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Building Readers & Writers for the 21st Century: Identity, Knowledge, & Digital Literacy

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ABSTRACT

Educational settings have prioritized research based instructional practices that ensure students become strong decoders of text. Our issue shows that literacy involves more than strong decoders, but also readers and writers who are ready to embrace challenges in our current and future society. Building students' identities through reading motivation and content area literacy skills, as well as ensuring they have digital literacy skills should also be valued areas of focus in literacy instruction.

KEYWORDS

reader identity, knowledge building, content area literacy instruction, digital literacy, artificial intelligence

Our state of Indiana has been celebrating growth in reading assessment scores and third grade students reading proficiency rates, as well we should be. This is indeed a time to recognize the hard work that teachers, instructional coaches, and state support personnel have been investing in refining literacy instruction to be more aligned with the Science of Reading. However, literacy researchers have raised the alarm that Science of Reading mandates can be misapplied or misunderstood in ways that can hinder students' development as readers and writers (Tierney & Pearson, 2024). Our issue helps us consider not just the growth in word recognition that readers must make to become literate individuals, but also the other areas that impact reading and writing growth not mentioned or as easily enforced in curriculums. These include areas that impact language development and knowledge building, as well as motivations of readers and writers through their sense of identity and affiliation with literacy.

Student Identity

Even if students become proficient readers and writers, it has little impact if they do not identify themselves as readers and writers. This begins early in the lives of our students before they enter school, with the read-alouds that families share at home with their children or the encouragement they give them in writing stories to share with others (Trelease & Giorgis, 2019). However, it is often the case that students may enter school with enthusiasm for reading and writing, but lose that over time as they become encased in the structures and skill enforcement of literacy curriculums (Cremin & Scholes, 2024). Structured curriculums often leave little time for teachers to share the joy of reading and writing with students, unless teachers take the time to creatively integrate routines for building student chosen reading and writing into their daily schedules.

We see the importance of teachers sharing their reading lives with students through booktalks in the intermediate classroom in Steven Layne's article, "Can We Talk? Teacher

Booktalks as Influence on Intermediate Readers' Choice Reading Selections.” This article was graciously shared with us by the Illinois Reading Council Journal to reprint in this issue of our *Indiana Literacy Journal*. Here we see that sharing a variety of genres and text selections with students can entice them to broaden their own reading choices and increase their desire to read. We see booktalks as a smaller time investment that can be accomplished in one classroom, during library time, or even morning announcements by different administrators and teachers sharing what they are reading. Of key importance to note is that this practice was done consistently across the school year, making reading a part of their learning community and culture. We hope this article inspires you to incorporate booktalks into your classrooms and schools as a regular practice!

Christina Romero and colleagues help us to look at literacy identity in a broader light through their article “What a Doll: Contextualizing Artifacts of Play through Storytelling & in the Classroom.” They show us that storytelling helps us not only share aspects of our identities with others, but also helps us to better understand ourselves. The article encourages us to use toys as mediums to encourage oral language practices and build girls' identities within STEM areas. We believe this article will challenge you to look at play and artifacts for storytelling in new ways in your interactions with PreK-12 learners.

Knowledge Building

Knowledge building is an area that has received some increased scrutiny by journalists (Wexler, 2019) and researchers (Cabell & Hwang, 2020). Readers must have background knowledge, and large amounts of it, to make inferences and evaluate claims as they read. Furthermore, due to the increased expectations for literacy, teachers are finding they need to often integrate their content area instruction within literacy blocks (Engel et al., 2021). Rather than briefly reading a wide variety of texts in all subjects, doing deep dives into topics of interest in science and social studies can help students expand their background knowledge. Text sets are one way to support students building knowledge by giving them a wide variety of sources around one topic (Duke, 2000).

Jeff Thomas and colleagues once again present us with a list of science trade books that can be used in elementary classrooms in their article: “2025 Indiana Science Trade Book Annual Reading List (IN-STAR): Teaching Science Through Literature.” Across this list, we see a variety of genres and science disciplines. They support teachers integrating these lists into curriculum instruction by showing connections to the different science standards and disciplines. Looking across this list will give you new titles to add to your curriculum, as you find additional titles that can connect with lessons and units you currently teach in your classroom.

Digital Literacy

Students' identities and knowledge are naturally expressed and demonstrated in their writing, both in and out of the classroom, but what happens when artificial intelligence (AI) can do it for them? Do their identities and what they know cease to exist, or are they folded into a database, or will AI just do the work for them, taking away any human connections, critical thinking, and critical thinking skills (Young et al., 2024)? Generative AI platforms are literacy technologies and literacy teachers cannot ignore them (NCTE, 2025). However, we do not want to sacrifice the productive struggle of writing, nor can students look at AI writing without the proper knowledge to be critical creators and consumers. The same goes for us as literacy teachers. It is essential we recognize that engagement with AI is ongoing, and we must continue to engage, critique, and even resist the use of it in our classroom contexts.

Pawlak and Pridemore in “Teaching with AI, Not for AI: Equity, Identity, and Authorship in Literacy” offer up three different stages by which students can use AI as a tool, but not as a replacement for original thought. These stages include helping students see AI as a scaffold that requires human judgement for a finished product, becoming active decision makers in various stages of writing, and reflecting on the overall process of using AI in writing. The authors challenge us to think about the use of AI both authentically and ethically while focusing on protecting and supporting our students.

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Can We Talk? Teacher Booktalks as an Influence on Intermediate Readers' Choice Reading Selections

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ABSTRACT

This study investigated the impact of booktalks on fifth-grade students' choice reading selections. The experimental design had 22 students in a treatment classroom where four booktalks across four distinct genres were delivered bi-weekly for an academic year (64 books in total) with opportunity for immediate check-out—three copies of each title were available. The same books in the same quantities were made available to students in the control classroom but no booktalks were provided to the students. Throughout the year, a growing positive climate of reading was observed in the treatment classroom with great excitement over the booktalks being demonstrated by the students who exhibited a strong desire to read the books. Observations and reporting from the control classroom did not yield a similar situation. A two-tailed t test showed a statistically significant difference in the circulation of book featured in booktalks in the treatment classroom over books simply displayed in the control classroom. Surveys indicated that the booktalks were particularly influential in the decisions made by fifth-grade students in the treatment classroom with regard to their reading.

KEYWORDS

booktalks;
reading
motivation;
student
engagement;
reading culture;
book circulation

The year was 1999, and something that would permanently change my professional life was about to happen. I never saw it coming, but I am forever grateful that it did. I was in Minnesota attending a literacy conference where, among many headliners, the sensational Gary Paulsen was speaking on his then-newest title *The Transall Saga*. It was, it seemed, just the kind of survival story his fans looked for him to supply . . . but not in the genre to which they were accustomed. This book was science fiction, and it sounded intriguing. I purchased it, and then I traveled home and began reading it at about 8:45 pm—finishing the book at 3:00 am! *That had not* been the plan. I was immeasurably grateful that school picture day was not upon us the next morning to highlight the dark rings under my eyes.

I arrived to my junior high school classroom in a fog and absentmindedly placed the hardcover copy of Paulsen's new title on the corner of my desk—not strategically—simply to set it out of the way as I got about the business of completing the kind of paperwork for the school office that leads people to crave the teaching profession. As my grade six students entered the room, the questions began as the book drew notice immediately: "Hey, what's this about? Did you read it yet? What did you think, Mr. Layne?" Long story short, by the time the bell rang, no student was seated; they were all forming a semicircle around my desk grabbing for the book as if the Holy Grail had just been identified and was in their possession. Being oblivious to the importance of what was happening, I clapped my hands and shooed them back to their desks. After all, there were important things to be

accomplished. This was a language arts classroom; I couldn't very well have us talking about books, right? (I had so much to learn.)

Later in the day, grade seven arrived, and it was a repeat performance. By noon, the librarian was hunting me down to ask why in the world I had not given her a courtesy warning that her book fortress would be coming under assault all morning long! It seemed every copy of *The Transall Saga* was checked out. She'd ordered everything she could get on interlibrary loan, but the waiting list of names suggested there were kids who wouldn't get a turn to read it by year's end. I was genuinely stunned . . . because I hadn't done anything. *Had I?* I pondered this throughout the lunch hour and then decided that perhaps I had done something—just not intentionally—but that thought led me to wonder what might happen if I decided to talk about this book *on purpose*, perhaps with a bit of dramatic flair?

Eighth-grade students arrived next and received the full treatment of me hyping the book and parading my bloodshot eyes for all to see. I raced toward the library as my class dismissed and watched through the computer lab windows as our tiny librarian's body disappeared from view amid a sea of gangly 8th graders waving their arms and frantically calling out for the book! It was the first time I had ever intentionally delivered a book chat in my class-room, and I had been teaching at the elementary and junior high level for 11 years. Yes, I had a lot to learn, but finally I was on the threshold of “getting the message.”

Booktalk History

Booktalks are, simply put, commercials for reading books. They are provided in hopes of igniting potential readers' interest in specific titles and galvanizing those readers to actually read a title they have heard “advertised” via the book-talk. Hudson (2016) identifies a booktalk as an “opportunity for a reader to share with other readers a book that he or she enjoyed” (p. 221) and points out that this happens in natural conversation with adults. It *does* happen in natural conversation with adults; however, I would argue that a healthy goal for literacy educators would be to see it happening in natural *instruction* with students.

One of the earliest and most well-known touchstones in the history of booktalks grew out of the early 1900s' publisher-fueled interest in the children's market, which resulted in the creation of entire juvenile divisions in publishing. The additional focus on children's books in the publishing industry led public libraries to create private spaces such as children's rooms, and this added attention on children's books fueled the decision of Margaret Edwards, a librarian at the Enoch Pratt Free Library in Baltimore, Maryland, to begin training her librarians in the art of booktalks. Her “trainings” were thorough and are among the first, and arguably the most famous, seminal moments in the history of booktalks (Braverman, 1979). Of course, others since then have offered tutelage in the art of delivering booktalks (Batchelor & Cassidy, 2019; Bodart, 1985; Langemack, 2003); however, the overall research regarding the *effectiveness* of booktalks is sparse, and this fact may account for the lack of practice instruction-ally in schools. In regular informal surveys of practitioners at large professional development gatherings totaling thousands of teachers, I have had less than 20 who have stated that they regularly provide booktalks to students; and since I taught for 11 years without ever providing a booktalk to my own students, I can hardly be surprised. I *can* say that once I knew better, I did better.

Level (1982) was one of the first to gather empirical evidence to investigate the effect booktalks have on book circulation in the school library. She discovered that the *frequency* of books checked out was impacted when students heard booktalks. Her findings related to the impact of booktalks on circulation were consistently supported in other studies (Bodart, 1985; Braeder, 1984; Clower, 2010; Nollen, 1992; Reeder, 1991; Riesterer, 2002).

Bodart's (1985) research studied booktalks over a three-month period from October of 1984 through January of 1985 with four groups of 9th-grade students and evidenced a dramatic increase in circulation. Fourteen titles that were booktalked had circulated only 33 times in the year prior to the study as opposed to 356 times during the year of the study.

Clower (2010) also reported an increase in titles that had not been circulating once she began delivering booktalks on those titles during a four-week study with 2nd graders. In fact, 68% of students hearing a booktalk on titles previously not circulating were interested in checking out one or more of the titles that very day. In addition, Clower reported waitlists being created the day of the booktalks with names being added to the lists for up to three weeks following them. Over the past two decades, researchers have continued, on occasion, to offer support for the inclusion of booktalks into the instructional day. Marinak and Gambrell (2016) encouraged teachers to talk about books in class so that students might enjoy reading, and Wozniak (2011) anchored a program to increase voluntary reading in 6th grade by using book-talks. More recently, Fisher and Frey (2018) included booktalks as one of four crucial factors in a successful intervention model designed to increase reading volume in K-6 classrooms, and we know that volume is a significant component in literacy skill development (National Center for Education Statistics [NCES], 2010). Internationally, work to promote reading engagement in Australian (Merga, 2020) and Swedish (Schmidt, 2020) schools included booktalks as an influential component; however, the focus in these studies was more heavily centered on the teacher librarian role than that of the classroom teacher.

Overview of Study

This study used an experimental design calling for a book flood in two 5th-grade classrooms across an entire school year. An equal number of titles crossing four distinct genres and the exact same titles arrived in each classroom on the same day. Eight different titles (3 copies of each) appeared in these classrooms in September, October, November, January, February, March, and April, and four different titles (3 copies of each) in December and in May; thus, these 5th graders were exposed to 64 titles across the span of a school year. In the control classroom, these books were displayed on a shelf at the front of the classroom to allow students to become aware of them, and the control teacher identified them as new additions to the classroom library—available for immediate checkout. In the treatment classroom, the same books appeared on the shelf at the front of the classroom on the same day as they did in the control classroom; however, the teacher delivered booktalks on these titles before allowing students to check them out.

Whereas the studies mentioned previously primarily measured data in a very limited timeframe, often between six and 18 weeks, this study differed significantly by considering treatment and data over an entire school year. In addition to circulation data, which has been the most frequent factor considered by other researchers, this study included qualitative components, including observations with field notes of the actual booktalks, surveys of students, and interviews

with the treatment and control teachers. Wozniak (2011) crossed genres with intentionality as part of her study of booktalks—a discriminating factor when compared with other research—and this study followed suit, though with only four focus genres as opposed to her six. Most importantly, though, this study differed from previous research by attempting to look at the impact on student motivation to read when booktalks are implemented systematically as part of the instructional curriculum by the classroom teacher. The following research question guided the work: “What role do bi-weekly booktalks play in influencing 5th-grade students’ choice reading selections?”

Methodology

Participants

Subjects in this study were from two 5th-grade classrooms in one kindergarten through 5th-grade Midwestern suburban school. The school report card statistics identified the student characteristics as 79% low income, 49% English Learners, and 17% students with IEPs. Additionally, the population was reported as 68% Hispanic, 21% White, 5% Black, 2% Asian, and 6% two or more races. There were 22 student participants from the treatment classroom and 21 from the control classroom.

Two 5th-grade teachers voluntarily participated in the study, and pseudonyms will be used throughout this article in identifying them. The treatment classroom teacher, Mr. Baker, was in his sixth year of full-time teaching; and Ms. Jackson, the control group teacher, was in her second year of teaching.

Materials

Titles selected to be featured in booktalks in the treatment classroom or displayed in the control classroom were titles with which the treatment group teacher was familiar and which, in his experience teaching 5th grade for multiple years, were accessible to most students. In addition, the titles selected fell equally into four distinct categories: 16 each from the genres of fantasy, nonfiction, historical fiction, and realistic fiction (a list of the titles can be found in Appendix A). Students completed either a “Pre-Conference Form” (Treatment Group) or a “Book Update Form” (Control Group) weekly in both classrooms (Appendices B-E; Layne & Zulauf, 2015) to provide a window into many of the books they were reading and, more importantly, *why* they were selecting them.

Treatment Classroom

Mr. Baker delivered four booktalks (also referred to as book chats), one each from the genres of fantasy, nonfiction, historical fiction, and realistic fiction every two weeks beginning in September with the exception of the months of December and May when only one booktalk occurred as opposed to two. There were three copies of each title available, and all the titles were placed on the display shelf at the front of the classroom on the morning of a day when booktalks were to be delivered. In addition, Mr. Baker projected a large image of the book cover whenever he was talking about a specific title. Booktalks lasted between three to five minutes each, and Mr. Baker read an excerpt from two of the four titles in each “round” of booktalks. A random check-out order was created prior to each round of booktalks to allow for an equal distribution of opportunity for interested students to immediately check out a book.

Mr. Baker used reading conferences as a key component of his instruction, and he liked his students to come prepared for the discussion. His “Pre-Conference Forms” for fiction or nonfiction

(Appendices B & C) were adjusted to include booktalks as one of several choices from which students could select in answering the question: “Why did you select this title?”

Control Classroom

Prior to the start of the study, Ms. Jackson acknowledged that she had never delivered book-talks to her students and was not interested in doing so; however, she was very willing to receive a large quantity of free books for her classroom and was more than happy to participate in the study since she was not being asked to change her instruction. She placed the same titles and the same number of each on her front shelf on the days when Mr. Baker was delivering his booktalks. She had explained at the beginning of the year that a grant was providing her with new books for her classroom and, as they appeared, students would be able to immediately check them out. Each time new books appeared, she made mention of them but did not draw attention to them beyond that. They were presented as part of the classroom library but received some additional attention by being placed “front and center” on a shelf in the classroom for a few days. Ms. Jackson did not conduct reading conferences as part of her reading instruction, so her students completed weekly forms that were nearly identical to the “Pre-Conference Forms” logged by Mr. Baker’s students which provided a small window into her students’ reading choices.

Data Analysis and Findings

Records of book checkouts were kept by both teachers revealing 385 circulations of titles that had received a booktalk in the treatment classroom and 76 circulations of titles that had been only displayed but not talked about by the teacher in the control classroom. A two-tailed t test revealed a statistically significant difference in favor of the treatment: $p < 0.0001$.

“Pre-Conference Forms” were completed in the treatment classroom for a total of 137 titles that had been featured in a booktalk. Students identified the booktalk as the influential factor in their decision to read that specific title 132 out of 137 times (Figure 1). In the control classroom, “Book Update Forms” were completed for 32 of the titles that had been on display. Students identified the fact that the book had been on display at the front of the room as a factor in their decision to read that specific title 15 out of 32 times (Figure 2).

Figure 1: Booktalks as an Influential Factor in Students’ Reading Selections

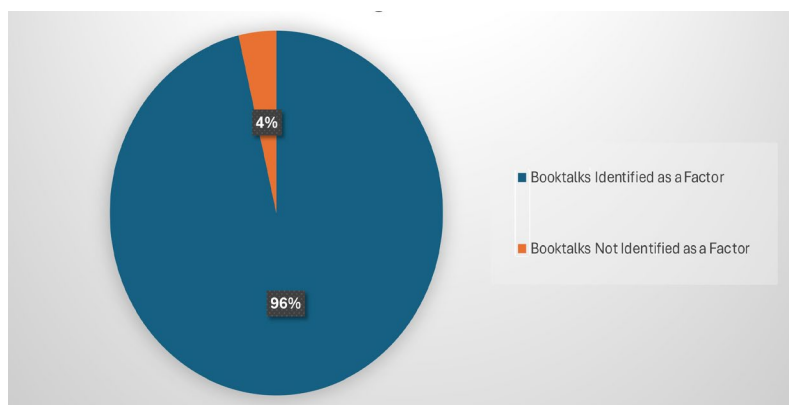
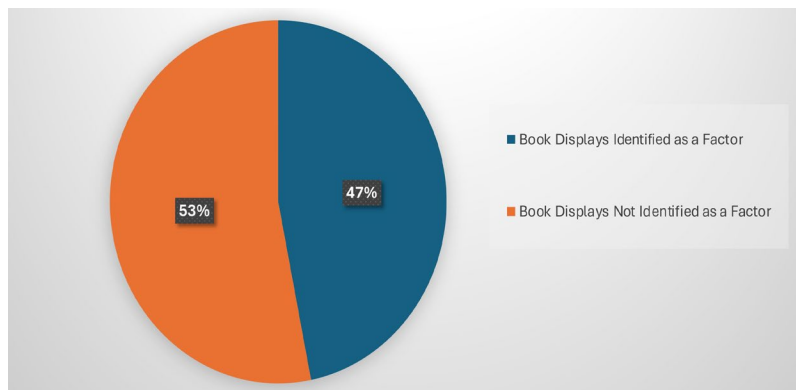


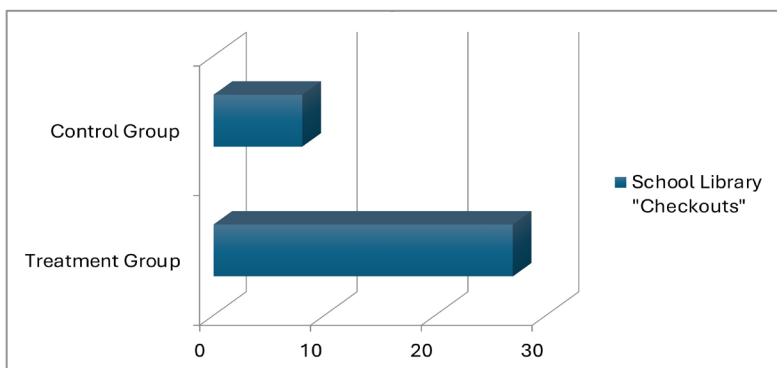
Figure 2: Book Displays as an Influential Factor in Students' Reading Selections



Other findings of interest came from interviewing the teachers. Mr. Baker expressed in his interview that by the third session of booktalks, which occurred in October, there was a palpable excitement as soon as students entered the room and saw the books on display—signaling that it was a day that they would hear booktalks. Coincidentally, this third session of booktalks was the first time that all 12 of the titles being featured that day were immediately checked out. Of the 16 sessions of booktalks provided throughout the year, nearly half resulted in every copy being checked out immediately. Ms. Jackson reported that there was little enthusiasm for the same new books being displayed on her front shelf every few weeks and very few checkouts.

Visits to the school library were also influenced by the booktalks as reported by the teacher of the treatment classroom. Mr. Baker stated that weekly trips to the school library became greatly anticipated by his students and that there were frequent requests for his book recommendations during these visits which had not happened in past years. Mr. Baker also reported that by the fourth month of the study, library visits were leading to students requesting impromptu book-talks from him about a variety of books in the school library. Ms. Jackson reported no change in her library visits throughout the year or from previous years. Additionally, it was noted that titles featured in booktalks were checked out of the school library 27 times throughout the course of the study; books on display in the control classroom were checked out of the school library eight times (Figure 3).

Figure 3: School Library Checkouts



Observations by the researcher were conducted in November, February, and May with the goal of noting that procedures were being adhered to in the manner agreed to by both the treatment and control group teachers. Both video and live observations revealed a clear discrepancy between cheers and excitement throughout the treatment classroom on the mornings new books were displayed on the shelf versus the control classroom where very few students walked up to look at the new books on the display shelf.

The following questions were posed to students in the treatment classroom through a survey at the conclusion of the study:

- *Have you ever had a classroom teacher who presented booktalks on a regular basis?* 22 out of 22 reported that no previous teachers had delivered booktalks.
- *Were you introduced to a book this year through booktalks that you might not have otherwise read?* 20 out of 22 students reported that booktalks had influenced their decision to read a title that they would not typically have selected.
- *Do you think you read more books this year than in past years as a result of hearing booktalks?* 21 out of 22 students indicated that they had read more books this year as a result of listening to booktalks.
- *Would you like it if future teachers presented book-talks on a regular basis?* 21 out of 22 students reported that they would like future teachers to deliver booktalks. The one student who reported not wanting future teachers to deliver book-talks wrote a note that said, “No, because I only like Mr. Baker’s booktalks.”

Discussion

The circulation data in this study supported that of many other studies which indicated that booktalks do increase circulation (Bodart, 1985; Braeder, 1984; Clower, 2010; Level, 1982; Nollen, 1992; Reeder, 1991; Riesterer, 2002). The yearlong dataset provided here reveals that books featured in booktalks in the treatment classroom were checked out more than five times when compared with checkouts from the control classroom where the same books were not only made available but featured on the same type of display shelf.

It is important to acknowledge that simply because a book was checked out does not mean that it was read nor that it was read completely. To avoid sensitizing the students to the goal of the research, it was decided that we would use the self-reported “Pre-Conference Forms” and “Book Update Forms” as a data source with the understanding that there would be clear gaps in their accuracy. For example, though students completed these forms weekly, it is entirely possible that some students read more than one book in a week or that a student finished a book on Tuesday and started another on Friday—and reported on the new Friday book, never mentioning the book finished on Tuesday. The primary advantage of the surveys was to provide information on if it appeared students were, in fact, reading the books they were checking out. Moreover, we were interested to see, on occasions when the forms revealed that books being read had been featured in booktalks, did students report that the booktalk was the influential factor in their decision to read the title. With more than 96% of the students from the treatment classroom reporting on these forms that the books they were reading had been featured in booktalks, there was clear evidence that, at least in the case of these specific titles, the books were being thoroughly read—and that hearing the booktalks was impactful.

The observational visits by the researcher consistently revealed a growing excitement about books and reading in the treatment classroom—a culture of reading was observed—and while causation

cannot be implied, common sense combined with interviews of both the treatment and the control teachers at the conclusion of the study made it clear that book chats played a role in developing a positive reading climate in the treatment classroom. In fact, during one of the observational visits, Mr. Baker was recording on a large piece of chart paper a list of “Things We Want New Kids to Know About Mr. B’s Classroom” when the researcher arrived. Students were energetically shouting out responses, and one of them said, “Book chats! We have to make sure the new kids moving here know that in this class you get book chats!” It would seem the answer to the research question, “What role do bi-weekly booktalks play in influencing 5th-grade students’ choice in reading selections?,” is that they play significant and impactful roles both in the book selections and, perhaps, in the desire to read.

Implications

The goal in conducting this research was to positively impact the students, the teachers, and, most importantly, the teaching community. For too long, booktalks have not been considered instruction. The hope is that research like this will convince teachers to no longer consider it an “extra.” Rather, it should be viewed as a valuable and important instructional component in the curriculum. More work is needed in this area for sure. Future researchers may look more carefully into the impact of specific genres on readers, on the “voice” of the booktalk in terms of how it is narratively delivered, and on whether the gender of the protagonist holds sway on different readers. A much larger sample size is needed to better inform us of the impact, but there is value in moving forward with research on booktalks.

Perhaps the most significant moment for this researcher came at the very end of the study in the final interview with the control classroom’s teacher, Ms. Jackson, who had been clear that she had no interest in delivering booktalks (making her the perfect control classroom teacher!). During her final interview, she asked if another study was to be done, could she *please* be the teacher delivering book chats to her students! “This has changed me,” she said. “When I see the excitement in Mr. Baker’s room over those books—all of his students reading with such excitement—and then compare that with my room . . . it’s just been really hard. I want better for my students.”

It would seem the old saying is true, in Ms. Jackson’s case at least: *When you know better, you do better*. Research that informs our practice helps us all do better.

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Author

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Appendix A

Fantasy

<i>Pi in the Sky</i>	Wendy Mass
<i>Tesla's Attic</i>	Neal Shusterman
<i>Flora & Ulysses</i>	Kate DiCamillo
<i>A Tale Dark & Grimm</i>	Adam Gidwitz
<i>Ghost Dog Secrets</i>	Peg Kehret
<i>Powerless</i>	Matthew Cody
<i>On the Day I Died</i>	Candace Fleming
<i>11 Birthdays</i>	Wendy Mass
<i>A Snicker of Magic</i>	Natalie Lloyd
<i>Bliss</i>	Kathryn Littlewood
<i>Rump</i>	Liesl Shurtliff
<i>The Indian in the Cupboard</i>	Lynn Reid Banks
<i>The Maze Runner</i>	James Dashner
<i>Full Tilt</i>	Neal Shusterman
<i>Running Out of Time</i>	Margaret Peterson Haddix
<i>The Dark Side of Nowhere</i>	Neal Shusterman

Nonfiction

<i>Bomb</i>	Steve Sheinkin
<i>Chasing Lincoln's Killer</i>	James Swanson
<i>Knucklehead</i>	Jon Scieszka
<i>Yellow Star</i>	Jennifer Roy
<i>The Boy on the Wooden Box</i>	Leon Leyson
<i>A Long Walk to Water</i>	Linda Sue Park
<i>Children of the Dust Bowl</i>	Jerry Stanley
<i>How They Croaked</i>	Georgia Bragg
<i>To Be a Slave</i>	Julius Lester
<i>Boy: Tales from Childhood</i>	Roald Dahl
<i>Phineas Gage: A Gruesome but True Story of Brain Science</i>	John Fleischman
<i>Lincoln's Grave Robbers</i>	Steve Sheinkin
<i>Small Steps: The Year I Got Polio</i>	Peg Kehret
<i>Unlikely Friendships: 47 Stories from the Animal Kingdom</i>	Jennifer S. Holland
<i>Disasters: Natural & Man-Made Disasters Throughout the Centuries</i>	Brenda Guiberson
<i>Dogs on Duty: Soldiers' Best Friends on the Battlefield and Beyond</i>	Dorothy Hinshaw Patent

Historical Fiction

<i>Breaking Stalin's Nose</i>	Eugene Yelchin
<i>Out of the Dust</i>	Karen Hesse
<i>Letters from Wolfie</i>	Patti Sherlock
<i>The Boy in the Striped Pajamas</i>	John Boyne
<i>The Boy Who Dared</i>	Susan Bartoletti
<i>Odette's Secrets</i>	Maryann Macdonald
<i>Fever 1793</i>	Laurie Halse Anderson
<i>The Green Glass Sea</i>	Ellen Klages
<i>Lions of Little Rock</i>	Kristin Levine
<i>War Horse</i>	Michael Morpurgo
<i>Bud, Not Buddy</i>	Christopher Paul Curtis
<i>Al Capone Does My Shirts</i>	Gennifer Choldenko
<i>Breathing Room</i>	Marsha Hayles
<i>My Brother Sam is Dead</i>	James & Christopher Collier
<i>Hope's Crossing</i>	Joan Elizabeth Goodman
<i>Number the Stars</i>	Lois Lowry

Realistic Fiction

<i>Wonder</i>	R. J. Palacio
<i>Rules of the Road</i>	Joan Bauer
<i>Harris and Me</i>	Gary Paulsen
<i>Notes from the Midnight Driver</i>	Jordan Sonnenblick
<i>Schooled</i>	Gordon Korman
<i>Crossing the Wire</i>	Will Hobbs
<i>The Odd Squad</i>	Michael Fry
<i>Secret Science Alliance</i>	Eleanor Davis
<i>Hatchet</i>	Gary Paulsen
<i>Make Lemonade</i>	Virginia Wolff
<i>A Series of Unfortunate Events #1</i>	Lemony Snicket
<i>Stargirl</i>	Jerry Spinelli
<i>Ungifted</i>	Gordon Korman
<i>Larger-than-Life Lara</i>	Dandi Daley Mackall
<i>The Fourth Stall</i>	Chris Rylander
<i>The Juvie Three</i>	Gordon Korman

Appendix B

Name: _____ Date: _____

Pre-Conference Form - FICTION

1. What is the title of your book and who is the author?

2. Why did you select this book? (Check all that apply.)

 Cover Popular Book Series Author Recommended by: Genre_____
(Name) Book Talk Other

3. What page are you on? _____

4. Who is the most important character so far?

5. How is this character like or not like you?

6. What is the biggest problem so far?

Appendix C

Name: _____ Date: _____

Pre-Conference Form - NONFICTION

1. What is the title of your book and who is the author?

2. Why did you select this book? (Check all that apply.)

_____ Cover

_____ Popular Book Series

_____ Author

_____ Recommended by:

_____ Genre

(Name)

_____ Book Talk

_____ Other

3. What page are you on? _____

4. What do you believe is the purpose of this book?

5. What is something that surprised you?

6. Change the title of this book to something you like better and explain your decision.



2025 Indiana Science Trade Book Annual Reading List (IN-STAR): Teaching Science Through Literature

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ABSTRACT

The 2025 IN-STAR List is a curated list of books elementary teachers can use to integrate children's literature and science. The titles align to the domains of the Disciplinary Core Ideas of the K-12 Science Indiana Academic Standards. Several nationally recognized lists are produced to help teachers identify books that can be used in elementary classrooms, but these lists don't align their selections to grade levels and Indiana's K-5 science standards. The IN-STAR list bridges that gap. The IN-STAR List ensures that the recommended books meet the specific science standards for each grade level in Indiana. This alignment helps teachers deliver targeted instruction and assess student learning effectively. All books were published in 2024 and there are two high-quality titles per grade level and three honorable mention selections for the primary and intermediate grade bands. A brief description and ISBN number are offered so that the reader may consider classroom connections and work with local libraries to acquire books.

KEYWORDS

Science,
children's
literature, K-6

The 2025 Indiana Science Trade Book Annual Reading List (IN-STAR) features unique selections which provide thought-provoking connections between rich literature and science content. The criteria and process to identify books has been previously described (Thomas & Gulley, 2012). Selections meet the following criteria:

1. The book has substantial science content.
2. The 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.

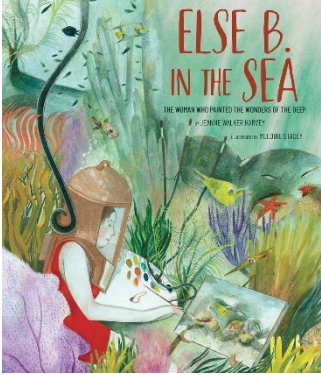
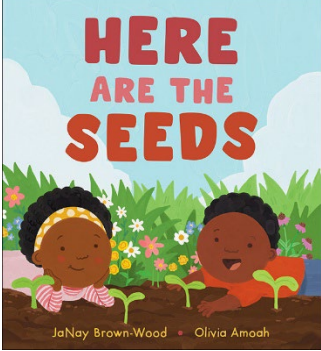
9. Books have received at least one positive review in one of the identified professional resources: [Booklist](#), [Bulletin of the Center for Children’s Books](#), [Horn Book](#), [Kirkus Reviews](#), [Publishers Weekly](#), [School Library Journal](#), and [Science and Children](#).

Items one through five are critical because they help teachers select quality 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 K-12 Science Indiana Academic Standards for each grade level. The reading level of books is considered when aligning them with grade levels.

The titles can certainly be used in other grade levels to help with readers at different levels that teachers have in their classroom. Additionally, read alouds make using some of the upper grades appropriate for the lower grades if the content aligns. And, of course, upper-level students can explore the deeper meaning in a simple image or part of a lower-level book. The authors anticipate that teachers will implement a variety of reading strategies while using these science-based books. Examples include highlighting character descriptions in biographies, demonstrating how to use text features to gain meaning from a text, and incorporating opportunities for retelling main ideas and key details of a text. Presented below are this year’s selections.


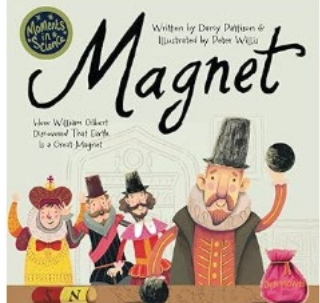
The 2025 Indiana Science Trade Book Annual Reading List (IN-STAR)

Kindergarten	
	<p>ELSE B. IN THE SEA: THE WOMAN WHO PAINTED THE WONDERS OF THE DEEP. 2024. Cedar Wang. Illus. Cedar Wang. Abrams Books for Young Readers. 32pp. ISBN 13 978-1605379999. The title shares a colorful story of how an artist, Else Bostelmann, dove into the ocean and painted the wonders of the deep. She and her team used a bathyscope for herself and her painting supplies to capture the wonders of the deep and share them with the world. Teachers will be able to use it as a launching pad to integrate art and science. STANDARD: EARTH AND SPACE SCIENCE, ENGINEERING, TECHNOLOGY, AND APPLICATIONS OF SCIENCE, and LIFE SCIENCE</p>
	<p>HERE ARE THE SEEDS. 2024. JaNay Brown-Wood. Illus. Olivia Amoah. Kids Can Press. 32 pp. ISBN-13 978-1525308307. Two young gardeners plant seeds and watch them grow. Throughout the season they learn what nurtures the life cycle of plants and crops in their garden. STANDARD: LIFE SCIENCE</p>

First Grade	
	<p>CLEVER CROW. 2024. Chris Butterworth. Ilus. Olivia Lomenech Gill. Candlewick Press. 32 pp. ISBN-13 978-1536235425. This rhyming book explores the surprising intelligence (and sneakiness!) of crows. With engaging facts and lively illustrations, young readers learn how crows use tools, play tricks, and solve problems. This nonfiction book fosters curiosity about animal behavior and highlights the cleverness hidden in one of nature’s most common birds. STANDARD: LIFE SCIENCE</p>
	<p>THE DEN THAT OCTOPUS BUILT. 2024. Randi Sonenshine. Ilus. Anne Hunter. Candlewick Press. 32 pp. ISBN-13 978-1536226546. This lyrical, rhyming nonfiction book follows a clever octopus as she builds a safe den, hunts, and prepares for motherhood. With poetic language and interesting vocabulary, it reveals the survival skills, adaptations, and life cycle of an octopus and introduces young readers to the wonders and intelligence of marine life beneath the sea. STANDARD: LIFE SCIENCE</p>
Second Grade	
	<p>BUILDING A BEAK: HOW A TOUCAN’S RESCUE INSPIRED THE WORLD. 2024. Becca McMurdie. Ilus. Diana Hernandez. Page Street Publishing. 32 pp. ISBN-13 978-1645678687. A real-life story of Grecia, a toucan who lost part of her beak in a cruel attack. Veterinarians and engineers come together to design and create a beak for her to live a full life. Written with engaging language and vivid illustrations, teachers will be able to highlight problem solving and the engineering process. STANDARD: LIFE SCIENCE and ENGINEERING, TECHNOLOGY, AND APPLICATIONS OF SCIENCE</p>
	<p>THE MIGHTY POLLINATORS. 2024. Helen Frost. Illus. Rick Lieder. Candlewick. 32 pp. ISBN-13 978-1536229103. The title celebrates the types of pollinators beyond bees (e.g., ants, bats, and the wind). Two-page photo spreads allow readers to observe close-up, dazzling details of the pollinators in action. Playful poetry accompanies the images to help share the story of how pollinators help plants. STANDARD: LIFE SCIENCE</p>
Third Grade	

	<p>FIRE ESCAPE: HOW ANIMALS AND PLANTS SURVIVE WILDFIRES. 2024. Jessica Stremer. Illus. Michael Garland. Holiday House. 128 pp. ISBN-13 978-0823454426. This non-narrative informational book describes traits of animals and plants that help them survive during wildfires and survive in their changed environment after the devastation. The narrative is supported by wood-cut style illustrations and photographs and is interspersed with text boxes of “Fire facts.” End pages include a glossary and bibliography. STANDARD: LIFE SCIENCE</p>
	<p>THE IGUANODON’S HORN. 2024. Sean Ruben. Clarion Books. 48 pp. ISBN-13 978-0063239210. How do we “know” what extinct animals such as the iguanodon looked like when only their fossils remain? As Ruben reveals in this book, the interpretation of fossil data can change over time as technological advances are made, thereby changing what scientists thought they knew. Detailed illustrations include cartoonish elements and occasional humor. STANDARD: LIFE SCIENCE</p>
<p>Fourth Grade</p>	
	<p>WHIRLIGIGS: THE WONDROUS WINDMILLS OF VOLLIS SIMPSON'S IMAGINATION. 2024. Carole Boston Weatherford. Illus. Edwin Fotheringham. Calkins Creek Books. 32 pp. ISBN-13 978-1662680410. Always fascinated by how things work, Vollis Simpson spent a lifetime tinkering with, fixing, and repurposing machines. The whimsical illustrations enhance this story of how someone with a creative mind and problem-solving approach can turn simple machines into objects that are valued for both functionality and artistic design. STANDARD: PHYSICAL SCIENCE</p>
	<p>OWLS: WHO GIVES A HOOT? 2024. Frances Backhouse. Orca Book Publishers. 96 pp. ISBN-13 978-1459835290. This non-narrative informational book describes how owls use their senses for survival, and describes how their structures to support growth, behavior, and reproduction. The engaging storylines, captioned photos, and text boxes of additional facts provide readers with an abundance of information about these amazing creatures. STANDARD: LIFE SCIENCE.</p>
<p>Fifth Grade</p>	

	<p>THE FABULOUS FANNIE FARMER: KITCHEN SCIENTIST AND AMERICA'S COOK. 2024. Emma Bland Smith. Illus. Susan Reagan. Calkins Creek Books. 40 pp. ISBN-13 978-1635926125. Fannie Farmer was truly a kitchen chemist, relying on precise measurements rather than guesswork when cooking just as scientists would. Her life story is presented in the narrative well-suited as a read-aloud. End pages provide photos, a timeline, and more in-depth content about her promotion of using standard measurements in cooking. STANDARD: PHYSICAL SCIENCE</p>
	<p>WILDLIFE CROSSINGS OF HOPE: CONNECTING CREATURES AROUND THE GLOBE. 2024. Teddi Lynn Chichester. Illus. Jamie Green. Holiday House. 160 pp. ISBN-13 978-0823453542. This chapter book presents the problems of animal crossings and associated solutions designed to ensure that species worldwide can safely move from place to place for migration and survival. Current and proposed solutions for species such as mountain lions are presented with some digital art interspersed. End pages include an epilogue and bibliography. STANDARD: STANDARD: ENGINEERING, TECHNOLOGY, AND SOCIETY</p>
Primary Honorable Mention	
	<p>SLEEPY: SURPRISING WAYS ANIMALS SNOOZE. Jennifer Ward. 2024. Illustrated by Robin Page. Beach Lane Books. 32 pp. ISBN-13 978-1665935104. Featuring otters, bears, giraffes, and other animals, each page spread presents the interesting characteristics of an animal's sleep patterns through a four-line rhyming verse. Additional information about each animal is provided in smaller font on the page for advanced readers. STANDARD: LIFE SCIENCE</p>
	<p>ONE DAY THIS TREE WILL FALL. 2024. Leslie Barnard Booth. Illus. Stephanie Fizer Coleman. Margaret K. McElderry Books. 40 pp. ISBN-13 978-1534496965. Sharing the story of a fir tree, this beautifully illustrated title reminds children that death is part of an organism's life cycle. The book's images and poetic text detail important relationships a tree can have with its community during its life cycle and after its death. Examples include providing microhabitats for spiders and mushrooms and creating shelter for salamanders and birds. STANDARD: LIFE SCIENCE and EARTH AND SPACE SCIENCE</p>
Intermediate Honorable Mention	

	<p>SUSTAINABLE STRUCTURES: 15 ECO-CONSCIOUS BUILDINGS AROUND THE WORLD. 2024. Kate McMillan. Holiday House. Pp 40. ISBN-13 978-0823455669. Organized into five categories such as local materials and adaptability, fifteen sustainable structures from around the world are detailed to show how engineers work to support conservation. Most of the content is presented through digitally-designed visuals that are engaging and informative. STANDARD: ENGINEERING, TECHNOLOGY, AND SOCIETY</p>
	<p>MAGNET: HOW WILLIAM GILBERT DISCOVERED THAT EARTH IS A GREAT MAGNET. 2024. Darcy Pattison. Illus. Peter Willis. Mims House. 33 pp. ISBN-13 978-1629442457. The life of William Gilbert, the “Father of Magnetism,” is presented along with his research on magnetic interactions. Cartoon-style text and varied font styles are included throughout the book. STANDARD: PHYSICAL SCIENCE.</p>

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Authors

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

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What a Doll: Contextualizing Artifacts of Play through Storytelling & in the Classroom

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ABSTRACT

We contextualize the notion of using popular culture artifacts (dolls) to extend learner engagement in K-12 classrooms. We look intently at the Friends Forever Club and especially turn our attention to three Friends Forever Club dolls and their connected scientific disciplines: Viera (mineralogy & geology), Alanis (computer engineering), and Carina (astronomy). We first consider the dolls as connectors that extend learners' play to their engagements in reading, writing, imagining, and re-imagining identities associated with various Science Technology Engineering Arts and Math (STEAM) activities. We also idealize the dolls as western cultural (because they are toys imbedded within the United States culture and the United States cultural practices of children's play) artifacts (because they are objects that are imbedded in children's lives in ways that other dolls, such as Ever After High, Barbie dolls, and others are imbedded in lives) as identity connectors. These, as identity connectors, can help to extend learning engagement in the classroom and specifically, female learners' engagement and connections to subject content in the classroom. The central questions of *How can artifacts such as the Friends Forever Club dolls engage learners with subject area content? How can doll play help to facilitate spaces in which young women's evolving identities can be privileged and important classroom practices be enacted? How can the Friends Forever Club dolls mediate literacy and other practices within the classroom?* are the foci of this article.

KEYWORDS

Artifactual literacies, dolls, literacy, STEAM, careers, science, women

Our research study grew out of care for learner engagement and from a spark to remember and share our own doll stories and identities formed in early childhood play, settings, and localities. Our positions as pre-teacher education students (Faith) and university instructors (Christina and Jennifer) we feel enrich this study and have allowed us to write from differing perspectives while focusing on the important matter of how toys – specifically, dolls - as artifacts, can allow for connections to individuals' experiences and imaginations, mediate ideas, and help to facilitate classroom learning and response activities.

Figure 1: Friends Forever Club Dolls



Conceptual Framework

In this article, we use Artifactual Literacies (Pahl & Rowsell, 2010) as a foundational platform of knowing that guided our writing, so that toys (and especially dolls, as imbedded artifacts within lives, within classroom spaces) can be reimagined as mediators to extend learning in a classroom when teaching and engaging in subject matter in/related to the sciences. We also discuss possibilities for the dolls, as artifacts of play, to help facilitate spaces in which learners' own identities and imaginations can be naturally woven together with writing and storytelling classroom activities and experiences, furthering multiliteracy practices. We consider artifacts as dynamic because they relate to our individual stories of play from childhood experiences because they are entry points to connecting our remembering to crucial events/times in our lives (Cooper, 2023; Romero-Ivanova, 2022; Ivanova, 2014). Artifacts' dynamicity involves learners' abilities to speak and story connections (Pahl & Rowsell, 2010). The artifacts become agentive as they facilitate re-storying of the remembered and meaningful practices in our lives (Romero-Ivanova, 2022; Pahl & Rowsell, 2010).

Literature Review

Doll play involves the convergence of imaginations, lived experiences, and life worlds but it also affords opportunities for learners' development in the classroom context. In this section we provide discussion on knowledge that relates to social development, transformation, and identities, which importantly relate to ideas for extending learning which have developed (and ones that we divulge in the discussions section of this article) because of this research.

Brain Development & Social Processing

Playing with dolls activates different facets of brain development and social processing (Keating et al, 2023; Hashmi et al., 2020). Doll play has been shown to activate key social processing regions of the brain that facilitate imaginative play, in turn fostering empathy and social

information processing skills when relating to others (Keating et al., 2023). Artifacts such as dolls, when used even in solo play can facilitate care and empathy (Hashmi et al., 2020). Doll play encourages children to explore emotions and thoughts.

Doll Play as Transformative Play

Toys, “are particularly meaning-laden texts that invite identity transformation as children animate the materials and project play identities through them” (Wohlwend, 2009, p. 76). Contextually, dolls in the classroom become agentive artifacts in a literacy practice in which learners can make and remake identities, and script and perform imaginations (Wohlwend, 2009). Doll play enables teachers to diversify their classroom climates, using different dolls of various ethnicities and genders (Sturdivant, 2020; Yoon, 2020).

Female Identity

There has been a significant shift in the percentage of females in the workforce over the last hundred years in the United States. In 2022, over 56% of the workforce was female (Bureau of Labor Statistics, 2023) versus in 1920 when only about 20% of the workforce was female (U.S. Department of Labor, n.d.). According to the U.S. Department of Labor Women’s Bureau the top two professions of females are registered nurses and elementary and middle school teachers. Since 1920 the professions most held by women have not changed (U.S. Department of Labor, n.d.). According to the National Girls Collaborative Project (NGCP) (2024, February 26), only 34% of the science, technology, engineering, and math (STEM) workforce is female. Groups such as the NGCP and American Association of University of Women are helping to address this gap within the workforce through creating opportunities for young girls to meet female scientists, recommending toys to inspire girls in STEM, and other resources and supports (NGCP, 2024).

Identity for youth may be impacted most during high school. According to Tan and Maeda (2021), “High school is a critical period for identity development, since the growing academic difficulty level may challenge student ability, achievement, and identity in science” (para. 3). Science formation identity is heavily affected by influential family members and teachers. Positive science identity during high school is highly influential in a student choosing a future STEM major and career, as well as retaining the person in that field (2021).

Due to a fixed mindset of teachers that certain students, such as females, African Americans, and Hispanic/Latinos are not good at science, it may be difficult for these students to identify as future scientists (Tan & Maeda, 2021). Based on Tan and Maeda’s research, students with teachers practicing growth mindset can assist students to further develop their sense of science identity. Research has also shown that teachers promoting a growth mindset have students who persevere through difficulties and attempt more challenging topics (Bardach et al., 2024). Using resources such as those offered by NGCP will enhance and promote self-efficacy in students, especially females, to consider a future in a STEM profession (Tan & Maeda, 2021).

Ways of Re-storying

We went about thinking about researching and writing about the topic of doll play within classroom contexts in different ways. We thought about how a young girl would identify with a Friendship Club doll and how she might want to use it. We placed each of our mindsets into that of young girls, which added to our own stories of doll play - how we each remember interacting with our dolls and other toys that were associated with our individual identities during times of

our childhood experiences. Wohlwend (2018) posits that children's play can be imagined as a kind of literacy because it can extend to reading, writing, and speaking.

We considered learning about our childhood selves through artifacts (and for the sake of this article, toys as artifacts) – sentimentality – our habitus, our stories, our literacy practices. As Pahl and Rowsell (2010) note, objects [artifacts] and the uses of them relate to habitus, or how an individual lives, behaves, and interacts with others and experiences in their lives. Forman-Brunell (2012) also posits that play (and particularly, doll play) relates to habitus and identity: “In addition to production and self-expression, dolls are also sites of identity formation seen as shifting, performative, and prescriptive” (p. 9).

We wanted to know how students' interactions with the dolls would implicate their sense of habitus and the nature of their play with the dolls as well as shed light on their identity play: would students take on the imbedded Science, Technology, Engineering, Art, and Math (STEAM) identities of the dolls, would they imprint their own identities onto the dolls and in the doll play, and would there be created identities based on interactions with the dolls?

While writing, we used a critical lens to view doll play within the classroom. We conceptualized students' doll play as textual (Wohlwend, 2012 & 2009) and multimodal literacy practices (Almeida, 2020). Students' potential activities and interactions related to reading each of the dolls' backstories and learning about STEAM careers (textual), as well as students' writing connective stories about the dolls (multimodal) could reveal children's interests and imaginings about future careers and identities.

We thought of doll play as translational (Lockman & Tamis-LeMonda, 2021), because students – through their practices of playing with dolls can bring the outside world into the classroom (careers in sciences, women in sciences) through the above-mentioned textual and multimodal literacy practices. The current shortage of females in the sciences prompted us to write; it provided a necessary springboard for our topic and led us to critically examine current literature.

Storytelling

Storytelling as a Literacy Practice

As posited by Pahl and Rowsell (2010, p. 3), literacy “involves many different scripts, and it can exist in many different languages and settings.” In this article, we propose the idea of the Friends Forever Club dolls mediating classroom spaces: as both connectors and mediators, the dolls can be considered in authentic classroom practices in which language scripts of their own backstories (see the following sections) can dynamically be used as springboards to engage learners with the knowledge of different STEAM careers and classroom activities. As learners express their own ideas, they create imaginative new identities and scripts in the process, re-storying the Friends Forever Club dolls' narratives in multimodal ways. As connectors to imagined or real identities (mentioned in the previous section), students can learn about STEM careers through the dolls' embedded stories, which can extend into activities related to STEAM literacy. Career vocabulary, fluency, and reading comprehension, which relate to Indiana's Science of Reading (SoR) (IDOE, 2025) initiative, can be used to research specific careers related to astronomy, computer technology, geology, art, and other disciplines.

Viera the Mineralogist and Geologist

“Viera has a passion for crystals and gemstones! She loves making art, being outdoors, and adding more crystals and gemstones to her growing collection. When she grows up, she dreams of becoming a Mineralogist and Geologist.” (Friends Forever Club description)

Figure 2: Friends Forever Club Doll Viera



Evelyn's Doll Story. I grew up as an avid doll player. I loved exploring the depths of my imagination through doll play. Dolls enabled me to explore my own dreams and interests by being exposed to many different diverse dolls I could learn about and relate to. My favorite doll brands growing up were Barbie, Monster High, and Bratz dolls. Each of these doll brands had accompanying movie franchises that explored the personalities of the characters. These brands also created diverse dolls that had different careers, hobbies, interests, dreams, and backgrounds. I always loved creating my own stories for my dolls, but I think the companies did well in giving each character their own personality for children to be able to explore and relate to. I was able to learn about myself through dolls and all their quirky differences. Barbie taught me I could be anything I wanted to be, Monster High taught me what makes me unique also makes me fierce, and Bratz taught me the importance of friendship. Dolls have and will always be so much more than a toy. They are tools for exploration in identity for young girls across the globe.

Carina the Astronomer

“Carina has a passion for space! She loves stargazing and studying Astrology [Astronomy]. When she grows up, she dreams of becoming an Astronaut and exploring the galaxy.” (Friends Forever Club description)

Figure 3: Friends Forever Club Doll Carina



Jennifer's Doll Story. Growing up, I cherished several beloved toys that still invoke positive memories to this day. For five years, I was fortunate enough to receive a Cabbage Patch doll from my aunt and uncle at Christmas. Although I enjoyed changing my dolls' clothes, reading books to them, and rocking them to sleep, my Fisher-Price play sets were my most treasured toys. Among them were my well-loved hand-me-downs, the vintage Fisher-Price Farm and Fisher-Price House (See Figure 4 and Figure 5) dating back to the 1960s. These play sets and figures served to normalize my childhood milieu.

Figure 4: Vintage Fisher Price Little People 1960's Yellow Blue Play Family House



Figure 5: Vintage Fisher Price Little People Family Farm 1960's Play Set



Residing on a small dairy farm in rural Indiana, the Fisher-Price Farm and House became staples in my imaginative play, allowing me to relive cherished moments alongside my father as he did his chores. Supplementing its array of farm animals with additional Holstein cows, I meticulously reenacted daily routines, from family meals to outdoor chores to bedtime rituals. This imaginative play, which also bolstered my own habitus (Pahl & Rowsell, 2010) of growing up on a farm fostered a deep sense of connection and identity within my rural, family-centered, two-parent upbringing. It bolstered my habitus of growing up on a farm by offering performative testimony through using toys to act out farm chore behaviors.

Conversely, the two-story Fisher-Price Hospital circa 1976 (Figure 6) and the brick Fisher-Price Sesame Street Townhouse circa 1974 (Figure 7) I was given introduced me to urban environments that I had only read about. The compact, single-level structure of our local hospital stood in stark contrast to the complexity of the toy hospital, complete with elevators, stretching my imagination beyond the confines of my reality. Similarly, the concept of a townhouse with a set of steps leading out onto city sidewalks seemed alien, challenging my understanding of urban living. The language of play (Toub et al., 2018), the embedded vocabulary of the different real and toy structures, opened a world of imaginative play for me.

Figure 6: Vintage Fisher Price Little People Hospital



Figure 7: Vintage Fisher Price Little People 1970s Play Family Sesame Street House



While these play sets diverge from the discussion of dolls in this article, they nonetheless contributed to the validation of my identity. The Friends Forever Club Carina doll epitomizes this notion, designed to inspire exploration among children aged three and older. As articulated on its packaging, "Carina has a passion for space! She loves stargazing and studying Astronomy. When she grows up she dreams of becoming an Astronaut and exploring the galaxy" (Dollar Tree, 2025). Featuring a Black female protagonist with glasses and natural hair, this doll fills a critical void, particularly considering the underrepresentation of Black female scientists (Varma, 2018). By presenting a relatable model, Carina may ignite curiosity and validate aspirations for space exploration among young girls seeking characters who resemble them and share their passions.

It was evident by Carina’s design that I could connect with her due to her starry dress and night-sky packaging. These features were a tangible way to connect an interest of mine and my family. My five children have all shown an interest in the night sky and solar system. My boys were curious about NASA’s Mars exploration expeditions, whereas my daughter was intrigued by the mythological stories about the constellations. All of them were fascinated by the changes in our seasonal night sky. Carina also serves as a nostalgic reminder of when my elementary school provided a traveling sky lab for us to learn about planets and our seasonal night sky. This is a fond memory of mine because of the excitement and curiosity my teacher shared with all of us. Overall, Carina became more than just a toy that I could share with my children and others; it is a symbol of shared interests, family bonding, and a physical reminder of the memories that were integral in finding the joy in learning. Carina is a powerful resource in nurturing curiosity and connections.

Alanis the Computer Engineer

“Alanis has a passion for technology! She loves playing video games, building toy robots and drones, and playing soccer. When she grows up, she dreams of becoming a Computer Engineer and maybe an online influencer.” (Forever Friends Club description)

Figure 8: Friends Forever Club Doll Alanis



Christina’s Doll Story. Growing up amid roaming tumbleweeds, beautiful mango sunsets, and desert warmth with very few toys allowed my imagination to soar among the winds. My doll play became times of joy and wonderful distraction, as comforting and lovely as the wild primroses that grew, as I grew in Taco Town in Eastern New Mexico.

Many moments during early evenings had me sneaking out of my room to journey with Barbies in hand across the street to play under the bleachers during a baseball game. I would settle my dolls beside me as I used the mud from the fresh rain to construct houses. Sometimes my dolls would experience spa baths as I played with them and soaked in the wonderful sounds of the game. My interactions with the dolls included first creating memorized scripts for my dolls, making them interact with each other through speech and behaviors within different “scenes” (short moments of play in which I would change the story/theme). Voicing for each doll mimicked my own personality and behaviors like written and verbal storytelling I routinely engaged in. The dolls talked with one another about their experiences through campfire stories and while gardening in the back of their dollhouse, and each scene involved me practicing talking and demonstrating my own habitus or ways of being and interacting.

As the years continued, doll play became an important part of my creative space. I found myself intrigued with a new doll genre/format: Holly Hobbie paper dolls.

Figure 9: Holly Hobbie Paper Dolls



I created lace bonnets and broom skirts from magazine pages and dressed and redressed my paper friends amidst creating adventure stories for them. Countryside escapades or tea parties quickly wove journal pages together as my paper muses multimodally extended my imagination from simple play to narrative writing. This narrative play continued far beyond the margins of my childhood and well into my adulthood as I created stories for my daughters based upon my childhood years of play.

Digital Bonnets: A Reprisal of Doll Play, Digitally. The Friends Forever doll, Alanis, ethnically represents a brown girl so this drew me in as a Latina who did not see herself represented in toys growing up. Alanis' key interest is technology and enjoys playing video games, building different kinds of technology, and hopes to become a computer engineer. Her interests and mine intertwine: I teach a technology course, write and publish on the uses of technology for storytelling, and find virtual identities and practices fascinating. So having the ability to digitalize my doll play as a child would have allowed me to create a digital Holly Hobbie or a new type of "paper" doll. My imagination and dreamworlds would have involved me in my room, iPad in one hand with a digital pen in the other to create my paper doll, fashioning digital bonnets with flowing prairie dresses (e.g., Figure 10), while intermittently typing out stories of romance and adventure.

Figure 10: Digital Bonnet drawn by Christina



Discussion

Dolls and other toys can have significant roles in facilitating discussions and fostering interest in various topics. At a mere glance what a teacher may hold in their hands is just a doll or a toy, but by utilizing it as a tool shared interests may be found to form relationships between classmates and adults in the school setting. Through this development, vocabulary and storytelling are exchanged. Classmates' ways of behaving in the world are reflected in their conversations. Individual interactions with dolls specifically encourage youth to consider how their identity is reflected on a doll, especially one that has an identified career. Dolls and other toys help form stories that encourage deeper curiosity but also to encourage more of a transactional relationship (Rosenblatt, 1969) between the doll (as text) and the student (as reader and interactor). Teachers should consider toys to engage students as new topics across subject areas are introduced for them to have a tangible item to view and manipulate.

Implications

In this section, we provide a re-storying of practices we imagine for each doll: a summary of each doll's scientific interests, each of our reasons for choosing the doll, and then practical ideas for uses within the classroom.

Re-storying Viera's Narrative

I chose the doll Viera because she loves crystals and gemstones, art, and being outdoors. I am also a nature lover, creative, and am fascinated with the Earth. I find geology to be one of the most interesting branches of science, so I related to Viera and would have probably chosen her as a kid. She also has bright pink hair and an outfit I could see myself wearing. As I have just demonstrated, students can also relate to the four Friends Forever Club dolls and explore science through playing with them in the classroom. I think these dolls could be used as a portal for young girls to get exposure to STEM.

1. Rotating stations- each doll gets its own hands-on activity for girls to travel. As the students travel from station to station, they will have the opportunity to explore Geology, Astronomy, Computer Science, and Marine Biology. At every station the girls will learn about these different branches of science through online research to specifically discover vocabulary associated with each career branch. They also will have the opportunity to embed STEAM vocabulary into doll play, as the dolls themselves in real life, becoming a scientist for the day. This would be an excellent way for young girls to explore their identity through doll play.
2. Rotating Stations (Geology)- At the Geology station, students will have a large tray filled with sand and different rocks, gemstones, and crystals hidden within. The students will use a shovel to dig through the sand and complete a scavenger hunt where they must find and then identify certain rocks, gemstones, and crystals, as objects, with laminated matching vocabulary terms hidden within the sand.
3. Rotating Stations (Astronomy)- At the Astronomy station, students will partake in a Virtual Reality (VR) experience that allows them to gaze into the sky as if they were using a telescope and identify the constellations in a similar scavenger hunt as they completed at the Geology station. As students locate constellations in the VR experience, they would also recreate each constellation onto a "Wanted" poster at the station. If there is no access to virtual reality technology, the same could be accomplished on a computer.

4. Rotating Stations (Computer Science)- At the Computer Science station, students will use computers or a tablet to code their own video game using *CodeMonkey*. *CodeMonkey* is a website created for kids to experiment with programming in a fun, accessible way. *CodeMonkey* provides different types of coding games to choose between, which allows each student to feel like they are all coding their own games. The exit ticket from this station will focus on a three-sentence reflection of one step they found was extremely helpful in the coding process.
5. Rotating Stations (Marine Biology)- At the Marine Biology station, students will use a Nintendo Switch to play a game called *Endless Ocean Luminous*. In this game, the student will be given the task of exploring the deep sea to discover different sea life as they scuba dive around the game's extensive map. Students will also be given a scavenger hunt checklist of sea life vocabulary to pronounce and find as they explore the game.

Re-storying Carina's Narrative

Carina provides a basis for a fun space-centered activity day for students in grades K-3. Activities for students may include creating a solar system model, building and launching rockets, space-problem solution activity, creating planets with clay, exploring the importance of space exploration, and a biography station to explore female space scientists.

1. Solar System Model: Provide children with paper to first draw a blueprint of the solar system they would like to create. In the drawing, have them label specific planets. Then provide students with paper (construction, poster, etc) to cut into planet shapes or Styrofoam balls, string, a yellow circle or ball. Have students color and cut out paper representations of planets. Help attach the planets to string and hang from a large circle representing the sun.
2. Building and Launching Rockets: Discuss the parts of a rocket through providing a poster diagram that highlights rocket vocabulary terms. Talk about how it launches into space. Do a choral reading of each term, with the teacher pronouncing each vocabulary term first and then students repeating aloud each term. Using cardboard tubes, have students decorate the tube to look like a rocket with markers, crayons, and construction paper. Take students outside and launch a rocket for students to observe.
3. Space-Problem Solution Activity: Discuss problems scientists have encountered with space missions. As a springboard for this activity, first do a read-aloud of the picture book *Hidden Figures* by Margot Lee Shetterly and have students pair up to do a turn-and-talk about challenges faced in the book. Emphasize the importance of teamwork and problem-solving skills. Provide each student with a printed-out double entry journal template along with a brief space-problem scenario. Have students write out the challenge(s) in the left column of the journal and possible solution(s) in the right column.
4. Clay Planets: Provide students with paper to create an Open Mind Portrait that will contain the drawing of their favorite planet (cover page) and 2-3 pages of unique features of their planet through doodles, words, phrases, and symbols. Encourage children to sculpt their own version of a planet, discussing the planet's unique features with one another.
5. The Importance of Space Exploration: First, provide students with an active listening guide to fill out while viewing a YouTube video. Show a YouTube video related to

- space exploration, and as students watch the video, pause from time to time and guide them to respond to questions on the template. Have students contribute one by one written words and phrases on a shared Google slide as to what space is and why it is important for us to explore space.
6. **Biography Station:** Read a short excerpt from the choice of their favorite picture book related to space exploration, located in the station. Have students do a Tea Party at the station, using pre-cut sentences from the books to share and discuss with one another.

Re-storying Alanis' Narrative

I (Christina) am in the classroom but work with adult learners who will be future classroom teachers, so my interest in student engagement is related to what students can learn and use with their own future learners. Since I teach methods courses for elementary and secondary teacher candidates and focus on digital applications, as well as teach a Using Computers in Education course, the connection to the Alanis doll seemed to be an amazing fit.

Alanis provides an important artifactual connection to students' learning through technologies. This doll and the other Friendship Club dolls can be used with middle school students to foster writing and creativity.

1. **Digital Story:** Using the Alanis doll as an artifact for cross-curricular writing, have each student choose Alanis or another doll and create a digital story based upon the doll's scientific discipline. The story can be solely on the doll and their adventures or can be a critical story of the student's and doll's identities overlapping.
2. **Fan Fiction Story:** Work with students to have them create a Google Doc or Google Slides fan fiction blog using Alanis as a springboard figure to talk about their own future self, goals, and aspirations. Allow students to read and respond to their classmate's blogs.
3. **Engineer Heroes:** Have students research different types of computer engineering careers and focus on their favorite. Students create a Wanted Poster for themselves, which focuses on their career attributes and how these matter as a future engineer.
4. **Girls Who Code:** Using Alanis' background as a female computer engineer to discuss the topic of women who code. Connect students (high school and/or higher education) to free programming: <https://girlswhocode.com/programs>

Conclusion

Exploring how dolls help students identify with a topic or career is a subject we will continue to explore, especially in our own practices and classrooms on our campus at Indiana University Kokomo. We hope that our own stories, but especially the practical methods associated with each doll's background and their connections to STEM fields will help you to consider how doll play can be utilized in the classroom to invigorate students' learning and even more, spark play and conversations about students' interests and imaginations.

As educators seek to find new ways to build connections and deeper relationships with students, toys and dolls may be an innovative way to foster these, so observing the use of dolls to introduce and explore topics in classroom practices will be encouraged as work continues in our

professions. We plan on furthering our own teaching practice with higher education students to spark their ideas of how they might consider doll play in their own future classrooms.

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Teaching with AI, Not for AI: Equity, Identity, & Authorship in Literacy

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ABSTRACT

The integration of artificial intelligence (AI) into literacy instruction has created new dilemmas for teachers, particularly around the balance of access, plagiarism, and authentic student voice. While AI can generate texts, prompts, and models with ease and speed, it raises critical questions about authorship, ownership, and student voice. Previous research in cognitive science and literacy instruction has demonstrated that cognitive offloading tools can support deep learning; however, little has been established on frameworks for explicitly teaching students and teachers to work with AI rather than for it. To address this gap, a three-stage framework illustrates how students can analyze, redirect, and integrate AI outputs while preserving authentic voice and thinking. The implications highlight how writing tasks can be redesigned to integrate AI in ways that maintain curiosity, perspective, and student identity.

KEYWORDS

artificial intelligence, literacy instruction, cognitive offloading, authorship, student voice, equity, digital literacy, writing pedagogy, cognitive flexibility, authentic learning

Education has always presented teachers with new conundrums. Teachers constantly face choices that require professional judgement and discretion. Extra recess on the first warm day of spring might refresh both the teacher and student, but it comes at the cost of losing precious instructional minutes. Adjusting the pacing of a unit gives struggling students more time to practice and master foundational skills, but it can leave proficient and advanced learners bored or disengaged. Choosing to read a rigorous and complex text aloud can ensure that all students have access to the content, but it reduces opportunities for independent analysis. These small, everyday choices reflect the larger balancing act of teaching. But more recently, the most polarizing dilemma is the integration of artificial intelligence (AI) into literacy instruction.

The path to the front of a secondary ELA classroom is often paved with prose, poetry, and perfectly placed commas, and many teachers arrive there because of a deep appreciation for language itself. It is no surprise, then, that the instinctual response to AI in the classroom has been to catch students using it as a shortcut or to ban it altogether. But our energy should be directed toward a more productive challenge: not whether to use AI, but how to leverage it in ways that expand access and provide meaningful scaffolds without displacing authentic student thinking or diminishing their voice.

Not only does this dilemma persist in classrooms, but it also seeps into the practice of designing, building, revising, and creating educational materials. Recently, our team noticed a pervasive gap in the tools available to ELA teachers, more specifically, that teachers needed short, very precise formative assessments aligned to standards that also addressed the barrier created by

a student's lack of background knowledge. Our brazen idea was to create common formative assessments for each grade level. Because these assessments were intended to assess reading comprehension, we would need to generate texts that were the appropriate length and Lexile to gauge students' competency in an individual standard and assess their readiness for ILEARN. To ensure the resulting data assessed the Indiana Academic Standard and not a student's familiarity with the topic of the text, we identified a unifying theme for each grade level, a theme that students could predictably have had some experience with or that a teacher could support quickly with video or images. For second grade, all the texts and media examples centered around weather, while in secondary grades, themes became increasingly complex, like the impact of the First Amendment and the relationship between humankind and nature. Our hope was to utilize AI as a tool in creating these texts, allowing us to develop assessments and writing tasks that mirrored what students would experience in ILEARN.

Initially, we were blown away by the efficiency: in seconds, AI could generate a polished passage that might have taken hours to research and craft by hand. That instant productivity echoed the same immediate gratification students often experience when turning to AI. Yet as we studied the drafts more closely, the gaps quickly became apparent, and repetitive patterns emerged. The language was sound, but the texts lacked a richness that only the human touch can provide. What began as a time-saving tool quickly became a challenge—how to elevate AI's potential without allowing it to overshadow the qualities that make literacy powerful.

When writing our common formative assessments, we had to scrutinize every word of a passage to align questions with the standards. The superficiality of the AI-generated texts became increasingly apparent. For example, when drafting questions around 7.RC.5, analyze the development of two or more central ideas over the course of a text, we found the passage barely contained one central, let alone two, and therefore couldn't be used to assess the grade-level standard. The lack of depth meant the texts could not sustain the comprehension questions we wanted to elicit or provide students with meaningful evidence to analyze. This alignment forced us to confront the difference between craft and content when using AI to generate texts.

In the end, we wrote over 200 texts as a team; we say wrote instead of generated because that's ultimately what we did. We had access to AI throughout the process, but to produce the caliber of texts required, we had to deeply reflect on how voice, nuance, and complexity are created within a text, and how those qualities form authentic writing. Our lessons learned were that AI is not a replacement for an idea. It's a language model. Just as a sheet over your head creates the illusion of a ghost by taking shape over your form, a language model needs a strong kernel to form around. Without the shape of the person, the sheet collapses into nothing more than fabric. In the same way, without meaningful ideas, perspective, or identity, the AI-generated text collapses into a generic, repetitive prose. The illusion may appear convincing at first glance, but it cannot stand on its own without a human to give it shape.

Artificial Intelligence as a Cognitive Offload

Artificial intelligence has the potential to serve as what Sal Kahn describes in his new book, *Brave New Words* (2024), as a "personal tutor" or "teaching assistant," providing differentiation and scaffolding for students, allowing them to engage more meaningfully and authentically with the content. Khan's ideas reflect the concept of cognitive offloading, a term used in cognitive science to describe the use of tools to reduce the internal mental demands of a given task or challenge (Morrison & Richmond, 2020). Cognitive offloading is not a new concept in the educational space; calculators, graphic organizers, spell checkers, and manipulatives all serve the function of

cognitive offloading. While these tools were initially met with resistance and panic over diminishing student capacity, they are now widely accepted because they temporarily free up working memory, allowing learners to concentrate on meaning-making, problem-solving, and creativity.

Research on cognition widely supports this shift. Thinking is “slow and effortful,” and heavily depends on working memory (Willingham, 2009). When tasks overwhelm working memory with various demands, such as graphological-semantics, students have less capacity for deep comprehension or higher-order thinking. Executive functions, such as cognitive flexibility, are essential for reading and writing, but can be compromised if cognitive resources are consumed by low-level tasks (Cartwright, 2023). Coupled together, research suggests that reducing unnecessary cognitive load is critical for creating space where deep and authentic literacy work can occur.

Within the framework of the Gradual Release of Responsibility model (Pearson & Gallagher, 1983), AI can serve as another tool to alleviate cognitive loads for both teachers and students. For teachers specifically, AI can reduce the load of designing lessons or units, allowing more time for responsive feedback and instruction. Similarly, AI can provide structured support during the guided and collaborative phases, as noted by Khan (2024), allowing students to allocate more cognitive energy to independent work.

When AI is leveraged for cognitive offloading, its efficacy depends on explicit instruction in ethical and purposeful use. Research on digital literacy emphasizes that students require guidance in accessing tools and in evaluating when and how those tools should be applied (Hobbs, 2010). Without structured guidance, modeling, and a reflection component, students risk developing an overreliance. Similar to how the Gradual Release of Responsibility model provides scaffolds as temporary supports (Pearson & Gallagher, 1983), AI must be intentionally and strategically introduced so that learners eventually gain ownership of the thinking and writing processes. Explicitly teaching students how to use AI to serve as a cognitive offload ensures that AI remains a tool rather than becoming a replacement for original thought.

To address these challenges and preserve authentic writing, a three-stage process positions students to learn alongside AI rather than for it. The framework is segmented into three stages. In the first stage, students analyze AI-generated text to recognize predictable patterns and limitations. During the second stage, they refine and redirect outputs through purposeful questioning. Finally, in the third stage, students will integrate AI’s support with their own ideas and voice to create authentic writing. Together, these stages cultivate authorship, critical thinking, and ethical use of AI within the writing process.

Table 1: Stages to Support Authentic Writing Practices with Artificial Intelligence

Stage 1: Pattern recognition in AI	Identify formulaic AI patterns; analyze for authenticity and voice
Stage 2: Directed Divergence	Refine prompts to deepen AI responses and add context and specific details
Stage 3: Reflective Synthesis	Integrate the AI scaffolds with personal voice, ideas, and ownership

Stage 1: Pattern Recognition in AI-Generated Texts

Pattern recognition refers to a student's ability to notice recurring features, structures, and organizations in a text. Literacy research has continuously emphasized its importance in reading comprehension and the writing process (Duke & Pearson, 2002). Skilled readers automatically recognize patterns in text structure, while novice readers need to be explicitly taught to identify patterns. As text complexity increases, pattern recognition becomes the key to making meaning of complex sentences and ultimately, complex texts. The same principle applies to the use of AI: identifying patterns and recognizing key features are the prerequisites for deeper engagement.

AI platforms, such as OpenAI's ChatGPT and Google's Gemini, are large language models (LLM) designed to predict the most probable sequence of words, which often results in formulaic structures with surface-level coherence rather than nuanced, authentic expression. Students who approach LLM-developed texts as authoritative may overlook these limitations. However, explicitly teaching students to spot these predictive patterns can help students recognize the importance of voice, nuance, and perspective. By working through the first stage: pattern recognition, students will strengthen their digital literacy and reinforce the idea that authentic writing is defined by individuality and meaning-making, not just correctness or fluency.

The first essential step in explicitly teaching students to work ethically and effectively with AI is helping them recognize the recurring patterns in AI-generated texts. Potkalitsky (2025) outlines three skills for students developing authorship with AI. Adapted for secondary students, the first stage centers on equipping students to identify where AI writing feels formulaic, overly generic, or disconnected from authentic voice.

To translate this stage into classroom practice, students need concrete strategies to practice analyzing AI-generated content. One effective method is to teach them to pose targeted questions to AI systems, using the responses as opportunities to identify formulaic patterns and reflect on what authentic writing requires. This strengthens the reciprocal relationship between reading and writing; by strengthening students' critical reading skills, we are informing their writing practice.

When engaging in this learning, students should first input the prompt into the AI to generate a sample draft. This initial output is now positioned as an object of analysis rather than a finished product. By examining the draft, students can identify common structural patterns, notice where phrasing feels generic, and recognize what is missing in terms of voice and nuance. This process lays the groundwork for critical evaluation, helping students see AI outputs as predictable and limited scaffolds rather than authentic models of writing.

After conducting an in-depth analysis of the output, students should assess the writer's responsibility to their reader by posing the question to the LLM platform. This question helps students move beyond pattern recognition and into a deeper level of understanding of the prompt by considering ethics around communication in writing, while also highlighting the importance of voice and individuality in writing. Cognitive flexibility is essential for reading comprehension, which in turn affects the writing process (Cartwright, 2023). Cognitive flexibility allows students to shift perspectives and consider multiple viewpoints in their own understanding. By reflecting on this question, students are able to grapple with the fact that writing is a process that requires intentional choices that communicate identity, perspective, and meaning.

The final question directs students to ask AI what the draft is missing in terms of voice, identity, and perspective by considering how these elements would enhance the overall product or output. Without direct prompting, AI and LLM platforms cannot integrate lived experiences or cultural nuances into their responses. This limitation highlights a central truth in literacy instruction: authentic writing happens when content knowledge meets personal meaning-making. When considering these different elements, students will gain an understanding of how personal

experiences or values impact responses, thus learning the importance of preserving their own authenticity and how this cannot be directly outsourced to AI platforms.

Students complete a series of tasks designed to reveal the limits of AI and emphasize authentic authorship, learning to see AI as a scaffold that requires human judgment rather than a finished product. This stage of the process is about revealing the limitations of AI, prompting students to reflect on what authentic authorship requires. By doing so, this stage builds both digital literacy and authorship, laying the foundation for the subsequent stages, directed divergence and reflective synthesis (Potkalitsky, 2025).

Stage 1: Pattern Recognition in Practice

Recently, we collaborated with a teacher to develop an activity based on the prompt: “Write an argumentative letter to the school board explaining why or why not middle schools should have dedicated recess time.” The AI produced a formulaic and predictable draft, full of generic claims such as, “First, recess supports academic performance.” The teacher began the lesson by displaying the AI-produced letter on the board. As the teacher read through the AI-produced letter, she modeled how to underline repeated or predictable transitions, like “Furthermore,” and “In conclusion,” and how to highlight vague or generic language. Additionally, the teacher explained why these phrases felt generic and flat, and how they differed from an authentic voice.

From here, the teacher engaged the students in a guided comparison. The teacher had students evaluate a past student's example. Through guided questions that focused on tone, personal details, and repetition, the students were asked to annotate both texts side by side. At this stage, the students were starting to realize the limitations of AI writing. Students saw how authentic voice came through in personal anecdotes. Once the teacher had finished modeling the process, students would work independently through a series of AI drafts on different age-appropriate argumentative topics, analyzing them for patterns and demonstrating their ability to identify what is overly formulaic and what requires an authentic voice.

Stage 2: Directed Divergence

Directed divergence refers to the concept of intentionally guiding AI to move beyond its predictable outputs by becoming more effective prompt generators. This stage involves steering AI responses in a new direction, whether by reframing the prompt, adding specific contextual details, or incorporating details gathered from the first stage (Potkalitsky, 2025). This process teaches students to recognize where AI outputs fall short and how to intervene with intentional redirection.

Directed divergence demands the use of critical thinking skills. Ennis (2011) expertly defined critical thinking as the ability to reasonably and reflectively focus on what to believe or do. During this stage, students will engage in critical thinking by determining the next steps or questions to pose to AI to elicit better responses. This includes, but is not limited to, asking AI to present counterarguments, shift or add perspectives, or include specific contextual details. By learning to redirect AI outputs in intentional and more purposeful ways, students practice the core dispositions of critical thinkers.

Directed divergence creates structured opportunities for students to exercise cognitive flexibility—balancing and adding to their background knowledge. Within this stage, students are refining AI outputs while simultaneously strengthening their own ability to question, adapt, and

synthesize information. Directed divergence positions students to use AI in ways that foster higher-order thinking.

Explicit instruction in directed divergence means showing students, step by step, how to move beyond the generic AI output. Teachers can model this process in various ways, but students must have foundational knowledge of what makes a good question. This includes, but is not limited to, understanding how specificity, context, and perspective change the quality of the question. For example, the teacher might demonstrate how adding details like audience, purpose, point of view, and criteria shifts the AI response in meaningful ways. Guided practice should provide students with structured opportunities to grapple with various question types, outputs, and guided reflection, ultimately helping them arrive at a more authentic writing composition.

Additionally, research shows that directed divergence aligns with productive struggle in literacy instruction. Thinking is effortful, meaning students often benefit from wrestling with new ideas at their zone of proximal development (Willingham 2009). By explicitly teaching students how to redirect and push AI to produce more profound and more thoughtful responses, students engage in that productive struggle by weighing the adequacy of one draft with their intended purpose and experimenting with revision cycles. This recursive process mirrors traditional writing instruction, where drafting and revising are evolutionary moving parts and pieces to build fluency and voice.

After students develop a stronger prompt that produces the response they want, they should compare the original and revised outputs side by side, noting the strengths and limitations of each output. By reflecting on the revision process and how intentional prompting influences the quality of their responses, students are now active decision-makers, rather than deferring to AI or LLM platforms. This same framework can also be applied to the writing process without AI by asking: How has my draft evolved? What points are missing? What does my perspective add to the prompt? Am I following a predictable pattern that takes away from the meaning of my composition?

While directed divergence equips students with the necessary tools to guide and expand outputs, the final stage creates full ownership of the final composition. Reflective synthesis asks students to integrate what they have learned from earlier stages and transform the work into a piece of writing of their own.

Stage 2: Directed Divergence in Practice

Another teacher we worked with applied this process with his senior class using a personal narrative prompt. Because many of his students were in the middle of their college applications, he wanted to model how AI could be used ethically as a support tool. He directed his students to generate an AI draft to a common application question: “Write a personal statement about a challenge you’ve overcome and what you learned from it.” As expected, the drafts relied on vague struggles with academics and generic lessons about perseverance, resulting in surface-level reflections.

To encourage students’ thinking, the teacher demonstrated how reframing the prompt with specific details from their own lives could lead to stronger results. For example, instead of the broad challenge, he asked the AI to focus on “moving to a new school in the middle of my 10th grade year” or “balancing school during my parents’ divorce.” Students saw how these added details created a more in-depth response.

Following this modeling, students practiced redirecting their own drafts. Some students chose to supply details from their lives, while others experimented with stylistic choices, such as

“add humorous details about a time when I made the problem worse by worrying about it and overcorrecting.” The revised outputs demonstrated how specificity and style made the output more engaging.

To close the lesson, the teacher brought the class together for a collaborative discussion. Students added to their running list of AI’s strengths and limitations. The conversation highlighted that while AI can provide structure or a starting point, what ultimately makes a piece of writing unique and worth reading is the lived experiences, perspectives, and authentic voice that only a human can contribute.

Stage 3: Reflective Synthesis

The last stage in this process is where students integrate the scaffolds of AI with their new perspective, with their own voice, knowledge, and experience, to produce a composition that is uniquely their own. Potkalitsky (2025) frames this stage as the culmination of working with AI, where the tool has served its purpose. By this stage, students have experienced cognitive offloading in the earlier stages, using AI to handle the surface-level demands, so they are now better equipped to handle analysis. Reflective synthesis bridges that offloading with authorship, asking students to re-engage fully with their own ideas in order to create a final product that clearly communicates their meaning and voice.

What makes this stage distinct is its emphasis on preserving voice and ownership when using AI or LLM platforms. While these tools provide scaffolds and possibilities, they cannot integrate human experience, identity, or values, something unique to each writer. Students must learn that authorship is about communicating and presenting through writing who they are as thinkers; this holds true for all genres of writing, not just narrative. In argumentative writing, voice emerges through the stance the writer takes and the evidence they present. In informative writing, voice emerges through the way ideas and evidence are organized and presented, sentence structure, and how they address the audience. Reflective synthesis allows students to see how their voice should operate within each genre, when and how to elevate it, and how to ensure the final product stays accurate and authentic.

Explicit instruction during reflective analysis should make authorship and ownership visible. Teachers should model how to move from an AI draft to a piece that is their own. There are numerous ways, as with any skill, to explicitly teach it; one approach will be highlighted here as an example. As the teacher models the analysis and synthesis of the work from stages one and two, he/she should annotate three key elements: what is helpful (e.g., organization, sentence starters, new angles), what requires their own voice and perspective, and what needs complete revision (e.g., hallucinations, overused patterns, or repetition). This can be demonstrated through color-coding, underlining, circling, or other annotation strategies that make each element visible.

The goal of reflective synthesis is to move students from relying on and viewing AI as a shortcut or a way to bypass the writing process, but to instead view it as a tool that informs revision and reflection. By combining what is useful from earlier stages within their own voice and experiences, students learn that strong writing is built through choice, perspective, and ownership. Reflective synthesis of the AI outputs should be followed by a metacognition routine that encourages students to reflect on the entire process. This could include noting how their choices shaped the final product, what revisions elevated their voice, and how the outcome differs from what AI produced. This step reinforces that authentic authorship stems from intentional decisions and helps students internalize strategies they can apply in independent writing opportunities.

Stage 3: Reflective Synthesis in Practice

In this final stage, the featured teacher had already spent significant time explicitly teaching students how to engage in meaningful metacognition and reflection on their own reading and writing processes before scaffolding the use of AI. Her students were well-versed in peer review and self-checks, which laid the foundation for deeper work. In her classroom, she consistently pushed students to ask themselves hard questions about their work in order to strengthen their skills and independence.

When students began to incorporate AI, the teacher introduced a color-coding system using highlighters: anything kept from AI was in blue, any AI sentences that had been revised or improved were in green, and any original words were in yellow. For example, if a student kept the AI's organizational sentence starters, they highlighted them in blue. If they reworked vague claims using more specific details, they highlighted them in green. If they added an example from their own experiences, they highlighted it in yellow.

This system gave the teacher multiple data points. By evaluating the blue highlights, she could spot trends, such as students leaning heavily on transitions or sentence starters. This signals which areas need more explicit and direct instruction. When reviewing the green highlights, she could see how students were developing as writers by strengthening AI outputs and could target mini-lessons. Finally, the yellow highlights became the most important marker, representing the students' authentic contributions, which she focused on in her grading. Over time, she expected the proportion of yellow to increase, signaling greater independence and stronger voice.

This process actively engaged students in critical thinking by requiring them to analyze, evaluate, and justify their choices rather than passively accepting AI output. After completing their essays, students answered reflective questions. This served a twofold purpose: first, it made it nearly impossible to "cheat," since the reflections required students to engage deeply with both the content and the process; second, it reinforced the value of their original thinking. Ultimately, these reflective practices position AI as a scaffold and not a barrier, helping students elevate their voice.

Redesign, Not Restrict

The conversation around AI in education often focuses on restrictions, rules, and integration; however, the more pressing challenge is redesigning instruction to work effectively alongside AI. The teacher's role is now focusing on how to facilitate AI authentically and ethically. This requires careful discernment about when AI can support the writing process and when it risks undermining authentic learning.

AI can support both the craft of writing and the development of its content. However, it is essential for teachers to discern when to leverage AI for content and craft, and when students need the productive struggle of working through the writing process independently. For example, AI can suggest organizational patterns, refine syntax, or provide sentence starters. AI can also generate basic background knowledge, brainstorm examples, or provide arguments that help students engage more deeply with ideas. However, the risk lies in allowing AI to do both simultaneously, replacing the work of students rather than supporting it.

Additionally, teachers must discern when AI is providing access versus displacing authentic thinking. This type of discernment is grounded in facilitation. Instruction should be driven by student data, which informs decisions about what is taught, what is measured, and where students demonstrate strengths and weaknesses in their writing. In some cases, AI can remove barriers that prevent equitable access to the task, while in other cases, it can conceal gaps in learning. Skilled facilitation involves recognizing when students need to engage in productive

struggle and when AI can serve as a scaffold to keep them engaged in the process without using it as a shortcut. Recognizing both the strengths and limitations in each circumstance can help teachers integrate AI authentically and intentionally into their classrooms, leveraging it when it builds engagement and access, but also stepping back when it risks undermining ownership or the development of essential writing skills.

Equity must also shape how AI is integrated into literacy instruction and the writing process. For students who struggle to find an entry point into the content, AI can help fill in gaps, including background knowledge, language barriers, sentence starters, and grammatical refinement. However, in this context, equity cannot be coupled with equality. Providing every student with the same AI support risks masking individual needs. Equity requires teacher expertise in knowing when AI provides access that empowers students and when it removes opportunities for growth and development. When used strategically and intentionally, AI can level the playing field without lowering expectations, all while preserving student voice.

Overall, AI requires a strategic balance between numerous things: craft and content, scaffolding and independence, support and struggle, equity and ownership. Redesigning instruction around this balance ensures that AI serves as a catalyst for critical thinking. Teachers who explicitly model this discernment with their students empower them to recognize on their own the opportunities and limitations of AI use in writing.

The integration of AI into literacy instruction intensifies the ongoing challenge of balancing ownership and authenticity. Concerns about plagiarism have long existed in classrooms, but AI amplifies them and adds new layers of pressure for teachers. With this added layer of pressure, teachers must redesign tasks that move beyond product-driven writing and instead place a heavier emphasis on the process (drafting, synthesizing, revising, and reflecting).

In practice, we recently observed a teacher redesign one of her argumentative writing tasks by framing the prompt around this very conundrum: *Can AI claim authorship of writing?* Students began by entering the question into an LLM platform and then pushed the system with follow-up questions intended to expose its limitations on authorship. From here, the students then synthesized the question-and-answer responses into their own argumentative composition. This idea strengthened both the students' argumentative writing skills, questioning, and critical thinking skills, but also highlighted the exact problem she was facing when students turned to AI as a shortcut rather than as a tool for learning.

This three-stage process, as noted earlier, can help teachers refine and sharpen writing skills beyond the use of AI. The habits and strategies formed in each stage are transferable literacy skills that strengthen comprehension, analysis, and voice. When students learn to analyze text for patterns, they build the same close-reading strategies that aid in the comprehension of complex texts. When they practice directed divergence, they are practicing the line of questioning, revision, and perspective-taking that drives effective drafting and revising of writing. Finally, reflective synthesis underscores the significance of voice and ownership. Together, these three stages can serve as a framework for all writing, regardless of genre, task, or content.

Ultimately, the work of redesign is to preserve authenticity and to amplify student voice. Authentic writing must demand and measure more than compliance; it must cultivate curiosity, perspective, and ownership. By redesigning tasks with this in mind, teachers can help students use AI as a catalyst for thinking, not as a replacement, ensuring that what is preserved is curiosity, voice, and ownership.

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Authors

Tayler and Jordan bring extensive experience from secondary English Language Arts classrooms across Indiana, working with diverse student populations and instructional settings. As passionate educators, they have dedicated their careers to helping teachers build confidence in implementing effective, research-based instructional strategies that foster meaningful student learning.

Committed to the belief that every student deserves the power to read, write, and think their way into a life of liberty and the pursuit of happiness, their work focuses on bridging the gap between foundational skills and authentic literacy practices, ensuring that all students can develop their voice with confidence.

Currently, Tayler is a statewide literacy consultant for EES Innovation, and Jordan is the Senior Coordinator of Coaching and Intervention at Indianapolis Public Schools.



Helicopter Holding Her Own: The Exceptional Life of Jackie Ormes

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ABSTRACT

This article provides a book review of a new picture book biography based on the life and times of Jackie Ormes, a woman who should be famous but isn't, and shares an instructional strategy that teachers can use with this, and other picture book biographies, to support student reading and learning in the classroom.

KEYWORDS

Picture book, biography, Jackie Ormes, story frames

What do Charles M. Schulz, Walt Disney, Berkeley Breathed, Al Capp, Gary Larson, and Ralph Steadman have in common? Individually and collectively, they are all famous nationally syndicated cartoonists. There are, of course, many other famous syndicated cartoonists, but these artists have been nationally and internationally recognized and continue to be so today.

Unfortunately, the same is not true for Jackie Ormes. Unlike other famous nationally syndicated cartoonists, she is not famous but should be. *Holding Her Own: The Exceptional Life of Jackie Ormes* is a new picture book that finally recognizes and pays tribute to a woman who rightfully deserves recognition and a place alongside the most famous nationally recognized cartoonists in history.

Not surprisingly, this is an award-winning picture book. So far, it has won the Robert F. Sibert Honor Book Award and the Coretta Scott King Book Award. Artfully written by Traci N. Todd and beautifully illustrated by Shannon Wright, it is a remarkable biography of the life and times of Jackie Ormes.

As a child, Jackie loved to paint. Later, she became a poet and storyteller. She dreamed of writing for the powerful and influential Black newspaper, *Pittsburgh Courier*. Jackie applied for a job with the newspaper and the editor assigned her as a reporter on boxing matches. She was successful writing columns in the newspaper about boxing and boxers, but preferred painting.

Jackie created a comic strip about Torchy Brown, a fictional character who dreams of moving from Mississippi to seek her fame and fortune in New York. This character was inspired by stories published in the *Pittsburgh Courier* in which Black people left southern towns for the hope and promise of northern cities. Jackie wrote and illustrated the courageous ways Torchy Brown confronted and overcame prejudice and fear.

Later, Jackie married Earl Ormes from Salem, Ohio. They moved to Chicago, and she started to write a column in the *Chicago Defender* newspaper. Her topic was not new. During World War II, many Black people from the south moved to northern cities in pursuit of the promise and hope of wartime jobs. Chicago was one of those cities.

After the war, however, the jobs disappeared. Picket lines and protest marches were organized. Many of these lines and marches were led by black women. Jackie didn't march. It wasn't her style. She protested in a very different way.

Jackie created an imaginary, but endearing cartoon character named Patty-Jo. The purpose of this character was to make people smile even though they were experiencing hard times. Patty-Jo was a national success. Jackie also was a successful fundraiser to solve social problems important to her. She collaborated with a toy company to make a beautiful doll named, of course, Patty-Jo. It was a huge success.

After 12 years, Jackie wrote and drew her last Patty Joe comic. She was offered other opportunities to write and draw comic strips but declined because she was a one woman show. She spent her remaining days painting because ultimately, she was an artist. Her legacy is echoed in her own words, “I always like to see the cheerier side of everything and everybody.”

In addition to a fascinating story, this picture book includes valuable information about Jackie Ormes in the form of a note from the author, a note from the artist, and selected bibliography for further reading. Most importantly, this picture book recognizes Jackie Ormes as a famous nationally syndicated cartoonist who should not be overlooked anymore.

Instructional Strategy

I am a teacher educator in literacy education. I always want my students to personally experience instructional strategies as part of classroom instruction. *Story Connections* is an effective strategy to use with biography because it focuses on story elements, especially characterization (Burke et al., 1995). More specifically, this strategy helps students see the concept of a story as consisting of the connections between story elements.

It is also based on the process of transmediation, a process in which students create personal meaning from one communication system (language, music, etc.) and recast that meaning in another communication system (art, drama, etc.). For example, learners explore aspects of meaning they may have captured in art that they were not aware of having understood in language. *Story Connections* uses transmediation by inviting students to respond using both writing and drawing.

Typically, before reading I introduce *Story Connections* by first displaying the strategy on the whiteboard or on a PowerPoint slide (see Appendix A). Then, I discuss the strategy with the class. The following is an example of my introduction and discussion.

“Today, we are going to learn about the exceptional life of Jackie Ormes. She is a woman who should be very famous but isn't. We're also going to use a new reading strategy called Story Connections. Everybody should already have a copy of the strategy. Here's what we will do. [I display the front cover of the picture book.] I'll start to read aloud the picture book and pause at episodic changes in the story. Remember, episodic changes can include the introduction of a new problem or character, a different setting, a change in time, etc. I'll pause at each episodic change for about 1-2 minutes. During that time, I want you to share your impressions and questions about the story with the class. After reading the entire story, I want each of us to spend time completing the *Story Connections* strategy. You can complete the strategy by responding to the first four questions in numerical order. Then, respond to the last two prompts by drawing, not writing, your response. After everybody has completed their story connection strategy, we will get into literature circles and discuss our responses with others. As a culminating event, I want you to flip the strategy over and write personal reflections on the whole experience. Questions? Let's begin.”

Moving Forward

I hope this short article will do for readers what this new picture book about Jackie Ormes did for me. It motivated me, taught me new information, and inspired me to read more picture book biographies about people who should be famous but are not. Happy reading!

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Appendix A: Story Connections Strategy

Name of Student:

Name of Book:

Story Connections

1. What is the setting(s) of the story?	2. What is the goal(s) of the main character?
3. What problem(s) does the main character encounter?	4. How is the problem(s) solved?
4. Draw what the main character means to you.	6. Draw what the story means to you.



Author Guidelines for Submissions

The Indiana Literacy Journal is the peer-reviewed, open-access 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. Our editorial review board, readership, and authorship are nationally representative. All published content is available at no cost. Copyright remains with the author(s).

The editors will review manuscripts before sending them out for peer review. Manuscripts will undergo a double-blind peer review process with at least two reviewers who are members of the Editorial Review Board.

All submissions must meet the following requirements.

- The text is in APA (7th edition) format. See [sample APA professional paper](#).
- Where available, DOIs or URLs for the references have been provided.
- The instructions in [Ensuring a Blind Review](#) have been followed.
- In the “Comments for the Editor” section, include the full names, professional credentials, contact information, affiliated institutions, and short bios (100-200 words) for all authors listed in order of authorship.
- The submission has not been previously published, nor is it currently submitted to another journal for consideration.
- The submission file is a single Microsoft Word document.
- All illustrations, figures, and tables are placed within the text at the appropriate points, rather than at the end.
- Submit your manuscript at <https://inliteracyjournal.org/index.php/isla/about/submissions>.

Research and Practitioner 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. These articles should be approximately 5,000 to 8,000 words in length, including references, tables, charts, etc.. Research-based articles may be quantitative, qualitative, mixed methods, or literature reviews. Practitioner-based articles should focus on the application of research-based practices. These manuscripts undergo blind review by members of the journal’s editorial review board.

Teaching Tips

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. These short articles should be approximately 1,000 to 2,000 words in length and should include APA formatted references to the relevant research literature. Teacher and/or student examples help to illustrate the teaching strategy. These manuscripts undergo blind review by members of the journal's editorial review board.

Reviews of Children's and Young Adult Books

Book reviews submitted for the journal should be of recent children or young adult books that can be used in K-12 classrooms or libraries (published within the last five years). The reviews can be up to 500 words in length, and we recommend the "[Writing a Book Review](#)" resource on the Purdue Online Writing Lab's website for a list of questions and considerations that would be useful in crafting your review. The review should also include an instructional strategy or technique that can be used with the book to promote literacy learning or engagement. These manuscripts will be reviewed by the journal's editors.