta-analysis. *Frontiers in Psychology*, *2*.

Lloyd, Z. T., Kim, D., Cox, J., Doepker, G. M., & Downey, S. E. (2022). Using the annotating strategy to improve students' academic achievement in social studies. *Journal of Research in Innovative Teaching & Learning*, *15*(2), 218.

Mims, L., & Whitefield, B. L. (2020). Having fun isn't hard: A quick fix designed to promote independent reading. *College Teaching*, *68*(4), 172.

Mueller, P. A., & Oppenheimer, D. M. (2014). The pen is mightier than the keyboard advantages of longhand over laptop note taking. *Psychological Science,* 25, 1159-1168.

Paepcke-Hjeltness, V., & Lu, T. (2018). Design for visual empowerment. Sketchnoting breaking out of rules. Industrial Designer Society of America. International Design Conference 2018, 62.

Rohde, M. (2013). *The sketchnote handbook: The illustrated guide to visual note taking*. Addison-Wesley.

Steinbrink, L. (2022, February). *Tap Into Dual Coding — or Sketchnoting — To Boost Comprehension*. ISTE, 1. https://www.iste.org/explore/classroom/tap-dual-coding-or-sketchnoting-boost-comprehension

Vasquez, A., Hansen, A.L., & Smith, P.C. (2010). Teaching language arts to English language learners. New York: Taylor & Francis.

Yonata, F. (2017). The effect of applying the talk-to-The-Text strategy on students' reading comprehension in narrative texts. *Proceedings of the Ninth International Conference on Applied Linguistics (CONAPLIN 9)*, *71*.

2022 Indiana Science Trade Book Annual Reading List (IN-STAR): Teaching Science Through Literature

Jeff Thomas and Joyce Gulley
University of Southern Indiana

Kristin Rearden and Amy Broemmel
University of Tennessee

The 2022 **I**ndiana **S**cience **T**rade Book **A**nnual **R**eading List (IN-STAR) has many selections that tell a unique story providing thought-provoking, content connections when learning science. The criteria and process to identify books has been previously described (Gulley et al., 2012). Selections meet the following criteria:

1. The book has substantial science content.
2. Information is clear, accurate, and up to date.
3. Theories and facts are clearly distinguished.
4. Facts are not oversimplified to the point where the information is misleading.
5. Generalizations are supported by facts and significant facts are not omitted.
6. Books are free of gender, ethnic, and socioeconomic bias.
7. Information can be connected to the Indiana Science Standards for grades K-5.
8. Books are readily available in public libraries or bookstores.
9. Books have received at least one positive review in one of the identified professional journals: *Booklist, Bulletin of the Center for Children's Books, Horn Book, Kirkus Reviews, Publishers Weekly, School Library Journal, and Science and Children.*

Items one through five are critical because they help teachers best choose science-focused books for classroom use. Item six ensures a teacher's universal responsibility to promote classrooms and resources which promote a variety of populations and cultures. Items seven through nine ensure the selections are high quality and easily attainable by classroom teachers.

Chosen titles were published in the preceding year. Books are selected through a continuous review of resources highlighting new publications in children's literature. As interesting and appropriate books are discovered, they are purchased or acquired through local libraries for review. Their content is assessed for the nine criteria and if they address the science content listed in the Indiana Academic Standards for each grade level. The reading level of books is considered when aligning to grade levels.

Because teachers possess students along the reading continuum it can be beneficial to explore selections at adjacent grade levels. One might consider how titles might serve as a classroom read aloud versus used for independent reading. The authors anticipate teachers will employ their existing, creative reading strategies while using these titles. Examples include retell lessons, identifying key science vocabulary when summarizing content, and using the material to explore the nature of science or engineering by characters. Below are overviews of this year's titles.

The 2022 Indiana Science Trade Book Annual Reading List (IN-STAR)

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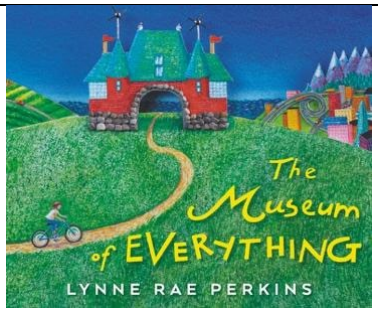
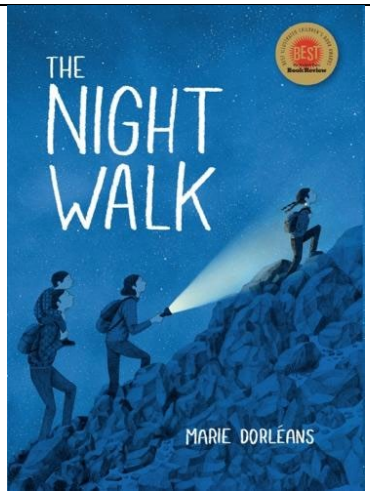
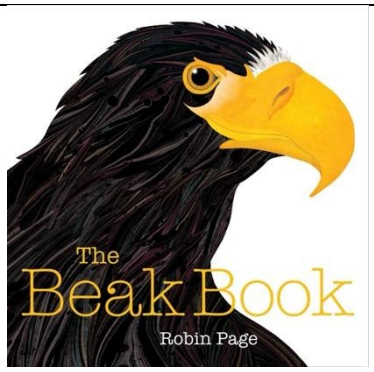
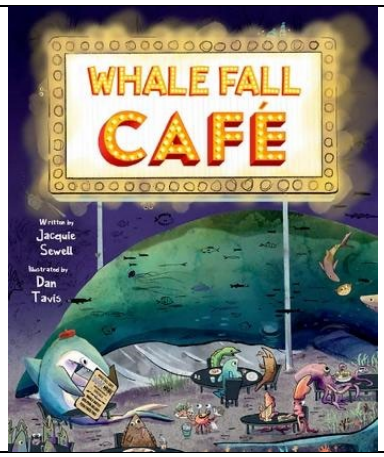
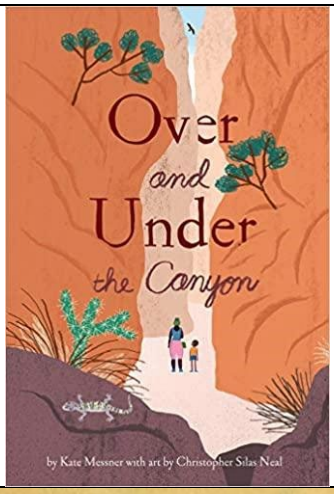
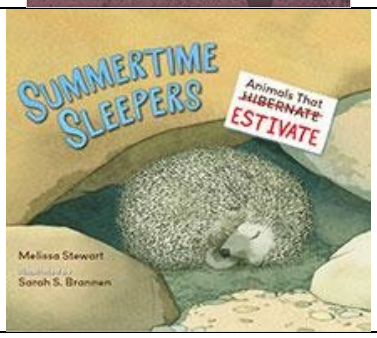
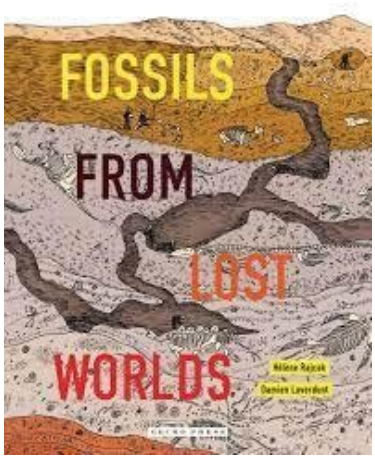
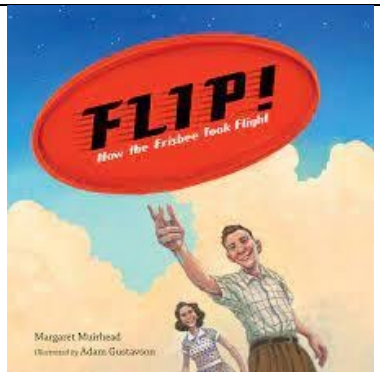
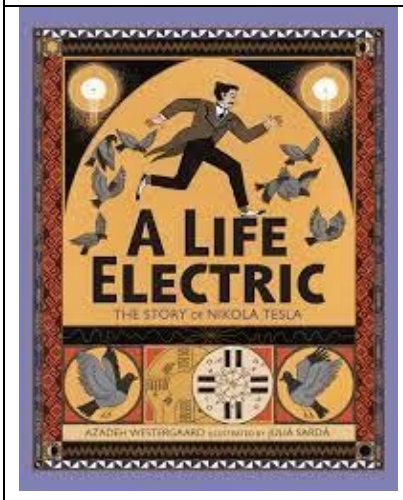
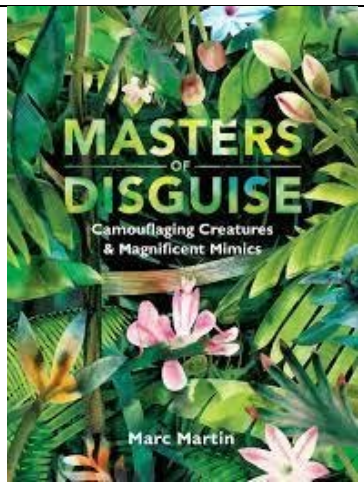
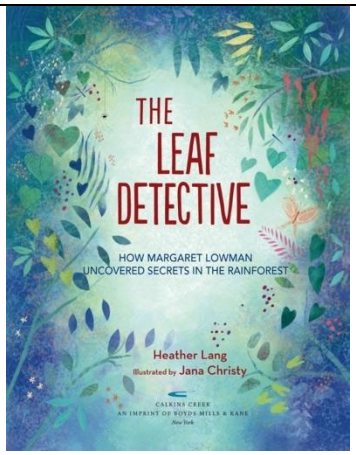
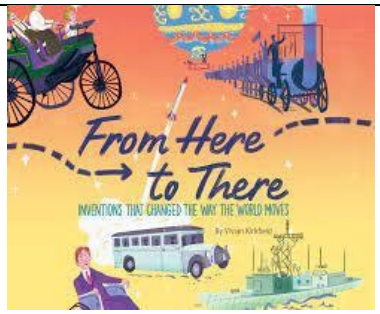
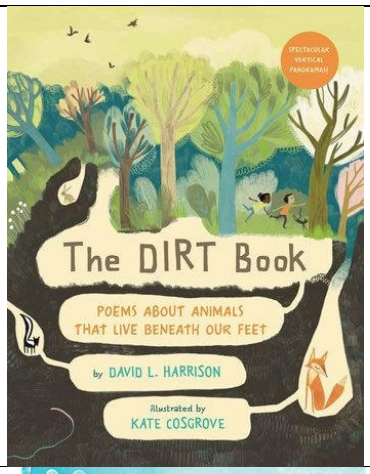
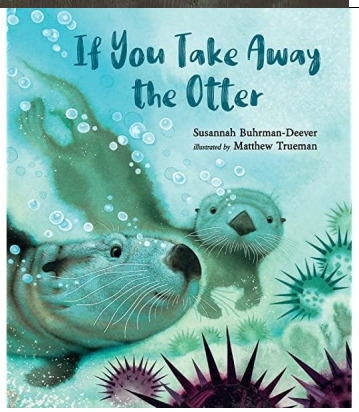
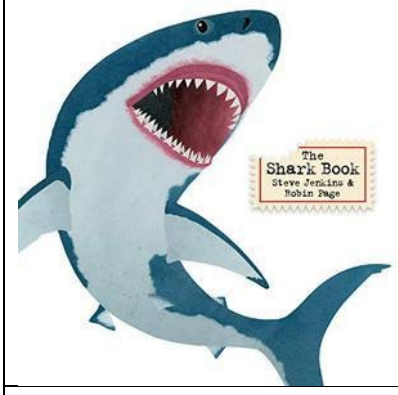
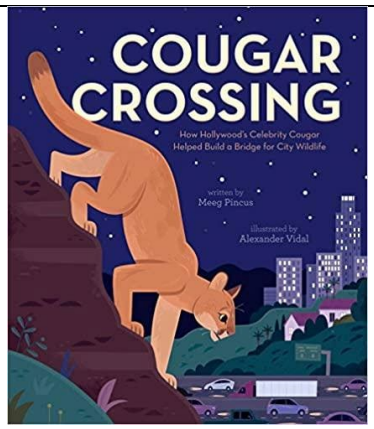
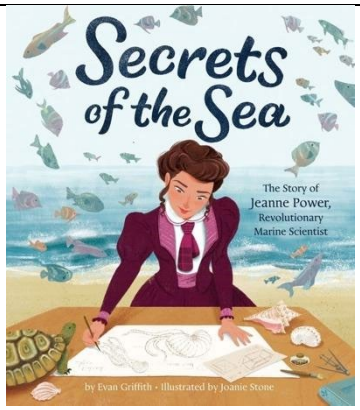
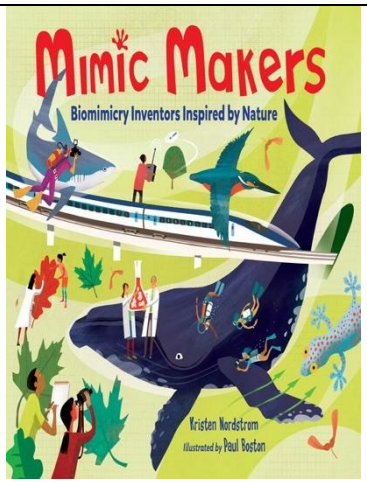
	Kindergarten
	THE MUSEUM OF EVERYTHING. 2021. Lynne Rae Perkins. Greenwillow Books. 40 pp. ISBN-13: 978-0062986306. A wonderful read aloud to focus students' minds on making observations in their world and during science lessons. By noticing the details in the small things, students can begin asking their own questions and discover patterns around them. STANDARD: EARTH AND SPACE SCIENCE AND ENGINEERING DESIGN
	THE NIGHT WALK. 2021. Mario Dorleans. Florish Books. 32 pp. ISBN-13: 978-1782506393. Wake up students' learning with this book! It can be used to share the liveliness of nighttime when teaching the day versus night cycle. Drawings and digital illustrations set an adventurous tone for a family's nighttime jaunt through their environment. STANDARD: LIFE SCIENCE AND EARTH AND SPACE SCIENCE.
	First Grade
	THE BEAK BOOK. 2021. Robin Page. Beach Lane Books. 40 pp. ISBN-13: 978-1534460416. Robin Page's illustrations once again inspire close inspection of nature's details. Large, colorful illustrations help teachers and students explore the important form and function concept in life science. Happy pecking! STANDARD: LIFE SCIENCE.

	WHALE FALL CAFÉ. 2021. Jacquie Sewell. Illus. Dan Tavis. Tilbury House Publishers. 40 pp. ISBN-13: 978-0884488484. What a fascinating look at an aquatic food chain! This book follows a whale corpse as it descends from the surface to its final resting place at the bottom of the sea. A wonderful companion to teach about unique food chains. STANDARD. LIFE SCIENCE.
	Second Grade
	OVER AND UNDER THE CANYON. 2021. Kate Messmer. Illus. Christopher Silas Neal. Chronical Books. 56 pp. ISBN-13: 978-1452169392. Another in the impressive contribution to the Over and Under series that can help students learn about unique ecosystems and how the earth can change in slow ways. Primary teachers will appreciate incorporation of microhabitats for the canyon's smallest creatures. STANDARD: EARTH AND SPACE SCIENCE.
	SUMMERTIME SLEEPERS: ANIMALS THAT ESTIVATE. 2021. Melissa Stewart. Illus. Sarah Brannen. Charlesbridge. 40 pp. ISBN-13: 978-1580897167. We often teach about winter hibernation, but this title shares how animals also use summer "hibernation" (estivation) during the hottest days of the year. The stories and images will capture students' attention and they won't be sleeping through this interesting read. STANDARD: LIFE SCIENCE
	Third Grade

	FOSSILS FROM LOST WORLDS. 2021. Damien Laverdunt. Illus. Hélène Rajcak. Gecko Press. 72 pp. ISBN-13: 978-1776573158. The discovery and features of various prehistoric creatures are presented in this exploration of the fossil record. Rich visual supports include labeled technical drawings, full-page illustrations, and graphic novel formats for detailing discoveries. STANDARD: LIFE SCIENCE.
	FLIP! HOW THE FRISBEE TOOK FLIGHT. 2021. Margaret Muirhead. Illus. Adam Gustavson. Charlesbridge. 32 pp. ISBN-13: 978-1580898805. Although Fred Morrison was not the first person to imagine a flying disc toy, he sought to create an optimum design and ultimately created the ubiquitous Frisbee. This text demonstrates how continual improvement of prototypes leads to great results. STANDARD: ENGINEERING DESIGN.
	Fourth Grade
	A LIFE ELECTRIC: THE STORY OF NIKOLA TESLA. 2021. Azadeh Westergaard. Illus. Júlia Sarda. Viking Books for Young Readers. 40 pp. ISBN-13: 978-0593114605. Students may only be familiar with the name “Tesla” as a car brand; this book will enlighten them about Nikola Tesla’s discovery of alternating current and his impact on our electrical system. Crisp illustrations support the text. STANDARD: PHYSICAL SCIENCE

	MASTERS OF DISGUISE: CAMOUFLAGING CREATURES AND MAGNIFICENT MIMICS. 2021. Marc Martin. Candlewick Studio. 56 pp. ISBN-13: 978-1536214055. Twelve animals from around the globe are featured for their unique abilities to blend in with their background or disguise their identity. The hide-and-seek feature is sure to engage students. STANDARD: LIFE SCIENCE.
	Fifth Grade
	THE LEAF DETECTIVE: HOW MARGARET LOWMAN UNCOVERED SECRETS IN THE RAINFOREST. 2021. Heather Lang. Illus. Jana Christy. Calkins Creek. 48 pp. ISBN-13: 978-1684371778. This book is sure to pique students' interest in the role of plants in the ecosystem. Meg Lowman's quest to study the rainforest canopy is beautifully captured in both the narrative and informative end pages. STANDARD: LIFE SCIENCE.
	FROM HERE TO THERE: INVENTIONS THAT CHANGED THE WAY THE WORLD MOVES. 2021. Vivian Kirkfield. Illus. Gilbert Ford. Clarion Books. 96 pp. ISBN-13: 978-1328560919. Each chapter of this book provides insight into how seemingly ordinary people have invented extraordinary modes of transportation over time. Sidebar information adds to the narrative content. STANDARD: ENGINEERING DESIGN.
	Primary Honorable Mention

	THE DIRT BOOK. 2021. David Harrison. Illus. Kate Cosgrove. Holiday House. 40 pp. ISBN-13: 978-0823438617. There is more than dirt under our feet and this book helps young readers explore the types of creatures that make their homes there. Information is shared through poetry making it easy to use as a read aloud or for students to enjoy individually. STANDARD: LIFE SCIENCE.
	IF YOU TAKE AWAY THE OTTER. 2021. Susannah Buhrman-Deever. Illus. Matthew Trueman. Candlewick Press. ISBN-13: 978-0763689346. While the otter takes center stage, this book is about much more. Navigating the intricacies of a Pacific coast food web, the author explores what happens when a keystone species is removed from the web. Beautiful illustrations will help teachers teach form and function of organisms in aquatic environments.
	THE SHARK BOOK. 2021. Steve Jenkins & Robin Page. Illus. Steve Jenkins. Houghton Mifflin Harcourt. ISBN-13: 978-1328569493. For many years, Steve Jenkins dazzled us with his extraordinary talent as an author and illustrator to teach us “all things animals.” Jenkins and Page create another vividly impressive montage (using cut-paper collages) of many different shark species that are the apex predators in our oceans. Thank you for everything, Steve. STANDARD: LIFE SCIENCE.
	Intermediate Honorable Mention

	COUGAR CROSSING: HOW HOLLYWOOD'S CELEBRITY COUGAR HELPED BUILD A BRIDGE FOR CITY WILDLIFE. 2021. Meeg Pincus. Illus. Alexander Vidal. Beach Lane Books. 40 pp. ISBN-13: 978-1534461857. How can wildlife survive in urban areas? This book describes one community's innovative approach for supporting the co-existence of wildlife and people in the midst of a busy city. STANDARD: EARTH AND SPACE SCIENCE.
	SECRETS OF THE SEA: THE STORY OF JEANNE POWER, REVOLUTIONARY MARINE SCIENTIST. 2021. Evan Griffith. Illus. Joanie Stone. Clarion Books. 40 pp. ISBN-13: 978-0358244325. Jeanne Powers, a 19th century dressmaker-turned-marine biologist, used glass aquarium tanks to observe features of sea creatures more closely and carefully documented her discoveries. Watercolor illustrations and additional end page information make this an enlightening text about marine science. STANDARD: LIFE SCIENCE.
	MIMIC MAKERS: BIOMIMICRY INVENTORS INSPIRED BY NATURE. 2021. Kristen Nordstrom. Illus. Paul Boston. Charlesbridge. 48 pp. ISBN-13: 978-1580899475. What can we learn from shark skin or gecko feet? As it turns out, inventors have often looked to nature for inspiration when creating new materials or improving design solutions. Brief backgrounds are provided for each of the diverse scientists and engineers. STANDARD: ENGINEERING DESIGN.

References

Gulley, J., Rearden K., Broemmel, A., & Thomas, J. (2012). Spotlight on science: Introducing the Indiana science trade book annual reading list. *The Indiana Reading Journal, 45*(1), 31-35.

Author Information

Jeff Thomas, Professor of Teacher Education, works with emerging and current elementary teachers to promote integration of inquiry-based science, children's literature, and technology.

Joyce Gulley, Professor of Teacher Education, works with teacher candidates to identify high quality children's literature to promote literacy and student engagement with text.

Kristin Rearden, Clinical Professor of Science Education, strives to promote effective practices in teacher preparation, the impact of place-based education, and the integration of children's literature and science.

Amy Broemmel, Associate Professor of Education, works to integrate children's literature into the curriculum to help teachers hone their beliefs toward reading and writing instruction.

ISLA 2022 Conference Highlights

Keynote Speaker:

Matt de la Pena, award winning author

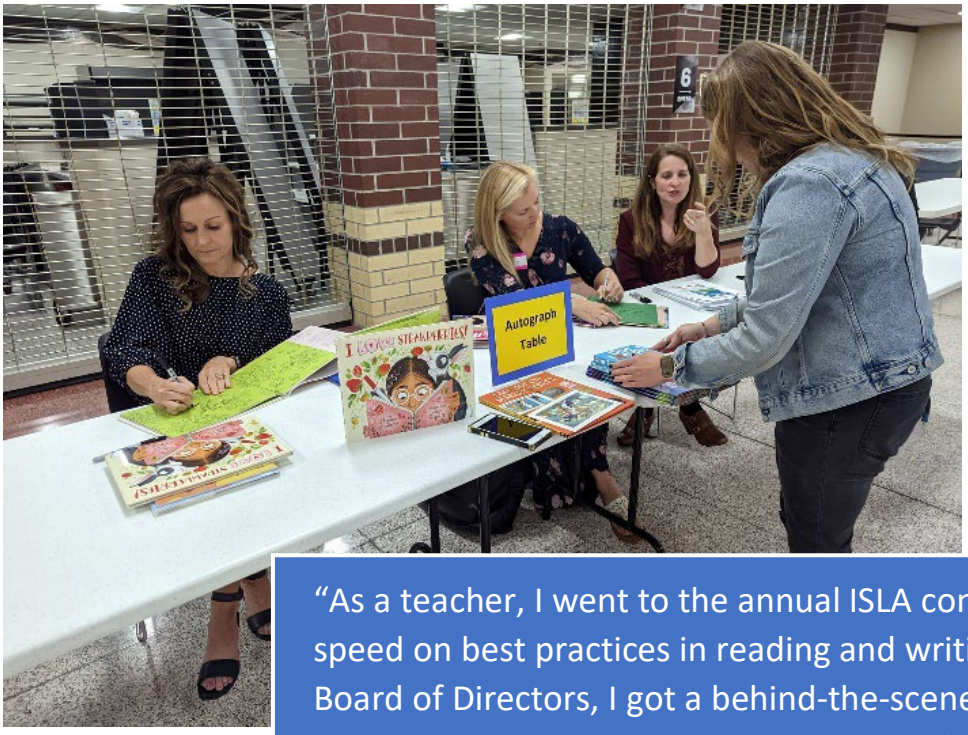
ISLA Board with Matt de la Pena

"Attending the ISLA conference was a really fun way to immerse myself into the world of English Language Arts in a way that I hadn't been able to do in undergrad at Ball State. I was offered the opportunity to meet educators and literary professional who shared many of the same aspirations as me. It was also nice to be able to meet students like myself who have similar interests and aspirations!"

Miranda Minnick, English Education, Ball State University

Dr. Erica Buchanan-Rivera, author and presenter

Dr. Ben Boche, Chair of the ISLA Board



Authors Signing Books for Attendees

"As a teacher, I went to the annual ISLA conference every year to get up to speed on best practices in reading and writing. As a member of the ISLA Board of Directors, I got a behind-the-scenes glimpse of the dedication and mission to spread literacy learning throughout our state. Now, as an author and coach, I love to attend and present at ISLA to continue that mission. ISLA continues to deliver quality keynotes and presentations that help busy educators and they provide it all at an affordable price. I'm proud to be a part of my full-circle journey with ISLA. If you've never attended the annual conference, mark your calendar for next year! Better yet – get involved and volunteer on the board or throw your hat in to present something you have found that works in your classroom. We get better together."

Shannon Anderson, author and speaker

"My favorite part of the conference was definitely the community and support from everyone. It really was just a bunch of people who loved English, education, and reading, all coming together to talk about it. It was all very professional and really blew away all my expectations I had for my first conference."

Conner Narramore, English Education, Ball State University

Join us next fall in Noblesville for the 2023 ISLA conference!

Indiana State LITERACY ASSOCIATION

Call for Proposals - Spring 2023 Volume 51, Issue 2

Indiana Literacy Journal

The *Indiana Literacy Journal* is the peer-reviewed journal of the Indiana State Literacy Association, which is composed of and serves classroom teachers, literacy specialists, educational leaders, teacher educators, and university faculty. The journal publishes on diverse topics related to literacy, including reading, writing, speaking, listening, viewing, visually representing, technology, and literature for children and young adults. Submissions are invited in any of the categories below, though we are particularly interested in manuscripts that connect literacy and social justice, address new literacies (e.g., technology, graphic novels, podcasts, etc.), current literacy legislation, and other literacy topics relevant to the state of Indiana.

Our Spring 2023 issue is an open-themed call, so we welcome submissions on a variety of topics and methods.

Deadline for submission: March 1, 2023

Bridging Research and Practice Articles

Articles submitted in this category present original descriptions of research-based instruction that improves the literacy learning of students ranging from birth to college age. Articles describing research-based practices in literacy teacher education will also be considered. Manuscripts in this category must include practical steps to guide readers in applying the research to their practice. Manuscript submissions should include APA formatted references to the relevant research literature and must not exceed 5,000 words (including tables, figures and appendices; excluding reference list) in 12-point font and left-aligned. Any charts or graphics must be of high-quality and in black and white. These manuscripts undergo blind review by members of the journal's editorial review board.

Voices from the Region

Articles submitted in this category will showcase evidence-based literacy practices being implemented throughout the state and region in such varied spaces as classrooms, districts, libraries, after school programs, online schools, homes, daycares, preschools, etc.. We are specifically interested in submissions from practitioners who can share tips and ideas about what is working in their context, why they are engaging in these ideas, and how others could do this, too. Our goal is to hear from a range of practitioners in and around the state who are interested in literacy. Manuscripts in this category should begin with an introduction to the authors and the context of their work. Please also include APA formatted references to the relevant research literature, if appropriate to the piece. Manuscript submissions should be between 750 and 1500 words (including tables, figures and appendices; excluding reference list), double-spaced, and in 12-point font and left-aligned. Any charts or graphics must be of high-quality and in black and white. These manuscripts undergo blind review by members of the journal's editorial review board.

Visual Artifacts and Graphics

Submissions in this category share visual artifacts of literacy teaching practices through photos of teachers and students engaging in literacy, literacy projects, literacy centers, and artifacts of student learning. Each image should be clear, in focus, of a high resolution/quality, and sent as a full-size jpeg or tiff file attachment, accompanied by a brief, 50-100 word description. Documents must be scanned, not photographed; the latter will not be of high enough quality for publication. By submitting an item in this category, the individual indicates that he/she has obtained consent from the district, school, teacher, parent, and child to use the image for publication. The journal's editorial team reviews submissions in this category

Submissions should be sent electronically to Sharon Pratt at prattsh@iu.edu. The author(s) must agree that the submitted manuscript is original work and not currently under consideration for publication elsewhere. Manuscripts should include a complete title on the first page, but no identification of the author or affiliation should appear in the title or elsewhere in the submitted manuscript. Use "author" to ensure the submitted version is a blind copy. Be sure to adhere to APA 7th edition guidelines. Provide an abstract for the manuscript that is between 100-200 words underneath the title on the first page. Include within your email submission your name, affiliation, and a brief author bio of 50-100 words. Manuscripts are peer reviewed and editors reserve the right to edit all copies. Each article is sent to at least two members of the editorial advisory board for review and recommendations to the editors. Manuscripts are evaluated in terms of interest, quality of writing, appropriate documentation of ideas, uniqueness, and needs of the journal. Please contact Ben Boche at islastatepresident@gmail.com or Sharon Pratt at prattsh@iu.edu with any questions.