

Reading in Virginia

Virginia State
Literacy Association



VSLA



Sparking Literacy
for a Lifetime



Reading in Virginia


Volume XLIV

Journal of the

Virginia State Literacy Association

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Letter from the VSLA Board President and Editor



*Tamara T. Williams
President, VSLA Board of Directors*



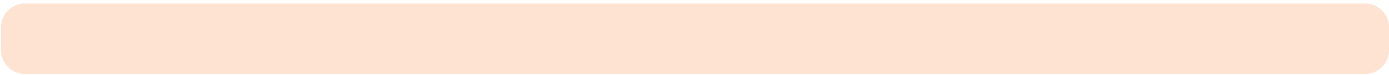
*Allison Ward Parsons
Editor, Reading in Virginia*

Dear Literacy Leaders,

We are excited to share with you the 44th edition of the VSLA journal, *Reading in Virginia*, which features this year's theme of *Sparking Literacy for a Lifetime*. *Reading in Virginia* is a double-blind peer-reviewed publication, which means that each article has been rigorously vetted in light of current literacy research, evidence-based strategies, and classroom application. This issue of *Reading in Virginia* represents those efforts and presents strong, research-based ideas to encourage and inspire excellent literacy instruction.

Articles highlight multiple aspects of literacy to meet the diverse needs of P-12 learners and educators. Articles are authored by our own VSLA members around the Commonwealth, including classroom and ESL teachers, university faculty and doctoral students, as well as authors from other parts of our nation. Topics are intended to spark thinking and literacy learning across the lifespan.

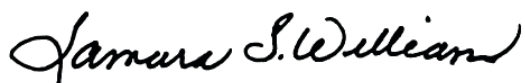
If you are seeking ideas to support early literacy instruction, please see articles by Chelsey Bahlmann



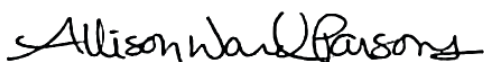
Bollinger and Joy Myers (page 1), and Reagan Murnan (page 31). If you're looking for ideas to support students' vocabulary development, check out Nancy Bradley & Mary Alice Barksdale's article on page 37. If you need research to support students' ability to read and write across disciplines, then articles from Sarah Lupo and colleagues (page 49) and Mary Tackett and colleagues (page 75) can offer unique insights and application. Angelica Blanchette and Maria Hamilton share research to support structured literacy instruction on page 11, while Jeff Cantrell and colleagues describe the importance of reflection as evidence of learning (page 61). For readers working with adolescents, this issue is packed with solid research and great implementation ideas! Check out articles by Deborah Duncan Owens (page 29), Kelly Kwolek (page 25), Amber Livingston and Joan Rhodes (page 69), and Michelle Picard (page 85). We close this issue with a roundup of the latest key research studies analyzed and compiled by Kristin Conradi Smith and a cross-university coalition of colleagues (page 95).

Reading in Virginia is a peer-reviewed journal with the mission of supporting the professional learning of literacy educators and researchers in Virginia and beyond. The journal is intended to be shared widely, and is included in the EBSCO Digital Repository. Manuscripts are currently being accepted for the 45th edition and should be submitted to allison.parsons@vslatoday.org by December 31, 2022. We sincerely hope you enjoy reading this edition, and find it useful to spark your professional thinking!

Yours in Literacy,



Tamara T. Williams
President, Virginia State Literacy Association, 2020-22



Allison Ward Parsons
Editor, Reading in Virginia

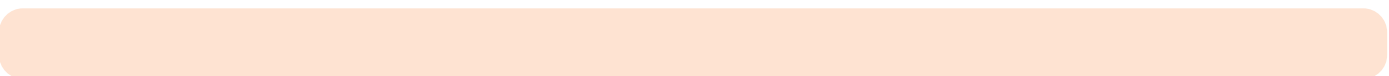


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Supporting Teaching Across the Professional Trajectory



Early Childhood Writing in Play-based Classrooms: Two Perspectives

Chelsey M. Bahlmann Bollinger and Joy K. Myers, James Madison University

Abstract

This article examines teachers' perspectives on writing in their play-based classrooms. The research questions for this study included: 1) How do two teachers, working at two different preschools, define writing?; 2) How do these teachers feel about their role in teaching writing?; and 3) How does technology shape the teacher's writing instruction? Data sources included extensive observations, interviews, and photographs. The findings add to the limited research on preschool teachers' beliefs about specific content areas and indicate that there are multiple pathways to helping young children find success with writing. Implications address ways to capitalize on the richness of opportunities to integrate writing and play.

Keywords: early writing, preschool, teacher perspectives, technology

Early Childhood Writing in Play-based Classrooms: Two Perspectives

"This year, some of my students are still adapting to being in a structured environment." - Ms. Anna, preschool teacher

"It's about creating the environment that could be ripe for ideas. What's cool about this space, is that it is so open-ended that kids often amaze you with what ideas they generate and you're like, 'I never thought that would come out of that space, but it did and that's awesome.'" - Ms. Lexie, preschool teacher

Preschool teachers, Ms. Anna and Ms. Lexie (pseudonyms), opened their doors for us to learn more about what writing looks like in their play-based early childhood classrooms. Currently, there is a well-established evidence base to show that young children can and should explore the features of writing from a very early age (Bradford & Wyse, 2013). Research suggests that the ways classroom teachers support young children's writing has evolved and will continue to evolve over time (Gerde et al., 2012; Kissel & Miller, 2015).

The purpose of this study was to better understand Ms. Anna and Ms. Lexie's beliefs about writing with young children and the way writing was enacted in their classroom environments.

Review of the Literature

Approximately one out of every four children in the United States attends a childcare center; therefore, it is not only important but essential that those literacy environments be examined (Terrell & Watson, 2018). Research suggests that there is a positive relationship between play and early literacy behaviors and specifically, that the physical environment can encourage children's authentic writing (Gerde et al., 2012; Roskos et al., 2003). For example, a classroom may have a writing center with materials such as pencils and paper easily accessible for students (Kissel & Miller, 2015). Early childhood classrooms should include a variety of opportunities for students to engage with writing daily (Bingham et al., 2017). Many teachers set up learning centers where students move from one place to the next depending on either their interests or a teacher's assigned time limit. During these learning centers, teachers may observe or interact directly with students. However, improvements in children's early writing occurs when environmental support is paired with intentional teaching (Epstein, 2015; Gerde et al., 2015). Scholars suggest that best practices with children's writing instruction also includes establishing an environment that contains a variety of writing tools (Copple & Bredekamp, 2009) and providing a multitude of opportunities for children to see and engage in meaningful writing (Gerde et al., 2012).

Seevak (2020), who has over 25 years of experience in early childhood education, writes, "The need for meaningful free play and creative engagement opportunities is urgent" (p. 68). Preschool teachers play a huge role in the lives of young learners, and they work very hard to connect oral and written communication for their young students (Roskos et

al., 2003). In fact, Quinn and colleagues (2016) argue that their role in supporting children's writing development by modeling cannot be emphasized enough. These teachers are tasked with figuring out how to thoughtfully incorporate writing as well as consider how to find the right balance between the developmental needs of young children and academic expectations. In addition, they must often alter their teaching approaches based on the needs of their students (Puranik et al., 2019).

There are few known studies focused on the connection between technology and writing in preschool classrooms. One study found there are multimodal affordances from which the students benefit using technologies, such as the ability to visualize and draw story ideas, which lead to vocalizations and opportunities to storytell prior to the act of putting a text into print form (Dunn, 2015 & Liao et al., 2013). Additionally, preschoolers using apps focused on handwriting produced better letter formations in comparison to traditional handwriting practices when students used their finger for letter formations on a tablet (Patchan & Puranik, 2016).

Existing literature indicates that children can become interested in learning literacy skills based on the nature or format of literacy activity contexts (Zhang & Quinn, 2020); however, less is known about how preschool teachers view writing and which practices they believe support young children's writing development (Gerde et al., 2019). Thus, the purpose of the current study was to answer the following research questions: 1) How do two teachers, working at two different preschools, define writing?; 2) How do these teachers feel about their role in teaching writing?; and 3) How does technology shape the teacher's writing instruction?

Framework

We approached this study from an emergent literacy perspective which recognizes students as meaning makers who actively develop and refine their understandings of writing as they engage in authentic experiences (Harste et al., 1982; Teale & Sulzby, 1986). Our work in these early childhood classrooms was also informed by sociocultural perspectives that view writing as a joint mediated activity (Cole, 1996) that took place within a classroom culture honoring play.

“The need for meaningful free play and creative engagement opportunities is urgent”

Rogoff (1995) explained,

Children take part in the activities of their community, engaging with other children and with adults in routine and tacit as well as explicit collaboration (both in each other's presence and in otherwise socially constructed activities) and in the process of participation become prepared for later participation in related events (p. 139).

In other words, no event is isolated. Children's classroom actions and reactions are related to their cultural backgrounds and classroom norms (Baker, 2012; Dixon-Krauss, 1996; Heath, 1983).

From a sociocultural perspective it was important for us to learn the culture of the classrooms, become a member of that culture, and be aware of our roles within the classroom culture. Sociocultural theory also informed the necessity for us to understand how writing was defined in these classrooms, how the teacher enacted and encouraged writing instruction, and how the children responded to that enactment.

Methodology

To understand how two preschool teachers defined writing, how they felt about their role in teaching writing, and if technology shaped their writing instruction, we used a qualitative exploratory case study approach (McDonough & McDonough, 1997). This methodology was employed to understand this larger phenomenon of integrating writing and play through close examination of the bounded system of each class (Rossman & Rallis, 2003; Stake, 1995).

Participants

For over a year (prior to Covid-19), we collaborated with two early childhood centers in the southeastern United States to learn more about writing in play-based classrooms. One of the early childhood centers was connected to a university and the other center was part of a public school setting. This collaboration not only informed our research, but it also strengthened our instruction with preservice teachers. Both preschools believed in a play-based approach to learning. As part of a larger research study, several other teachers were study participants at each of the early childhood centers, however, for the purposes of this article we focus on one teacher at each of the centers and share their approaches to writing in their early childhood play-based classrooms.

At the time of our study, Ms. Anna had been teaching pre-K for 4 years in the public preschool. The previous two years

she was at a different public school preschool setting where she felt like she was “on an island because [my] classroom was in a trailer.” Anna indicated that the biggest challenge for her during this particular year, “was students’ behavior and adapting to being in a structured environment.” She and her colleagues, who she co-planned with, worked to integrate writing in centers and by having the students write in a journal on Fridays. Her classroom included 17 children (9 girls and 8 boys). The majority of the children spoke English in conversation with their friends and 75% of them spoke a different language at home. These languages included Spanish, Arabic, Kurdish, and Russian.

In contrast, Ms. Lexie was in her first year of teaching preschool at the university-based preschool, but previously taught kindergarten in a local public school for seven years. During our conversations, Lexie reflected on the pressure, even in kindergarten, to get every student to be at a particular point. She believed this is possible but, “not possible by the best means.” Lexie left the school systems because she saw some children, even at a young age, already not liking school or “feel[ing] like who they are and how they learn is not a valuable entity.” At the preschool where she worked during the time of the study, the teachers integrated writing amidst what the children were doing and what they were naturally interested in. She had 15 students that year, the majority English speakers. Two children spoke Spanish, one spoke Tagalog, and one Russian.

Data Sources

The research team, which consisted of two early literacy professors and three undergraduate elementary education researchers, collected the following data over two sixteen-week semesters: semi-structured interviews, observation field notes, and photographs. The interview questions focused on classroom demographics, teaching philosophy, curriculum, philosophy of writing, and student work related to writing. The interviews were audio recorded and transcribed for coding purposes.

In order to take detailed field notes, we used a two-column observation protocol. On the left side of the chart, we took note of the physical setting, interactions, and what we saw occurring related to writing (Miles & Huberman, 1994). On the right side, we wrote our reflective notes and understandings of what we observed. This allowed us to focus on what was happening rather than making conclusions in the moment, thus enhancing the trustworthiness of the observations (Cloutier & Ravasi, 2020). We took on a participant-observer role where we not only observed, but we also interacted with the children during their writing

activities. Each classroom observation lasted between 45 minutes to an hour and occurred during center time, which is when the teachers reported most of the student writing and/or instruction occurred. During centers, the students chose where they wanted to play and explore in the classroom. Some of the centers included blocks, dramatic play, a writing center, and art. At the conclusion of the study, we asked the teachers again about their writing instruction. The questions were designed to triangulate data between our observations and field notes.

Data Analysis

In order to understand how each teacher defined writing, how they felt about their role in teaching writing, and their use of technology to support writing, we used several data analysis techniques. First, we merged the observation protocols for each teacher into one document. This format allowed us to easily view the teachers and the writing components observed on one document. The data was then organized into a second chart which included representative data examples for each teacher.

The remaining data sources, including interview transcripts and surveys, were analyzed qualitatively using constant comparison analysis (Strauss & Corbin, 1990). Since the purpose of the study was to better understand teacher beliefs and practices, the research team coded the interviews with a structural coding process based on the research questions. The goal was to identify patterns within and across data sources with the aim of thoroughly understanding each case (Stake, 1995). This process of comparison and reflection continued until the data became saturated and resulted in themes specific to each teacher. After each case was analyzed, the research team worked to develop an understanding of the cases as a whole. We did this by comparing the interview and observation data to note similarities or differences between teachers.

Findings

We present the findings using the lens of “two perspectives” which provides a reminder that there are multiple pathways to helping young children find success with writing. Our goal is to help you, the reader, understand the experiences provided in the two classrooms as well as the two teachers’ perspectives specific to teaching writing.

Writing in Ms. Anna’s Classroom

The public school in which Ms. Anna taught believed in play-based learning. She explained that she “provides differ-

Figure 1



Figure 2



Figure 3



ent experiences for the children to access different things that they might not experience outside of school.” Ms. Anna also tried to encourage “powerful interactions and building their oral language skills.” We observed writing during whole group instruction and center time. During center time, children were free to move around the classroom choosing where they would like to play. Ms. Anna encouraged the children to place a laminated picture of themselves on the center sign which had a certain number of spots to avoid having too many children at one center at a time.

Defining Writing

As a teacher of young writers, Anna took into account the various backgrounds and developmental stages of her children. She said,

At four, their writing is very unique to their own person. Their writing goes hand in hand with their oral language development, too. A lot of them become very creative and empowered when they see themselves writing. They come to you mostly knowing how to write letters and to form words and all that. So, it’s kind of fun to see that [writing development] play out.

A lot of them become very creative and empowered when they see themselves writing.

Additionally, at Anna’s school, they followed the *Handwriting Without Tears* program which addressed how to form letters with lines and curves. The program was structured to focus on three or four letters each week, as well as emphasize grip and daily name writing. Anna says, “when they [children] write, we have them read their writing aloud to us to make it purposeful, so they’re not just scribbling to scribble, but they can read back what they wrote.”

Role of the Teacher in Supporting Writing

Ms. Anna worked with a team of eight teachers in the preschool. They planned classroom centers around weekly themes. She said when planning these centers, she tried to “provide children with lots of opportunities, or just different experiences to try things out that they can’t necessarily access at home or haven’t been exposed to.” While observing in Ms. Anna’s classroom during whole group, children would sit in front of the Promethean board as Ms. Anna wrote the letter of the day on the Promethean board. In Figure 1, you can see the letters of focus for the week were P, I, and G. Anna wrote them on the Promethean board and described the lines and curves as she wrote each letter. Then she wrote a sentence using all three letters (Figure 2) and the children copied the sentence on their individual whiteboards (Figure 3). Ms. Anna made sure to model and explain that scribbling is an acceptable form of writing.

During small group time, children moved around to various centers that were planned according to the weekly theme. One week the theme was “community helpers,” so Anna set up the writing center with a mailbox and encouraged the children to write a letter to someone (Figure 4). Ms. Anna or her assistant would observe and assist students if need-

Figure 4



Figure 5



ed, but for the most part, children worked independently without assistance while writing their letters. In the letter yoga station, during community helpers week, children could practice making letters with their bodies in the mirror (Figure 5).

Philosophy of Technology in Teaching

In Anna's classroom, there was an iPad center as well as a Promethean board that was used during whole group and small group center time. Anna commented,

Technology is powerful when it's used appropriately. I think a lot of times some people say that kids get enough screen time at home, which may be true or may not be, but I think there are a lot of parents who aren't aware of the issue of too much screen time or how to use it appropriately. I don't think

it's fair to hold that against them [children]. I think teaching the kids that this is a "sometimes thing," ... kind of like there are sometimes foods like pizza that can sometimes be eaten, but you shouldn't eat it all the time. Using the iPads is something special, it's a privilege and just how to respect it and use it appropriately.

During whole group writing instruction, Ms. Anna would use the Promethean board not only to explain to children how to explicitly write letters, but she would also play YouTube videos (Figure 6) to further explain the letter formations before conducting an interactive writing lesson where children shared the pen by writing letters as well as circling various letters and sight words.

The iPad center was always available during center time for three children at a time to visit (Figure 7). Children made

Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



sure to flip the 10-minute sand timer to ensure they didn't have too much screen time during their turn. One of the apps related to writing was called Endless Alphabet where children matched the letters to a word.

Ms. Anna's writing instruction focused on pre-planned themes and letters of the week. Students engaged in writing during whole group, within small groups, and in some cases individually. Both the themes and the letters of the week were tied to the pre-planned play-based centers students chose to move between throughout the day. Ms. Anna felt it was her responsibility to show students how to use technology responsibly by setting time limits and selecting which websites and apps they could visit.

Writing in Ms. Lexie's Classroom

In Ms. Lexie's classroom during center time, children carried around a rock with their name printed on it. Once they decided on a center, they placed their rock at the center sign to indicate where they were playing.

Defining Writing

When asked to define writing, Lexie raised concerns about the narrow definition of writing which she believed is often associated with school. Specifically, children are "writing" if "they put words on paper, it is coherent, and spelled correctly." Lexie wants teachers of young children to deconstruct the traditional definition of writing so the focus is on communication, which may look like experimenting with letters or conveying ideas through drawing.

Role of the Teacher in Supporting Writing

Lexie's stance on the role of the teacher in supporting young

writers was shaped by her interactions with children. "They definitely seek us out as knowledgeable. We provide the environment where those ideas can grow and we're lucky to have the time and space to allow it." Lexie also focused on the importance of talk in supporting young writers:

When you have conversations with kids, you're building that foundation for the ability to tell about experience. You can subtly bring attention to sounds that we hear in words. If they're not interested, we don't force it. If they're interested, we encourage them to write or we write down their dictated sentences.

During one visit, we noticed a student coloring with markers inside of an egg carton and then gluing cut pieces of construction paper inside the egg carton (Figure 8). The child was matching the color of the paper to the color of the markers before she glued it. Lexie asked, "How will your classmates know it's a marker holder? Do you think you should add a label for everyone to see on the top?" The student said, "Sure!" With support, the student sounded out and wrote MR on the top of the carton.

Lexie's philosophy was to be that facilitator. "We are full of resources, but you let us know where you are and what you want." One of the resources they provided, mentioned earlier, was a rock with each child's name on it. We saw on mul-

"When you have conversations with kids, you're building that foundation for the ability to tell about experience."

tiple occasions how having the rock with them encouraged children to explore the letters in their name. For example, Eivanna used playdough and cookie cutter letters to generate the letters in her name (Figure 9) referencing the rock as she looked for each cookie cutter letter to use. Another day, at water play, Tina used the rock as a scaffold to spell her name with the foam letters (Figure 10).

Lexie admitted that sometimes the teachers know there are children that are ready to begin writing letters and starting to apply sounds, but may not be interested in doing so just yet. The way she addressed this, she shared, is by sitting down next to the child and drawing a picture. "Instead of saying 'hey, you need to do this,' I start to model that process for them."

During one of our visits, Lexie read a story about five silly turkeys. At the end, the class worked to summarize what the turkeys had done in the story. One student started singing about other ideas the turkey could do. Lexie suggested, "Maybe you could write down your song when you go to the creation center." Although Lexie considered this student a reluctant writer, she believed that the power of play and fun can sometimes be what encourages children to start writing.

During a different observation we saw a student give Lexie a card and, on the envelope, they had written MOM. The student said, "I made this for my mom." Lexie replied, "Oh, I hear you say that's for your mom but if you hadn't told me, I would've also known because I see that you wrote Mom." By connecting verbal and written communication, Lexie believed that children will better understand that "our words can also tell our story to somebody when you're not there to tell it."

Philosophy of Technology in Teaching

During our time in Lexie's classroom, we did not observe the use of technology. When asked about technology, Lexie shared,

I'm not huge on technology for littles. I want to make sure that at least in whatever role I fulfill, that kids are feeling like they have a chance to be valued and affirmed and part of a community and able to negotiate themselves with others. So, technology doesn't always seem to enable that as much as full-blown human interaction could.

Lexie's beliefs about technology aligned with those of the other teachers at the school.

In summary, Ms. Lexie provided direct instruction in spontaneous ways during play. She believed in being the facilitator of learning, using student's interest as building blocks to support their writing, and valued the important connection between writing and oral language.

Discussion and Implications

Although some researchers focus on a wide scope of beliefs about teaching and preschool, less has traditionally been known about preschool teachers' beliefs about specific content areas (Hall & Grisham-Brown, 2011; Hindman & Wasik, 2008; Lee & Ginsburg, 2007) such as writing. The purpose of this study was to understand how two teachers, working at two different preschools, define writing, feel about their role in teaching writing, and how technology shapes their writing instruction, if at all.

As a result of spending so much time in their classrooms as participant-observers, we gained many valuable insights from Ms. Anna and Ms. Lexie's classrooms. Following the suggestion of Rowe (2010) we developed careful descriptions of literacy practices in school settings. During observations, we saw children actively engaging in writing and in discussions with the teachers, it was clear that they both valued the connection between oral language and writing. In addition, Ms. Anna and Ms. Lexie shared a broad definition of writing acknowledging that whatever it looked like, the children created it with intentional meaning. This mindset is essential rather than characterizing children's writing as "scribbles" because it suggests that even young children are writers (Harste et al., 1984; Kissel, 2018).

We also noticed that learning as movement was a large part of both classrooms, specific to writing. Unlike traditional classroom settings where writing may only occur in one space (i.e., a writing center), writing occurred all over both preschool classrooms which was encouraged by the teachers. Research suggests that teachers play a significant role in how children view writing and how much they are motivated to write (Cremin & Myhill, 2012; Kissel, 2009). Even with their young children, Ms. Anna and Ms. Lexie promoted positive writer identities by embedding writing in play and movement.

This study has implications specific to challenging what counts as writing and learning to write in early childhood classrooms. As Ms. Lexie suggested in her interview, there is cause for concern about how children experience writing even in the primary grades. Ehret and Hollett (2014) argue that when a child's body is restricted to a chair, with their hand restricted to a pencil, it in turn restricts the stories they

wish to create. Although the children in our study were not composing stories quite yet, they had a lot of ideas which they verbally shared with each other and their teachers.

The findings also suggest the continued need for expanding the range of tools that young children use to write. Although Ms. Anna and Ms. Lexie differed in their beliefs in the role of technology in preschool classrooms, we think that using different types of media, including technology, has a place in some of the conventional literacy practices typically associated with early childhood classrooms. A preschool teachers' lack of technology use may be due to a lack of quality professional development on how to implement technology according to best practices, since most of the offerings are usually geared toward K-12 teachers (Bahlmann Bollinger & Myers, 2019).

This study also highlights that writing experiences with young children can be playful, spontaneous, hands-on, and child-led. However, teachers need support in developing an awareness of these practices (Hvit, 2015). Terrell and Watson (2018) note that many early childhood classroom teachers would benefit from professional development specific to how to model and scaffold literacy learning into play. This is essential since this type of assistance from an adult when writing gives children the opportunity to observe and then apply early writing strategies such as isolating individual sounds in words or copying print (Friedrich & Portier, 2020). Some refer to this as embodying the spirit of "guided play" (Weiserg et al., 2013) which incorporates adult scaffolded learning but remains child directed.

Research suggests that teachers must negotiate the integration of play into pedagogy while emphasizing academics to meet curricular expectations (Russell, 2011). The disconnect between standard-based education and early childhood research indicates a need for additional studies that examine how teachers emphasize academics while maximizing play (Portier et al., 2019). Although this was not seen specifically in this study, future research could illuminate the challenges that teachers in university versus public preschools navigate fulfilling curricular objectives through play or in playful ways.

Spending time in Ms. Anna and Ms. Lexie's classroom showed us that it is possible to leverage play and movement to support children in the development of early writing skills. Children might not recognize they are writing and think they are playing. Our work with these teachers represents two concrete examples of how writing in play-based classrooms can occur. For less experienced teachers, pre-planned centers might be more feasible, whereas for more experienced teachers, taking advantage of spontaneous play and the connection to writing might be more comfortable. Our hope

is that others will continue to think about how to capitalize on the richness of opportunities to integrate writing and play.

Tips for Incorporating Writing with Play

- Integrate writing: think about how to incorporate writing into each of your learning centers.
- Incorporate movement: use a full-length mirror to have students create the shapes of letters with their bodies.
- Use apps that entice little fingers to touch and explore: consider using apps that are more tactile in nature, where students are using their fingers to draw letters.
- Be spontaneous: during conversations with students or observations of their play, think about how you could incorporate writing on the spot. Maybe you could help them sketch a storyboard of the story they are acting out during dramatic play, or if they are singing a song, help them write it down on chart paper.

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Word Conversations: How Teacher Knowledge of Structured Literacy Builds the Reading Brain for All Learners

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“Brayden’s teacher became adept at meeting his needs... Just how did she do this? By developing an understanding of how the English language is organized, learning the science behind how the brains process text, and teaching in a diagnostic-prescriptive manner.” (Tolman, 2017, p. 23).

Student-Teacher Exchange 1

Student: What does *microorganism* mean?

Teacher A: Great question! Let’s look at the word parts. Do you see any morphemes?

Student: Micro

Teacher A: Yes, do you know any other words with *micro* in them?

Student: Microscope

Teacher A: Good; *scope* comes from the Greek root meaning see. What does a *microscope* help you see?

Student: Stuff that’s too small to see without a microscope.

Teacher A: Right! So, what do you think *micro* means?

Student: Small

Teacher A: Okay, so let’s connect that back to the word you asked about: *microorganism*.

Student: Oh, a SMALL organism.

Student-Teacher Exchange 2

Student: Why isn’t *said* spelled SED?

Teacher B: Um...well...we just have to remember that English breaks the rules all the time and that’s a word you just have to memorize.

It is Teacher B moments, moments of feeling like we do not have the knowledge our learners yearn for, the knowledge we need to be the best educators we can be, that fuel a desire for more professional knowledge about literacy. Two outcomes are common when that knowledge feels out of reach. Either teachers find themselves at a loss for what

to do next and those moments are eclipsed by other demands, or teachers call for help from specialists who provide **tiered interventions** (see term in Table 1 and Table 2) and/or special education. Either way, until all teachers can bring rich knowledge of the English language into our K-12 classrooms, we miss out on the positive impact these teachable moments can have on all learners (Tolman, 2017).

Every educator wants to be a Teacher A. However, we do not always enter the classroom with all the English language knowledge we wish we had (Moats, 2014). Some reports indicate that teacher preparation programs are improving with respect to knowledge of scientifically-based reading instruction (Drake & Walsh, 2020); however, the ability to apply that knowledge in authentic situations, such as classroom conversations, may be an additional barrier in our schools (Tortorelli, Lupo, and Wheatley, 2021).

Barriers can add up fast for our most diverse learners. Today, our learners bring a wide variety of language, literacy, and life experiences into our classrooms. The phrase “one size fits all” has never been less true. Therefore, it is the teacher’s ability to connect with their individual learners, tap into their prior knowledge, honor their language, dialect, vocabulary, not to mention attentional and motivational differences, meet them where they are with their understanding, and build from there, that has the power to turn each unique student inquiry, each valuable teachable moment, into productive and equitable word learning in our classrooms.

Pause & Ponder

- Can you think of a time when you had a conversation with a student or class where you confidently led a productive conversation like Teacher A? What made that conversation a success?
- When is a time when you fell short of understanding the English language and speech-to-print application well enough and instead answered like Teacher B? What knowledge do you think you were lacking?

As teachers strive to provide equity in education, teacher knowledge is a key to unlocking the engagement and motivation students need to become confident and competent readers. Teachers with an understanding of word knowledge components are empowered to debunk the belief that English spellings are “crazy” and, instead, inspire curiosity about the depth, history, and wonder English words hold.

This article seeks to address the knowledge of English language structures that can help teachers move beyond responses like, “English is just like that,” in the applied context of student questions about words. We ground our approach in **structured literacy**, which “includes both foundational skills (e.g., decoding, spelling) and higher-level literacy skills (e.g., reading comprehension, written expression)” (Spear-Swerling, 2019, p.1). Our focus is on the components most closely related to word-knowledge (Cowen, 2016) and how neuroscience sheds light on the importance of these components in building the reading brain (Dehaene, 2009; Wolf, 2018). Two tables are included at the end as take-away references. Table 1 provides definitions for the terminology found in bold throughout the article, and Table 2 provides the web address for each hyperlink included in this article. We demonstrate how this knowledge can be infused into student-teacher exchanges about words, which fosters teachers who can confidently welcome student inquiry about words and provide quality instruction to ensure equity in literacy development.

The core ingredients in the recipe for fostering word identification are strong phonological awareness and phonics, and the application of those skills in context.

*“Structured literacy, delivered effectively, equips teachers to teach reading and adequate writing to **all** their students” (Stone, 2019, p.7).*

The knowledge highlighted in this article is informed by the science of reading. We acknowledge that the science of reading is a loaded term, and to clarify, we do not associate the science of reading with any specific component of reading. Rather, the science of reading is a broad cultural shift “from one based on beliefs to one based on facts” (Seidenberg, 2017, p.9). Educators strengthen their efficacy and confidence when they anchor their practice in the empirical evidence, or rigorous study, that exists for any and all aspects of literacy.

The science we share here comes from two fields, neuroscience and education. In a presentation delivered at the World Innovation Summit for Education in 2012, neuroscientist Stanislas Dehaene said, “I think it’s a shame that teachers know more about the workings of their car than they know about the working of the brain of their children.” He is a strong advocate for schools embracing more of what this sophisticated science has to offer so that they might “exploit this knowledge to optimize the teaching of reading and mitigate the dramatic effects of illiteracy and dyslexia” (Dehaene, 2009, p.8).

Education researchers would agree with Dehaene, and they also agree that the core ingredients in the recipe for fostering word identification are strong phonological awareness and phonics, and the application of those skills in context (i.e., using skills as readers and writers) (Johnston & Scanlon, 2020; Kilpatrick, 2015). Therefore, in the sections that follow, we present several important structured literacy components with an emphasis on phonology (through instruction of **phonological awareness**) and sound-symbol associations (through instruction of phonics and orthography), and share how effective student-teacher exchanges about words can foster the cognitive connections important for the developing brains of our literacy learners.

Phonology

A kindergarten teacher reads aloud the book *Goodnight, Goodnight Construction Site*, by Sherri Duskey Rinker and Tom Lichtenheld. After reading the whole book through, the teacher revisits the text for some guided practice with alliteration, a phonological awareness skill on which they have been working.

Teacher: One of the things that makes this book so fun to read aloud is the way the authors play with the sounds

in words. We have practiced noticing alliteration when we hear the same sound in words. Does anyone hear alliteration in this line: *The tough trucks work with all their might.*

Student A: Tough trucks!

Teacher: I hear the same beginning sound in those words too. What same sound do you hear?

Student A: /t/

Teacher: That's the one I hear!

Student B: What about *the*? That word has a 't' too.

Teacher: I'm glad you asked. Look at this. [Teacher writes all the 't' words on the board and points to the 't' in each one.] We do have the letter 't' in all these words. We're listening for the same sound, so close your eyes and I'll say those three words: *the, tough, trucks*. Do you hear /t/ in *the*?

Student B: No.

Teacher: Right, what sounds do you hear?

Student B: /th/ and /E/.

Teacher: Yes, in the word *the* the 't' is working with the 'h' to make the sound /th/. T can have more than one job!

Phonology is the system of contrastive relationships among the speech sounds that constitute the fundamental components of a language (Merriam-Webster, n.d.). In other words, phonology is all about working with the sound structures of spoken words, situating phonological awareness at the heart of phonology (Cowen, 2016).

In the example above, the teacher reinforces the students' ability to focus on individual speech sounds (**phonemes**). Student B's awareness of the letter (**grapheme**) 't' in the word *the* created a distraction. The teacher effectively focused the student's attention on the speech sounds, and indirectly reinforced the awareness that English letters can be associated with more than one sound. This focus pays off in creating strong, stable phonological representations.

Solid phonological representations in the **temporal lobe** of the brain are a foundational piece of the neurological network for reading. Learners build the connections they need in their brains between their phonological and alphabetic knowledge through the instruction of sound-symbol associations (Moats & Brady, 2020).

Learn by Doing

Looking for phonological awareness instruction resources to implement that will teach you more about phonology as you use them?

- Heggerty Phonological and Phonemic Awareness
- *Equipped for Reading Success: A Comprehensive, Step-by-step Program for Developing Phoneme Awareness and Fluent Word Recognition* by David Kilpatrick

Sound-Symbol Associations

Phonics

A first-grade student is reading the sentence they wrote about their picture back to their teacher. The sentence is: My dad took us to the park and we ate ice cream.

Teacher: This is a great sentence because it matches your picture, and I love how you used *and* to share two details. You went to the park *and* ate ice cream. Pick a word you would like help with.

The student points to *cream*, which they spelled CRM.

Teacher: Okay, let's say that word. Repeat it after me, cream.

Student: Cream.

Teacher: Now let's figure out how many sounds we hear. Hold up a finger for each sound.

Student: /k/ - /r/ - /E/ - /m/

Teacher: Yes, there are four sounds. Now can you figure out which one is missing in CRM.

Student: (with a smile) The /E/.

Teacher: Right. And we have not learned this yet, but the pattern you need in cream for the long e sound is 'ea.' Go ahead and fix it up by including 'ea' where the /E/ sound goes.

Phonics "is the study of the relationship between letters and the sounds they represent" (Moats 2019, p.7). In English, phonics is all about learning the code for how speech sounds are represented by a finite group of symbols. Acquiring the English code presents the opportunity for a wealth of rich cognitive connections as students learn to map spelling patterns (orthography) for over 40 speech sounds using only 26 letters (Moats & Brady, 2020).

In the example above, the exchange was productive, in part, thanks to a wealth of foundational knowledge already forged in the students' brain:

1. Well-developed phonological representations for the sounds (phonemes) in *cream*
2. The ability to segment four phonemes
3. Solid symbol (grapheme) representations for English letters
4. At least initial, basic knowledge of sound-symbol associations
5. The ability to identify and insert a sound-symbol association that was missing in their spelling

The teacher in this example promotes and reinforces neural connections in the brain between the letter (grapheme) representations in the **occipital lobe** and the sound (phoneme) representations in the temporal lobe.

Accurate and strong neural connections are fostered when the teacher prompts the student to identify all the sounds in the word and supports the student in mapping those sounds to the letters and letter patterns needed to spell the word. This coordination of alphabetic and phonological abilities is critical to success in the reading network of the brain (Wolf, 2018).

Orthography

In another classroom a student is curious about the spelling of a very common word.

Student: Why does *horse* end in 'e'?

Teacher: That's a great question. Why do you think *horse* ends in 'e'?

Student: Because sometimes people like to call it a horsey.

Teacher: I love that idea, but actually when we see an 's' the end of a word we usually think that word is plural. There is an 'e' at the end of words like *horse*, and *house*, and *mouse* so that we know they are not plural.

These additional structured literacy components expand and reinforce a word's place in a learner's mind, contributing to the fireworks of the neurological network in capable readers.

Orthography is the art of writing words with the proper letters according to standard usage; the representation of the sounds of a language by written or printed symbols (Merriam-Webster, n.d.). English spellings invite learners into journeys of discovery as letters and letter patterns often deviate from the basic sound-symbol associations of phonics because the orthography of a word preserves a spelling pattern related to meaning instead of sound (Bear et al., 2019).

In the example above, the 'e' at the end of *horse* has nothing to do with the phonology of the word. Instead, the teacher is able to effectively address the presence of the 'e' by explaining and connecting to the way English uses a final 's' to signal the plural form of a word. Since we do not want to see *hors* and trigger a plural meaning, the 'e' prevents that confusion. The teacher also effectively highlights the generative value of understanding English word principles, like this one about plurals, by pointing out that the 'se' is not an isolated phenomenon, but is one the student will find in other words like *house* and *mouse*.

These orthographic-meaning connections in the brain show up on a functional magnetic resonance imaging (fMRI) scan as an explosion of activity throughout and beyond the temporal lobe, and as orthographic-meaning connections grow, the left-hemisphere becomes a veritable fireworks show on an fMRI as a person reads (Wolf, 2018). It is this mapping of English orthography to the sounds and meanings the letters and letter patterns represent that creates cognitive space for the storage of words in memory and automatic retrieval of those words when working as a reader and a writer (Kilpatrick, 2015).

Learn by Doing

Looking for resources to implement that will teach you more about sound-symbol associations as you use them?

- Phonics:
 - *Letter Lessons and First Words* by Heidi Anne Mesmer
 - West Virginia Phonics Lessons
- Orthography:
 - *Uncovering the Logic of English: A Common-Sense Solution to America's Literacy Crisis* by Denise Eide
 - *Words Their Way: Word Study for Phonics, Spelling and Vocabulary Instruction (7th Ed.)* by Bear, Invernizzi, Templeton, & Johnston.

Other Structured Literacy Components

Student: I want to write, she déjà vued me when she walked in the room, but I don't know how to spell *déjà vu*.

Teacher: Okay, let's do it! First, can you tell me what *déjà vu* means?

Student: Yeah, like when something happens and you feel like it's happened before.

Teacher: Yes. So, if *déjà vu* is a feeling, what part of speech is that?

Student: Um...a noun?

Teacher: Correct. How did you use it in your sentence?

Student: Oh, like a verb.

Teacher: Right, so can you adjust that?

Student: Does it work to say, I got *déjà vu* when she walked in the room.

Teacher: Yes, I love it. Now for the spelling. Do you know what language *déjà vu* comes from?

Student: No.

Teacher: It's a French phrase that we use in English. Translated it means, already (*déjà*) seen (*vu*). So, it uses the French spelling, which includes some letters with accent marks. How many syllables do you hear?

Student: Dé - jà - vu, three.

Teacher: Right, so how many vowel patterns will we need?

Student: Three.

Teacher: Yes. /Dé/ is 'de' with an accent over the 'e' like this 'é', /jà/ is 'ja' with an accent over the 'a' like this 'à', and /vu/ is 'vu' with no accent.

Student: Cool, thanks!

In this example, the teacher harnessed knowledge about several language components to have a rich exchange with the student about the term *déjà vu*. First, the **semantic** knowledge, or meaning of the word, was clarified. This set the stage for addressing the grammatical use of the term, which falls under **syntactic** knowledge, or the way in which linguistic elements (such as words) are put together to form constituents (such as phrases or clauses) (Merriam-Webster, n.d.). Then the teacher prepared the student to open their mind to a spelling that was likely to feel unfamiliar by speaking to its origin from a different language and by sharing the **morphology**, or a look at the base elements to unlock meaning (Cowen, 2016). Finally, the teacher tapped into the student's ability to identify **syllables** to divide the unfamiliar term into manageable chunks for spelling (Cowen, 2016).

These additional structured literacy components expand and reinforce a word's place in a learner's mind, contributing to the fireworks of the neurological network in capable readers and smoothing out the highways of cognitive access and retrieval for efficient and deep reading and writing (Wolf, 2018).

Concluding Thoughts

Word learning is a significant, but not exclusive aspect of becoming literate. Becoming literate includes other areas of development such as fluency (NRP & NICHD, 2000) and certainly feels like a constant uphill climb without fostering authentic motivation to read and write (Scanlon et al., 2017). Therefore, we posit that productive word learning conversations are but one piece of the literacy pie, yet are certainly essential and deeply interconnected to the whole.

The components of structured literacy lend *structure* to critical aspects of word learning (Cowen, 2016; Moats & Brady, 2020). It is through this structure that teachers and schools can pursue essential professional development about word knowledge and, in turn, foster productive student-teacher conversations about words in our classrooms. Two resources we recommend for teachers who are ready to learn more include:

- Fox, B. J. (2014). *Phonics and word study for the teacher of reading: Programmed for self-instruction* (11th ed.). Pearson.
- Moats, L. C. & Rosow, B. (2020). *Speech to print workbook: Language exercises for teachers* (3rd Ed.). Paul H. Brookes Publishing Co.

Learn by Doing

Looking for activities across the structured literacy components and beyond? Check out these rich resources for ideas you can implement now that promote and reinforce word learning.

- Florida Center for Reading Research
- University of Florida Literacy Institute

Teacher knowledge and confidence with structured literacy is key to realizing productive word conversations in our classrooms. Rich word conversations promote healthy cognitive connections in the developing reading brains of our learners. And, with our students who need explicit instruction and individualized guidance, teacher responses to student questions about words can either jump-start or cripple their literacy learning experiences. We invite every teacher to start or continue their own learning journey about the English language and to build productive and equitable word learning cultures in our classrooms, one unique student inquiry and conversation at a time.

Grapheme - a letter or letter combination that spells a phoneme, can be one, two, three, or four letters in English

Table 1*Definitions*

(Moats & Tolman, 2019, p.31)

Morphology - a study and description of word formation (such as inflection, derivation, and compounding) in language (Merriam-Webster, n.d.)

Occipital Lobe - the posterior lobe of each cerebral hemisphere that bears the visual cortex (Merriam-Webster, n.d.)

Orthography - the art of writing words with the proper letters according to standard usage; the representation of the sounds of a language by written or printed symbols (Merriam-Webster, n.d.)

Phoneme - a speech sound that combines with others in a language system to make words; English has 40 - 44 phonemes, according to various linguists (Moats & Tolman, 2019, p.234)

Phonological Awareness - The conscious awareness of all levels of the speech sound system, including word boundaries, stress patterns, syllables, onset-rime units, and phonemes (Moats & Tolman, 2019, p.93)

Phonology - the system of contrastive relationships among the speech sounds that constitute the fundamental components of a language (Merriam-Webster, n.d.)

Phonics - the study of the relationship between letters and the sounds they represent (Moats & Tolman, 2019, p.7)

Semantics - of or relating to meaning in language (Merriam-Webster, n.d.)

Structured Literacy - An organizational system for components of literacy which includes “both foundational skills (e.g., decoding, spelling) and higher-level literacy skills (e.g., reading comprehension, written expression)” (Spear-Swerling, 2019, p.1).

Syllable - a unit of spoken language that is next bigger than a speech sound and consists of one or more vowel sounds (Merriam-Webster, n.d.)

Syntactic - the way in which linguistic elements (such as words) are put together to form constituents (such as phrases or clauses) (Merriam-Webster, n.d.)

Tiered Intervention - “A multi-tier approach is used to efficiently differentiate instruction for all students. The model incorporates increasing intensities of instruction offering specific, research-based interventions matched to student needs” (RTI Action Network, n.d., p.1).

Temporal Lobe - a large lobe of each cerebral hemisphere that is situated in front of the occipital lobe and contains a sensory area associated with the organ of hearing (Merriam-Webster, n.d.)

Response to Intervention (RTI) <http://www.rtinetwork.org/learn/what/whatsrti>

Table 2*Online Resources (in order of appearance in the article)*

Word-knowledge Components of Structured Literacy <https://dyslexiaida.org/what-is-structured-literacy/>

What Works Clearinghouse and ESSA Tiers of Evidence <https://ies.ed.gov/ncee/wwc/essa>

How the Brain Learns to Read (Dehaene, 2012) <https://www.youtube.com/watch?v=25GI3-kiLdo>

Phonological and Phonemic Awareness: Reading Rockets <https://www.readingrockets.org/teaching/reading-basics/phonemic>

How Does the Reading Brain Work: Youtube <https://youtu.be/5kB7GgLIR7M>

Phonics and Decoding: Reading Rockets <https://www.readingrockets.org/teaching/reading-basics/phonics>

The Role of Orthographic Mapping in Learning to Read: Keys to Literacy <https://keystoliteracy.com/blog/the-role-of-orthographic-mapping-in-learning-to-read/>

Heggerty Phonological & Phonemic Awareness <https://heggerty.org/>

West Virginia Phonics Lessons <https://sites.google.com/a/ghea.org/west-virginia-phonics-lessons/home>

Florida Center for Reading Research <https://fcrr.org/student-center-activities>

University of Florida Literacy Institute <https://ufli.education.ufl.edu/resources/>

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Mentor Texts: Mirrors, Windows, and Models for Adolescent Literacy Learners

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Adolescence is a distinct developmental period that serves as a bridge between childhood and young adulthood. Adolescent literacy can be a critical link for engaging learners as they seek to explore the world and “contemplate their place within it” (Ippolito et al., 2008, para. 5). Carefully selected texts, therefore, can become vehicles for examining complex ideas and information. Mentor texts are recognized as an important tool for students’ interaction with exemplar texts and honing their writing skills (Culham, 2016; Fletcher, 2011; Gallagher, 2011; Thompson & Reed, 2019). Dorfman and Cappelli (2017) describe mentor texts as those that teachers and writers can revisit, thus providing opportunities to learn from expert authors about the craft of writing. As they explain, “Mentor texts are books that are well loved by the teacher and known inside and out, backward and forward” (p. 6). However, mentor texts can also be essays, speeches, film or play scripts, comic strips, or other exemplary pieces of writing and media (Thompson & Reed, 2019).

Smith-Buster (2016), recipient of the National Council of Teachers of English’s Donald H. Graves Award for Excellence in the Teaching of Writing, suggests that teachers should expand their notion of mentor texts. As a teacher, she sought multicultural mentor texts that would enable her students to explore their identities and social issues that loomed large in the minds of her young adolescent literacy learners. As a result, she was able to not only provide mentor texts that were powerful examples of excellent writing, but also created a lens for her students to understand their world and their place within it. For example, she was able to expand her writing instruction by offering mentor texts, such as *Separate is Never Equal: Sylvia Mendez & Her Family’s Fight for Desegregation* by Duncan Tonatiuh (2014), while facilitating her students’ knowledge of the history of the civil rights movement, and current issues across the country related to the nation’s struggle to achieve equality for all citizens. Pairing mentor texts with other texts and media, such as newspaper articles, poetry, and photographs, enabled her students to “... write as citizens of society, and compare historical and

contemporary forms of text and media, then imagine what they would grow up to accomplish” (Smith-Buster, 2016, p. 111). Carefully selected mentor texts can serve multiple purposes. For adolescent literacy learners, mentor texts can serve as mirrors that provide opportunities to explore their identities, windows for examining the world, and models of exemplary writing. Designing instructional plans that incorporate mirrors, windows, and models holds the promise of increasing engagement and motivation among adolescent literacy learners.

Mentor Texts as Mirrors

According to the International Literacy Association’s *Position Statement and Research Brief: Engagement and Adolescent Literacy* (2019), “Valuing students’ voices and identities is a hallmark of supporting adolescent literacy development” (p. 2). Facilitating adolescents’ exploration of their identity, according to Armstrong (2016), supports developmental psychologist Erik Erikson’s earlier research on the identity crisis experienced by adolescents, stating:

I have called the major crisis of adolescence the identity crisis; it occurs in that period of the life cycle when each youth must forge for himself some central perspective and direction, some working unity, out of the effective remnants of his childhood and the hopes of his anticipated adulthood. (Erikson, 1994, as cited in Armstrong, p. 53)

Tatum (2013) further examines the complex nature of identity and the reality of multiple identities. For example, while adolescents are exploring their own place in the world, they are also considering their racial, ethnic, cultural, gender, sexual, religious, socio-economic, and ability identities. Smith-Buster’s (2016) model for an expanded use of mentor texts can facilitate adolescent students’ exploration of their multiple identities. Sims Bishop (1990) described the value of these texts as:

.. sometimes windows, offering views of the worlds that may be real or imagined, familiar or strange. These windows are also sliding glass doors, and readers have only to walk through in imagination to become part of whatever world has been created or recreated by the author. When lighting conditions are just right, however, a window can also be a mirror. (p. 1)

Providing students with opportunities to explore their identities through mentor texts is not only personally beneficial, but can also promote the development of broader overarching competencies that promote social and emotional learning. Yoder (2014) identifies five overarching competencies: self-awareness, self-management, social awareness, relationship management, and responsible decision-making. These are vital attributes that the adolescent learner should possess, and as a result, these attributes hold the promise for developing individual resiliency and empathy. Using mentor texts provides a lens through which adolescents engage in literacy events as mirrors for self-reflection and meaningful exploration of the lives of others. As Sims Bishop (1990) points out,

Literature transforms human experience and reflects it back to us, and in that reflection we can see our own lives and experiences as part of the larger human experience. Reading then becomes a means of self-affirmation, and readers often seek their mirrors in books. (p. 1)

Mentor Texts as Windows

In an increasingly complex and changing world, mentor texts can serve as windows, enabling adolescent literacy learners to examine the world. Smith-Buster (2016) created an environment in her classroom in which her students were able to “view themselves as scholars within a community” and “... seek out the current beat of news and politics and take ownership through their unique perspectives on events happening in our society” (pp. 108-109).

Mentor texts allow adolescent readers not only to identify with characters living with some of the same difficulties they are facing, but also envision a way to deal with larger issues such as poverty, substance abuse, bullying, immigrant status, and other social dilemmas. As Freire and Macedo (1987) explained, “Reading the world always precedes reading the word” (p. 35). Moreover, they assert that the act of reading is intrinsically connected to “critical perception, interpretation, and rewriting what is read” (p. 36).

According to Bomer (2007),

Our world needs to hear them ... to participate in democracy, to transform the culture into a more promising environment for human growth. What if we can convince them that the world is listening ... and enable them to speak? (p. 310)

As adolescent literacy learners engage with mentor texts as windows, they are provided with models for “... facing choices, making decisions, and realizing consequences” (Moore and Cunningham, 1998, p. 283). Smith-Buster (2016) encourages teachers to empower students to engage in their own student-centered inquiry, examining multiple sources, participating in discussions, and exploring current and historical events related to the mentor texts they are reading.

Engagement and Motivation

Sustained engagement is key to adolescent literacy development and relevant to increased motivation to engage with challenging texts as readers and writers. Guthrie and Klauda (2014) found a high correlation between competence and engagement. In fact, competence and engagement are almost inseparable in effective literacy development. According to Moje, Overby, Tysvaer, and Morris (2008), increased engagement in reading leads to a broader vocabulary, which motivates and enables students to read more. This, in turn, creates a cycle of increased ability through continuous engagement. In other words, reading competence builds motivation and engagement. There is much to be said for motivating adolescent literacy learners to read more and across the genres. Author Annie Dillard (n.d.) perhaps said it best: “The more you read the more you will write. The better the stuff you read, the better the stuff you will write” (para. 34).

Moje, et al. (2008) found that adolescents enjoy reading about people like them and are motivated to read books that feature characters that reflect their own ethnicity, race, age, class, or gender. However, they also select books that reflect resiliency through struggles and models of people working through relationships. Adolescents are motivated to read and write texts that “...offer them social capital in the form of information, ideas for self-improvement, models for identities, or ways to maintain existing relationships and build new ones.” (Moje, et al., p. 147).

According to Franzak (2006), research suggests that establishing a meaningful purpose and facilitating students' ability to personally respond to texts is essential in increasing engagement and motivation for adolescent literacy learners. Gallagher (2011) asserts that providing students with

opportunities to engage in real-world writing and providing them with mentor texts and models of effective writing increases motivation.

Mentor Texts as Models

Mentor texts provide powerful examples of effective writing for students. Gallagher (2011) explains the value of teachers modeling their own writing process for their students. In addition to teacher modeling, he asserts, it is equally valuable to provide mentor texts as models for students to “see how other writers compose” (p. 20). Gallagher’s use of mentor texts is grounded in real-world writing which includes a vast array of genres and purposes from editorials, book reviews, blogs, newspaper articles, poems, song lyrics, commercials, or any other types of writing and media students encounter in their daily lives. Gallagher describes his approach to teaching writing:

...Teach your students real-world writing purposes, add a teacher who models his or her struggles with the writing process, throw in lots of real-world mentor texts for students to emulate, and give our kids the time necessary to enable them to stretch as writers. (p. 21)

As Gallagher notes, writing is often not an easy process for students or teachers. It is a process that can be made easier, however, with mentor texts as models. Instead of merely telling students how to write descriptively and effectively to convey emotion or other elements of writing, sharing examples can be much more powerful. In a podcast interview (Sibberson, 2015), author Ralph Fletcher explained his definition of mentor texts for any writer:

According to Moje, Overby, Tysvaer, and Morris (2008), increased engagement in reading leads to a broader vocabulary, which motivates and enables students to read more. This, in turn, creates a cycle of increased ability through continuous engagement. In other words, reading competence builds motivation and engagement.

... I think mentor texts are any texts that you can learn from, and every writer, no matter how skilled you are or how beginning you are, encounters and reads something that can lift and inform and infuse their own writing. I'd say anything that you can learn from – not by talking about but just looking at the actual writing itself, being used in really skillful, powerful ways. (00:20)

As teachers engage their students in learning the craft of writing, finding effective models of excellent writing is an important task. According to Fletcher (2011), “Powerful writing seems to contain a magical essence, one we hope might somehow rub off on us” (p. 3). Removing the mystique requires the correct balance for teachers in how they use mentor texts. Fletcher advises against overusing particular texts. Some exemplar passages, however, can serve as a model in which students read for pleasure, reread for craft, and reread again with a pencil or highlighter in order to focus on specific elements. “Sometimes,” he states, “it’s enough simply to read the writing in a quiet place, to think deeply about it, and to let the words soak into you” (p. 8). According to Culham (2016), “You won’t find all the perfect models overnight, but honestly, the books that teachers and students love have passages on every single page that are worth studying for some quality of writing” (p. 34).

Selecting Mentor Texts

Selecting and using mentor texts requires a process. It requires teachers to evaluate the text carefully, considering the quality of the writing, the depictions of the characters and the suitability of the text for the students. Learning for Justice (2016) provides an excellent tool, *Reading Diversity: A Tool for Selecting Diverse Texts*, for evaluating texts based on complexity, diversity and representation, critical literacy, and reader and task consideration. Tools such as this, or other types of check-lists, enable teachers to select mentor texts that are suitable for their students.

While text complexity determined by Lexile measures is important, teachers may find it beneficial to use mentor texts in different ways. For example, adolescent literacy learners may benefit greatly from a higher-level mentor text that is read aloud rather than read independently. The teacher, therefore, can scaffold the reading experience through modeling metacognitive thinking, vocabulary development, and navigate students through more complex text structures. Likewise, a young adult novel at a lower Lexile level may be an excellent book for students to read individually, enabling them to read the story unencumbered as a mirror to explore their own identities and experiences through a

well written book.

When employing mentor texts in literacy instruction, teachers are fellow travelers and facilitators of the journey, so teachers should enjoy the adventure. The mirrors and windows are not the sole domain of the student, but can also create new insights for teachers. There is a vast array of excellent and timely young adult novels to explore for use as mentor texts. Fortunately, there are reliable sources for assisting with the search. The International Literacy Association offers a *Young Adults' Choices Reading List* (2020) as well as a *Teachers' Choices Reading List* (2020). The National Council of Teachers of English's *Build Your Stack* (n.d.) blog provides insights into texts teachers find valuable for using with their students. Learning for Justice's *Staff Picks: What We're Reading* (2021) is also a good source for identifying books that reflect the lives and identities of adolescent readers. The American Library Association's Newbery Awards (n.d.) are always an excellent resource for selecting books for consideration as mentor texts. Another rich source for selecting mentor texts is fellow teachers and students.

High school teacher Elizabeth Gannon (2020) created a young adult literature book club for her fellow faculty colleagues. Teachers from various disciplines joined the book club and focused on books that had cross-curricular connections as well as topics related to gender identity, mental health, disabilities, and xenophobia. According to Gannon, students would see their teachers reading books selected for the book club and ask to borrow them. In my professional practice, working with pre-service teachers during their junior level literacy methods courses, I find reading young adult novels to be both enjoyable and insightful. Many of these books serve as mentor texts for me as I develop fresh perspectives about the lives of adolescents as they navigate

In a world that is fraught with challenges both close to home and across the globe, mentor texts can serve as windows to think about the world and adolescent students' place in the world. For teachers engaged in literacy instruction, mentor texts provide important models of the craft of writing while working within a vibrant community of learners.

their way through a complex world. Several of these books have become my own well-loved books that I share with pre-service teachers in our learning community in preparation for teaching literacy.

The following books work well as mentor texts, providing mirrors for exploring identity, windows for examining the world, and models of excellent writing. This is not a comprehensive list or listed in any particular order. I have used some of the following books with students for quite some time and still find them to be highly relevant as mentor texts. Others are newer additions to my personal and ever-growing collection.

Sorta Like a Rock Star by Matthew Quick (2010). Little Brown Books for Young Readers.

Dear Martin by Nic Stone (2017). Ember.

Maniac Magee by Jerry Spinelli (1990). Scholastic.

Americanized: Rebel without a Green Card by Sara Saedi (2018). Ember.

Roll of Thunder, Hear My Cry by Mildred D. Taylor (2004). Puffin Books.

Auggie & Me: Three Wonder Stories by R.J. Palacio (2015). Knopf Books for Young Readers. (This is the Sequel to Palacio's book, *Wonder*.)

The Misfits by James Howe (2003). Atheneum Books for Young Readers.

The Boy at the Back of the Class by Onjali Z. Raùf (2019). Delacorte Press.

Merci Suárez Changes Gears by Meg Medina (2018). Candlewick Press.

Out of My Mind by Sharon M. Draper (2012). Atheneum Books for Young Readers.

When you Trap a Tiger by Tae Keller (2020). Random House Books for Young Readers.

Becoming Naomi León by Pam Muñoz Ryan (2005). Scholastic, Inc.

Brown Girl Dreaming by Jacqueline Woodson (2016). Puffin Books.

Because of Winn-Dixie by Kate DiCamillo (2000). Candlewick Press.

Milkweed by Jerry Spinelli (2010). Ember.

A View from Saturday by E.L. Konigsburg (1996). Atheneum Books for Young Readers.

Boy 21 by Matthew Quick (2013). Little Brown Books for Young Readers.

Fish in a Tree by Lynda Mullaly Hunt (2015). Puffin Books.

The Dreamer by Pam Munoz Ryan and Peter Sis (2010). Scholastic, Inc.

The War that Saved My Life by Kimberly Brubaker Bradley (2015). Puffin Books.

Ghost Boys by Jewell Parker Rhodes (2019). Little, Brown Books for Young Readers.

Aristotle and Dante Discover the Secrets of the Universe by Benjamin Alire Sàenz (2012). Simon & Schuster Books for Young Adults.

Missing May by Cynthia Rylant (2004). Scholastic, Inc.

When you Reach Me by Rebecca Stead (2009). Random House Children's Books.

Conclusion

Mentor texts hold the promise for teachers and adolescent literacy learners of creating a learning environment that is engaging and motivating. Mentor texts provide opportunities for adolescents to explore complexities associated with multiple identities during this critical developmental stage, using high quality books as mirrors. In a world that is fraught with challenges both close to home and across the globe, mentor texts can serve as windows to think about the world and adolescent students' place in the world. For teachers engaged in literacy instruction, mentor texts provide important models of the craft of writing while working within a vibrant community of learners.

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Fletcher, R. (2011). *Mentor author, mentor texts: Short texts, craft notes, and practical classroom uses illustrated*. Heinemann.

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Rethinking Reading Instruction: Remedial Reading at the Middle School Level

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If I am hammering a nail into a beautiful piece of particularly hard wood, I have to keep hitting the nail with force while it makes slow progress. The nail's point might become dull, the nail itself bent, and the head damaged. At some point, I may just give up and leave the job unsatisfactorily completed, leaving a scar on an otherwise beautiful piece of wood. Often, it seems, this is how reading instruction ends for non-elementary individuals who fail to make sufficient progress. I imagine the students feel pushed, bent, misshapen, and scarred. For the middle school teacher, it often feels like continuing to push reading instruction on these students after elementary school is almost punishing and can only add to their negative school experience.

As is the goal with all instruction, the hope of all reading teachers is that students will take what they learn in reading class and generalize or transfer the information and skills to their other content area classes. Middle school reading instruction, by necessity, must shift focus from basic phonics and word-attack instruction, heavy word-recognition and vocabulary building concentration, and timed fluency practice, to those skills which will help students tackle the complex reading requirements in their content classes so they can demonstrate learning of content information (Lenski, 2008). Demands placed on students include reading for information for use in completing other tasks, reading independently outside of class to be able to use that information in the next day's discussion or activity, and reading

directions and "how-to" information to independently gain a new skill or process. Thus, students with reading deficits struggle in all of their classes. Reading instruction, therefore, must address those specific needs (Balfanz, 2002).

Additionally, teachers must recognize that after six years of failing to succeed at the reading table, middle school students may have created and refined some very tough coping mechanisms to dissipate the ever-present sense of failure. These include refusal to attempt tasks requiring reading, failure to put forth full effort, "losing" their assignments, requesting answers from peers, etc. Common statements include "I just don't read," "I suck at reading," "I'm stupid like that," "It's a waste of my time," "I'll just take the zero," and many equally painful examples of self-inflicted sabotage. Motivation, even without a prior troubled reading history, can often sag in middle school as other needs take a front seat. Arching over a student's academic effort is their sense of self-efficacy, or their belief in their own abilities. When students have a healthy sense of self-efficacy, they engage in learning and succeed more; contrasting that, those with a low sense of self-efficacy often disengage from learning, and enter the self-destructive cycle of failing to achieve (Lenski, p. 43).

As middle school reading teachers, we have a tall task in front of us. We must address the weaknesses, rally the motivation, knock down the barriers, and develop new habits of persistence and strategic task address. My middle school reading program focuses on five reading strategies, which then serve as the basis for all the work we do. We predict, clarify, wonder, summarize, and make connections. Research repeatedly identifies these strategies as those which "successful" readers use instinctively:

Predicting

People predict all the time. When we watch crime shows, for instance, we guess the identity of the criminal. Mete-

My middle school reading program focuses on five reading strategies, which then serve as the basis for all the work we do. We predict, clarify, wonder, summarize, and make connections.

orologists predict the weather. We predict the outcome of sporting events. How does the act of predicting affect us? We are often motivated to follow through to the end, to see if we were right in our guess. We may use new information along the way to adjust our predictions or throw them out in favor of completely new ones. We pay attention and collect “evidence” for our predictions. And we often celebrate when we are correct. This quick and easy reading strategy has the same effect (Banditvilai, 2020). By predicting, students activate their prior knowledge, prepare their brain for incoming information, and they have “skin in the game” so they need to persevere to see if they are right. Part of my instruction includes emphasizing that we predict throughout the reading process, that it must be based on some sort of evidence, and that observing is different from predicting.

Clarifying

A “successful” reader continually self-checks word recognition and comprehension during the reading process; unfortunately, less successful readers misidentify a word or incorrectly read a sentence and continue reading with no self-check warning lights firing in their brains (Irvin et al., 2007, p. 67-69). Initially, students do not enjoy having these mistakes or holes in their knowledge pointed out. However, setting expectations for the class includes teaching the students that I expect them to address these holes head-on. Students are sometimes even unaware of what they don’t know, so I ease this path by asking directly, “Do you know what that is?” I believe they begin to understand that this is a normal part of the reading process and does not reflect on their intelligence or abilities. If necessary, we discuss what happens when they don’t clarify – how this changes their ability to understand the passage, and how this only hurts them. Early in the process, we examine context clues and discuss how to look for them and discuss other options for clarifying. By stressing and normalizing the clarifying strategy, students quickly become more aware of their reading and have some “plans of attack” when they encounter unknown words and concepts.

Wondering

“Wondering,” in essence, is gathering background or general information to deepen the level of understanding of the actual book content. For instance, when we read a story that takes place in Vietnam, we visit the world map to locate the country. When a story references the tango, we watch a video showing the tango. This engages the students in the reading material, prepares their brains to take in information, and gives them a frame of reference to which they can attach new information for long-term memory. (Kostons, 2015). Students are very quick to embrace this strategy.

They love to take responsibility for finding out information and reporting to the class, or leading the search and discussion. Frequently, they suggest “wonderings” which haven’t occurred to me. This shows an important effect of this strategy– students feel enabled and emboldened to take charge of their learning. Again, with “skin in the game,” they invest much more deeply.

Summarizing

One of the most common complaints of my students is that, even though they read the required material, they don’t seem to remember anything at the time they need to recall or use the information. A powerful strategy to mediate this issue is summarizing. My students don’t seem to instinctively know to do this, unlike, perhaps, “successful” readers. The act of summarizing allows the reader to “get their head in the game,” by simultaneously sparking recall and checking comprehension (Özdemir, 2018). I teach students that summarizing can occur during the reading process, in addition to at the end of a given selection. We also have a metacognitive moment as we discuss how summarizing helps their brains “deposit” the information into long-term memory. Teacher modeling allows students to see that it can be done quickly, is “normal,” and helps them to move forward more successfully. This strategy, though, is a harder sell than the others because it takes effort and concentration. When students finish the reading selection, I often use a graphic organizer that requires them to summarize in writing.

Making Connections

The final strategy, making connections with what is being read, is vitally important to those who have historically not bonded with the reading experience or the stories they have read. Correia (2008) states, “In helping students to activate the prior knowledge they bring to the learning environment, teachers build on students’ strengths and experiences to create new learning” (p. 41). This is not a natural habit for all readers and needs to be modeled. In my experience, however, once it is modeled and practiced, initially with cuing, students quickly embrace this practice. By making connections with the material, students become more invested in the contents and alert their brain to memory “hooks.”

A key element to employing a strategy focus in any class is student training. Students cannot be handed a strategy and be expected to embrace it and use it without instruction and practice (Banditvilai, 2020). I find that direct instruction in the vocabulary of strategy use as well as discussion of the metacognitive process of reading and learning is invaluable. When other teachers also embrace this vocabulary, it sends a further message that strategies have value. Another very

important tool for cementing the benefits of these reading strategies is the use of graphic organizers. There is much research available extolling the benefits of graphic organizers (Kilickaya, 2019), but again, students must be trained how to choose one for the necessary purpose and how to use it (Hall, 2008 and Manoli, 2012).

At the beginning of the year, all classes (one or two each for grades 6, 7, and 8) are taught the vocabulary of and the purpose behind the strategies. I also spend time removing the moniker “bad” from “reader” and replacing it with “successful.” I connect with their potential sport play or other talent and equate myself with the coach (e.g., refining their skills while acknowledging that they have skills already – they *know* how to read already.) We do activities and play games with the strategies for several sessions until the terms are well-secured in their working vocabulary and they seem to have a solid understanding of how and when to use them. Additionally, I make an effort to “sell” the class to the students, who generally come to the table with negative attitudes. I work with their content teachers to offer extra credit when warranted; those teachers also are given the strategy vocabulary and are asked to give positive reinforcement when the vocabulary is used or they see a strategy in action. Only then do we begin reading.

Students with little motivation to read are often disengaged from learning and avoid reading (Beers, 2003). Because these students do not spend much time reading, their progress tends to be slower than that of students who do read (Stanovich, 1986). The act of avoiding reading sets the stage for further reading failure, which can result in learned

helplessness (Johnston & Winograd, 1985). Learned helplessness occurs when students believe that there is nothing that they can do to improve their learning. In the case of adolescents, their past failures in reading have taught them that they cannot succeed no matter how hard they try. Therefore, they may lose the motivation to try to read difficult texts.

To build student motivation, we use picture books. I explain that the purpose of the class is to practice the strategies, and by using picture books we can “get in, do our business, and move on.” I stress repeatedly that the use of picture books has nothing to do with their reading abilities. These picture books are organized and sequenced to take the students from limited text with picture dependence along a path to complete text dependence. They are both fiction and non-fiction, silly and “deep,” and can be supportive of concepts taught in social studies, science, etc. An unexpected benefit is that with quick turn-around time, students feel a sense of accomplishment and success, which I believe leads them to increasing their positive feelings about reading and encourages their persistence when faced with a longer selection –thereby building self-efficacy.

There is evidence that discussion may be key to helping below-grade readers enhance their text comprehension (Wilkinson & Nelson, 2020). In that vein, there is A LOT of discussion in any given class period! Students are led to predict throughout the book, to make connections whenever they can, and to wonder aloud. Clarifying both words and concepts happens as we read together and is the only time phonics might be directly addressed. Since I see my students every other day due to an A/B schedule, we also start almost every class with a little summarizing. The whole book is summarized again at the end of reading through the use of various types of graphic organizers. Student “wondering” leads us often to quick research on the internet, finding background information to improve the depth of understanding of given material. As we move through a selection, students write answers to “reflection” questions, which again require the students to use the strategies and support their answers with evidence. There is minimal writing and the questions are not difficult (especially given all the discussion), but students write some of their personal thoughts, which holds them responsible for actively processing the content. At the end of each selection, students join me individually for a “retelling” in which they read a small portion of the book to themselves and share what they remember from this last reading. This serves as their evaluation. Finally, they read a small paragraph or two aloud for me to rate their accuracy. None of this is timed, and students declare when they are ready to discuss the selection for evaluation. This is also a good time to review strategy use and memory cues with

Students beg to be the next reader, make a prediction, or share a connection. They make statements like, “I have a connection to make” with authority and pride. They become aware of words and concepts they don’t fully understand and ask – almost demand – to have them clarified. In short, they are excited about the reading process, and have a definite sense of ownership of their learning

individualized conversation.

After a short and informal rating process, which results in placement into various small groups of similar achievement levels, interests, and personalities, students come together for direct instruction and practice regarding the strategies, as discussed above. With each story, I introduce an appropriate graphic organizer and explain its use and benefits. I set clear and strict expectations for the written work, as students are inclined to attempt to short-change these tasks. However, students rise to the expectations and produce reflective answers. Through the first few stories, I model the strategies by thinking aloud, blaming the need to summarize on my poor “old-lady” memory, and laying on thick layers of praise for small forward steps. The students are very reluctant to try, say anything, or ask questions. But by the time we are into our third book, I must fight for the opportunity to add to the discussion. I am simply a facilitator, making sure each student gets the opportunity to share. Students beg to be the next reader, make a prediction, or share a connection. They make statements like, “I have a connection to make” with authority and pride. They become aware of words and concepts they don’t fully understand and ask – almost demand – to have them clarified. In short, they are excited about the reading process, and have a definite sense of ownership of their learning. Because the books are so short, we never get bogged down or tired of a subject. Their curiosity seems to be piqued, and they welcome the opportunity to delve into a topic by researching it. Even those few who resist me for most of our time together (these are usually eighth graders who come into the program after the year has begun so they have missed the team-building time) seem to develop a stronger sense of perseverance -- enough that, without fully realizing it, they persevere through their reading SOL test and pass, often for the first time in their school career. There are many times I have had to reach for the tissues, overcome, while they celebrate testing success with semi-astonished looks on their faces.

I have slowly added to the collection of picture books I use,

placing them within the scope and sequence. I write reflection questions and create retelling protocols for those stories, which becomes much easier to do with practice. (The hardest part is acquiring seven copies of a given book!) I have thus been able to add books to support grade-level content from other core classes. Additionally, some books seem to inspire students to further exploration, so we have developed small projects to go with these selections. Sometimes these projects can then be shared with science or social studies teachers (and other content areas), and students may receive extra credit in those classes for their research. Who turns down extra credit? We call it a “2-fer” – 2 grades “fer” the work of one.

Student Progress

How has it gone? I have, frankly, been very pleasantly surprised with the progress made by the students. Our school system conducts quarterly standardized reading tests, so I have regular feedback for my students, which I share with them in private meetings. I explain percentile scores and grade equivalency scores, as I feel those mean the most to them. I keep charts of their progress on my computer so I can review with them. More than their growth on a test, though, I have been most astonished by the difference I observe each year in their approach to reading tasks. They come to the table with a more positive, confident, can-do affect.

Students in the reading program I devised based on research-supported reading strategies demonstrate an increased level of reading achievement based on standardized testing. Additional affective changes and evidence of perseverance promote additional optimism about the benefits of such a reading program for older students with long-term struggles. Teacher professional learning and a school-wide commitment to cross-curricular reading expectations would greatly benefit schools seeking to improve their students’ reading achievement.

Table 1

Results for my 7th grade classes (2021-2022 school year):

7TH GRADE

25	students
12	participated for the full year
2	moved away
4	moved to another class
13	were added after the 1st quarter

SOL Results – incomplete due to Students not testing during the Covid year

STAR Results (Grade Equivalency)

Passed for the first time	Inc. 2
Passed for the second time	Inc. 0
Failed but score rose	Inc. 5
Failed and score fell	Inc. 4
Failed after passing in 6th grade	Inc. 1

increased	0.1 – 0.9	9
increased	1.0 – 1.5	5
increased	1.6 - 1.9	1
increased	2.0 – 2.5	2
increased	2.6 - 2.9	1
increased	3.0 or more	0
decreased	0.1 – 0.5	4
decreased	0.6 – 0.9	1
decreased	1.0 – 1.5	0
stayed the same		0

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Using Phonological Awareness to Improve Literacy Competencies in Early Education Settings

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Abstract

Phonological awareness skills can develop rapidly during the preschool and early education years and are a significant contributor to later reading proficiency. Verbal interactions and interventions involving certain language activities can foster phonological awareness in young children, which aids subsequent reading development. This article addresses translating phonological awareness research for classroom instruction and how instruction can present phonological awareness alongside letter-sound correspondences. It also presents a description of phonological awareness and its relationship to early literacy skills and reading development. Methods for instructional implementation and strategies derived from evidence-based practices for classroom-based instruction in phonological skills with emergent readers are described.

Keywords: early education, evidence-based practices, orthographic mapping, phonological awareness

Using Phonological Awareness to Improve Literacy Competencies in Early Education Settings

The most common barrier to early word reading skills is the inability to process language phonologically (Bishop, 2014; Liberman et al., 1989). Further, deficiencies in phonological processing alongside insufficiencies in phonological patterns and letter-sound correspondence most often impede early reading development for both students with and without disabilities (Fletcher et al., 1994; Foy & Mann, 2006; Leonard, 2014; Rayner et al., 2012). Several skills or stages of phonological awareness development parallel the different phonological components of spoken language, which include words, syllables, onsets and rimes, and phonemes (Adams, 2001; Blachman, 1991; Smith, 1995). Phonological awareness is often depicted as an umbrella term, including heightened awareness of spoken language at each level. Effective instruction should consider the various levels of

phonological awareness development in order of increasing difficulty. These include: (a) word level, or the awareness that speech is stream of individual words, (b) syllable level, or segmenting words into syllables, (c) onset and rime, or the intrasyllabic level of phonological awareness that includes the analysis of the syllable and the phoneme (Adams, 1990), and (d) phonemic awareness, the ability to manipulate individual phonemes (Adams, 2001; Lenchner et al., 1990).

Instructional activities (e.g., substituting different sounds for the first sound of a familiar song) can encourage the development of phonological awareness, a cognitive substrate to reading proficiency. Acquiring phonological awareness, or a sensitivity to the sound structure of words, paves the way for later reading instruction (Chard et al., 1998; Reutzel & Cooter, 2019). Moreover, phonological awareness instruction has demonstrated greater effectiveness when coupled with letters (Ehri et al., 2001). When emergent readers see and pronounce a word, connections are made between spelling units and sounds, thus, emphasizing the importance of making explicit connections between letter-sound relations (Ehri et al., 2006). As such, the relationship among phonological awareness and reading is not unidirectional, but rather reciprocal (Armbruster, 2010; Stanovich, 1986), thus early reading depends on possessing an understanding of the internal structure of words. This understanding can be fostered through explicit instruction in phonological awareness skills for promoting early reading.

Phonological Awareness Training

Phonological Awareness Training is a general practice that seeks to improve young children's phonological awareness abilities. Because phonological awareness involves the manipulation of the sounds in words independent of meaning, it is considered a precursor to reading. Phonological Awareness Training, an evidence-based practice according to the rigorous and trustworthy standards of the What Works Clearinghouse (WWC; WWC, 2011), can involve a multitude of training activities that center on teaching young

children to identify, detect, delete, segment, or blend segments of spoken words (i.e., words, syllables, onsets and rimes, phonemes) or that target instruction on detecting, identifying or producing rhyme or alliteration (Edelen-Smith, 1997; WWC, 2011).

Educators are tasked with delivering instruction to support all students with varying learning needs and exceptionalities in a manner that will improve learning outcomes. It can be overwhelming and confusing for educators to determine the best practices to support students in the early elementary years. This article provides those in the classroom, and those who support classrooms, three evidence-based practices to promote phonological awareness and ultimately helping students to orthographically map phonemes into letters. The aim of these practices is to improve the phonological awareness competencies for children in early education settings, which should ultimately lend itself towards greater proficiency in decoding, and thus reading ability (Reutzel & Cooter, 2019).

Each of the practices presented can be integrated into any reading activity or used as games or activities throughout instruction or even during noninstructional time. Just as phonological awareness develops on a continuum, beginning with the simplest concepts (i.e., awareness of individual words within spoken language) and progresses to the most complex (i.e., ability to manipulate individual phonemes within words), the practices presented in this article fall within this continuum- ranging from phoneme discrimination to phoneme substitution (manipulation). As students begin to understand the oral dimensions of phonological awareness, numerous other opportunities will arise for instruction to translate these oral skills into print.

Practice 1- Odd-One-Out (Discrimination)

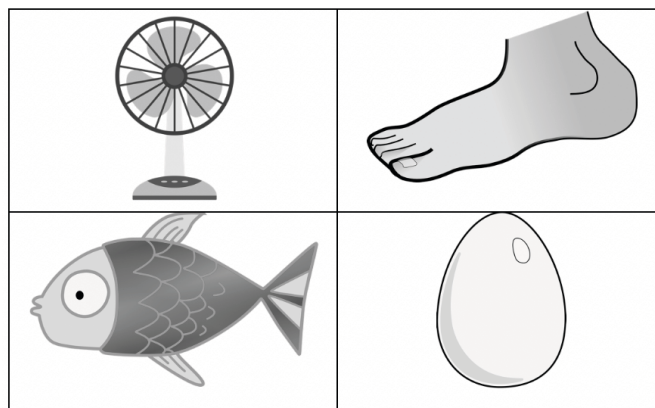
Auditory awareness activities can be used to increase student awareness of morphosyntactic targets. This game allows students to become familiar with beginning or initial sounds by determining the “odd one out.” Teachers will select a target sound or sounds (e.g., /f/). Using this target sound, the teacher will create either a 4X1 or 2X2 board with three pictures that contain the target sound and one that does not (see Figure 1). For example, the teacher will

Effective instruction should consider the various levels of phonological awareness development in order of increasing difficulty.

generate a board that includes a picture of a fan, a foot, a fish, and an egg. Students will determine which of the pictures does not begin with the same sound as the rest: the odd one out. Teachers should consider introducing this activity with words that contain continuous initial sounds, such as /z/, /r/, /l/, /s/, /v/, /n/, and /m/.

This activity can be modified to include final sounds or advanced to include word families. Additional enrichment includes having children generate a fourth word that contains the given initial sound. Considering the example above, students can replace the word “egg” with “fish.” Further, to transition this activity from auditory discrimination to the association of phonemes into graphemes (i.e., letters), educators can add Elkonin boxes or designated blank spaces to each of the four pictures presented in the card and extend the activity to focus on mapping the associated sounds with letters.

Figure 1 - Odd-One-Out



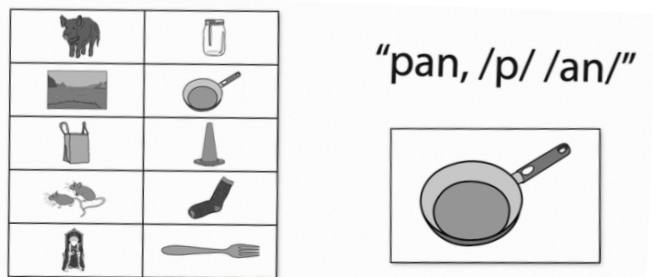
Practice 2- Sound Detective (Blending)

Blending is a way for children to decode or to “sound out” words. The acquisition of this skill is a key predictor of reading ability (Melby-Lervåg et al., 2012) and is arguably the most essential phonological awareness skill to master for later reading development (Lundberg et al., 1988). Students will be asked to identify individual phonemes or sounds in a word by segmenting and blending onsets and rimes. This strategy is adapted from the Florida Center for Reading Research (2009), which is an authoritative reading resource for educators to explore instructional strategies. This game is most effective in pairs. Students will be given a Rime Board (e.g., a 2X5 table with a picture in each cell [pan, jar, bag]; see Figure 2.). Replicate each picture on an individual card. One student will draw a card (e.g., bag) and segment the onset and rime. For example, the student will say /b/ /ag/. The second child will blend the onset and rime, and say,

“bag.” Together, they will match the individual card on the Rime Board. Teachers and instructional aids can generate an enrichment activity by having students generate a new onset with the rime. For example, the child could blend /r/ with /ag/ to create the word, “rag.”

This activity can be modified in a variety of ways. First, as students’ skills in discriminating onsets and rimes progress, students can use a white board (or other recording platform) to handwrite the graphemes associated with the drawn onset and rime. This can be further scaffolded for students who have not yet mastered transferring letter sounds into associated letters, by providing the rime for the student in print, as the student attempts to orthographically map the onset. This activity can be extended to include digraphs and diphthongs as students advance in their understanding of the sound and spelling structures of words.

Figure 2 - Sound Detective



Note. From Florida Center for Reading Research. (2009). Retrieved from https://fcrr.org/sites/g/files/upcbnu2836/files/media/PDFs/student_center_activities/vpk_language_and_vocabulary/LV18-1_color.pdf. In the public domain.

Practice 3- Change-a-Name Game (Manipulation/Rhyme)

Phoneme discrimination, such as hearing, distinguishing, recognizing, and manipulating sounds, aids in the development of phonological awareness. Activities like substituting different sounds and/or letters for the first sound of a familiar song or story can help children develop phonological awareness skills in an engaging and recognizable manner. The sensitivity to rhyme as a precursor aids in the ability to substitute phonemes, which in turn alludes to the strong relation between this phonological awareness skill and reading (Bryant et al., 1990). This game targets the recognition of phoneme substitution. Teachers can begin by having students listen to the song Willoughby Wallaby Woo, by Raffi (1996). After the students listen to the song, the teacher will instruct students to remove the first sound in their name. For example, they will change the name Lance to Ance. Chil-

dren can then take turns changing their names by replacing the beginning sound. For example, Lance’s new name might become Pance.

Additionally, the use of the Change-a-Name Game can be adapted in several ways to meet classroom needs. Teachers can present students with a name (or other item), such as Jake (or marker) and ask students to recite what the name (or item) would be if the first letter were an R instead of a J. This provides students with the same opportunity to discriminate phonemes while simultaneously learning to orthographically map the phonemes onto letters. Further, the Change-a-Name game can be modified into a card game. Teachers can provide students with 7 cards, each with a different letter on them. A pile of cards with images can be placed in the middle of a pair of students. Students will take turns stating the name of the image on the card and then using one of their 7 cards to change the name of the object. For example, the image card might be a bike. One student will say the word bike and then choose one of their seven letter cards (e.g., t, y, h, p, l) to change the name of the image from bike to tike. This requires students to substitute both graphemes while adhering to sound discriminations.

Conclusion

Teachers of children in early educational settings must recognize the importance of incorporating phonological awareness into programs that are designed to encourage emergent literacy. A foundation for these skills is a catalyst for the development of the sound-symbol relationship that is necessary for beginning reading. This article provides educators with three practices that can be implemented in early elementary settings to meet the emerging literacy needs of young children with learning disabilities. These three practices are designed to develop and enhance phonological awareness by first establishing a proficiency in establishing language phonetically and then transitioning the association of phonemes to the affiliated graphemes. As such, the use of Phonological Awareness Training as an instructional practice should always aim to include the use of letters.

The acquisition of blending is a key predictor of reading ability (Melby-Lervåg et al., 2012) and is arguably the most essential phonological awareness skill to master for later reading development (Lundberg et al., 1988).

It is the hope that with the use of evidence-based practices, such as the ones provided in this article, will ultimately produce an improvement in learning outcomes for children and youth with a variety of learning needs. Additional practice incorporating specific skills will surely be required for some students who maintain difficulty acquiring phonological skills, however, it is imperative that instructors make the sound structure of language conspicuous to students who are unable to develop phonological awareness independently.

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The Trouble with Tiers: The Challenge to Select the Right Words to Meet Learner Needs

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Elementary teachers must continually make efforts to assure that students recognize and grasp the meanings of vocabulary terms necessary for comprehension. To illustrate, we had an actual experience in an after-school program with a young reader named Frankie, who was supposed to re-read books from his small group reading instruction his individualized reading instruction lessons. Frankie disliked these re-readings; he precisely memorized the texts and spoke the sentences amazingly accurately, not looking at individual words. Having rushed through a story about a hen and her chicks, not missing a word but struggling when asked to point to specific words, we asked, “Frankie, tell us what a *hen* is.” He responded with a quizzical look and said, “A *hen*? I don’t know; I have never heard that word in my whole life.” Further questioning confirmed that Frankie did not understand the word *hen*. Next, we learned that Frankie identified the meaning of *chicks* to be “girls.” Frankie had correctly “read” the word *hen* eight times and *chicks* six times.

In retrospect, had we thought about the fact that Frankie had just moved from Washington DC (where he had always lived) to rural southwest Virginia, we would have realized that he probably not had much experience with *hens* and *chicks*. It is possible that Frankie could have had some interest in the story if he had been able to discern the central concept. This would have required that we, as his teachers, determined that Frankie did not know the words *hen* and *chick* and introduce these terms prior to the reading. Or we could have selected a book that reflected Frankie’s prior knowledge. As teachers, we must know students well and

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engage in continuous informal assessment of vocabulary to meet the needs of students.

Many literacy teachers have difficulties selecting precise vocabulary words that should be taught to children (Baumann, 2009; Beck et al., 2002, 2013; Biemiller, 2001; Nagy & Hiebert, 2011, Nation, 2011). The focus of our current inquiry is on vocabulary selection for primary-aged education, grades K-3. At these levels, classroom instruction includes use of picture books and leveled instructional materials with illustrations (McCormick & Zutell, 2014; Nikolajeva & Scott, 2001; Pinnell & Fountas, 2016; Reutzel & Cooter, 2018; Tompkins, 2016). The identification of words to teach and the designation of deliberate and reliable methods for teaching them is at the heart of the vocabulary research agenda (Baumann, 2009; Beck et al., 2002, 2013; Biemiller & Slomin, 2001; Graves, 2006; Hart & Risley, 1995; Nagy & Hiebert, 2011, Nation, 2011; Stahl & Fairbanks, 1986). There is a need for solid, evidence-based methods of vocabulary selection that teachers can utilize to support student learning.

The impact of comprehension of word meanings and concepts on reading success has been documented by literacy scholars (Beck & McKeown, 1991; Biemiller, 2001; Nagy & Anderson, 1984; Nation 2011, Nagy & Hiebert, 2011; Stahl & Fairbanks, 1986). Both depth and breadth of vocabulary knowledge is essential when measuring reading success, especially in the area of comprehension (Beck & McKeown, 1991; Nagy & Anderson, 1984; Stahl & Fairbanks, 1986). Teachers need to be able to systematically select words for instruction that will meet the needs of their individual learners at a specific time.

Vocabulary Words

Vocabulary knowledge can be defined as comprehension of word meanings in reading contexts, and it is clear that student prior knowledge has a marked impact on student

Knowing a Word

insights about texts (Nagy & Anderson, 1984; Beck & McKeown, 1991; Cervetti & Hiebert, 2018; Hiebert, 2020; Stahl & Fairbanks, 1986; Verhoeven, van Leeuwe, & Vermeer, 2011). Though all vocabulary is made up of words, children's vocabulary development goes far beyond simple word knowledge (Nation, 2011; Baumann & Kame'enui, 2012).

The lack of consensus on defining a "word," particularly what constitutes a "vocabulary word," has a direct impact on the determination of which words a child must learn in order to have adequate vocabulary knowledge. According to Nagy and Anderson (1984), there are 88,700 different word families or types. Given the estimate of Nagy and Anderson (1984), children would need to learn nearly 3,000 new words every year, an incomprehensible task of over 16 words per school day. This estimate is more than five times the estimated 17,000-word groups reported by D'Anna, Zechmeister, and Hall (1991). It is no more reasonable to think that children should learn 17,000 new words in 13 years (1308 words, or over 7 words for each school day). Trying to determine the numbers of vocabulary words that are learned *in school* is a challenging task; however, a reasonable estimate is that children should be taught (through direct instruction) between 300 and 500 new words each year (Stahl, 1999). If the lowest end of Stahl's (1999) recommendation is taken to heart and only 300 new vocabulary words are acquired in school each year, it means that every child needs to thoroughly learn the meanings for 1.66 previously unknown words each day. Teachers *can* accomplish this, (8.3 words per week), but it is a complicated task indeed for a teacher with about 22 students who each have varying levels of prior knowledge and reading ability.

It is estimated that, through independent reading and incidental learning, children add an additional 1000 to 2500 words each year to their lexicon of word knowledge (Coyne et al., 2004; Graves & Watts-Taffe, 2002; Stahl, 1999), so teachers don't have to teach *all* of the words. But they do need to teach the most advantageous words for supporting individual students' learning in all academic areas.

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Constructivists take the stance that learners must make connections between what is already known and what is to be learned (Nagy & Scott, 2004). Knowing the meaning of one word can provide background knowledge from which the meaning of another word can develop (Blachowicz et al., 2006; Scott & Nagy, 2002). If a child knows the meaning of the *baby*, foundational knowledge of *infant* also exists. *Baby* is easily perceived by most children and provides the perfect platform upon which to build knowledge of *infant*. Word learning first begins with what is known, followed by additional knowledge that supports deeper comprehension (Nagy & Scott, 2004).

According to Nagy and Scott (2004), word knowledge encompasses interpretations that surpass common acceptance of what it means to know a word (definitional knowledge) and involve incorporation of the word within a child's working vocabulary knowledge. Nagy and Scott (2004) describe word knowledge as (1) incremental, (2) multidimensional, (3) polysemous, (4) interrelated, and (5) heterogeneous (Nagy & Scott, 2004; Stahl & Bravo, 2010). Vocabulary knowledge is complex recognition of the usage of words - including how words relate to one another, oral language versus written language, and the ability to read and comprehend words in a variety of contexts (Nagy & Scott, 2000, 2004).

Knowing a word is not an all or nothing proposition. Word knowledge is acquired through well-planned, diverse, and deliberate approaches that address the incremental, multi-dimensional, polysemous, interrelated, and heterogeneous components of word learning (Nagy & Scott, 2004). Learner knowledge can be identified across four incremental stages:

Stage 1: Never having seen the term before

Stage 2: Knowing there is such a word, but not knowing what it means

Stage 3: Having context-bound and vague knowledge of the word's meaning

Stage 4: Knowing the word well, remembering, and using it

(Dale, 1965; Stahl & Bravo, 2010)

Vocabulary knowledge can be viewed on a continuum and is dependent on the background knowledge of the student, number of previous interactions with specific words, and the context within which the word is encountered (Beck et al., 1987; Stahl & Bravo, 2010). Students demonstrate their levels of vocabulary knowledge through word usage in everyday and academic settings. The continuum of word knowledge for students can span from passive control (ability to provide a simple definition or synonym) to more in-

depth knowledge (including the ability to read the word in multiple contexts and use it in written and oral communication) (Bravo & Cervetti, 2008; Nagy & Scott, 2004; Stahl & Bravo, 2010).

Vocabulary Selection

Vocabulary scholars have made recommendations for teacher choices of vocabulary words to target (Baumann & Kame'enui, 1991, 2004; Beck et al., 2002, 2013; Biemiller & Sloanim, 2001; Blachowicz et al., 2006; Nation, 2011; Rawlins & Invernizzi, 2018). Biemiller and Slonim (2001) assert that most children learn root words in approximately the same order and that the order in which they are learned can be predicted by the Living Word Vocabulary (LWV) levels (Dale, 1976). Biemiller et al. state, "This suggests that a plausible vocabulary curriculum sequence can be established empirically" (p. 510). Biemiller (2000, 2003) emphasizes the need to focus purposefully on root words rather than attempting to teach all forms of words.

Beck, McKeown, and Kucan (2002, 2013) developed a system for selecting vocabulary words for instruction that received significant attention. They (2002, 2013) suggest that teachers should select words for vocabulary instruction based upon "Tiers." Tier One words are those already found in the oral vocabularies of primary-aged children; words viewed as not being rich in meaning. Tier One includes common words such as *baby*, *happy*, and *clock*. The meanings of these words are already known when children come to school and many children learn to identify and read them easily (Beck et al., 2002, 2013).

Tier Two words are identified by Beck and colleagues (2002) as being the "most ripe" for vocabulary instruction. Tier Two words are "high frequency words for mature language users" (p. 16, 2002). It is common for Tier Two words to have multiple meanings, and Beck and colleagues (2002) provide examples such as *crouch*, *abundant*, and *respect*. Tier Two words often characterize written text but are unlikely to come up in conversation; thus, instruction that supports children in gaining knowledge of these words is essential for comprehension.

Tier Three words are of lower frequency and are found in specific content area domains - terms such as *lathe*, *isotope*, and *peninsula*. According to Beck and colleagues (2002, 2013), these words are best learned in the context of content area instruction. These words are identified as being best taught on an "as needed" basis within the specific domain in which they are encountered. Tier Three words often have one primary meaning and are of "high utility" for

learners in developing comprehension of specific content concepts (Beck et al., 2002).

The Trouble with the Tiered System

Beck, McKeown, and Kucan's (2008) recommendations for utilizing the Tiered system for selecting vocabulary words for instruction represent a valuable contribution to literacy education. The introduction of this Tiered approach brought increased attention to vocabulary selection and instruction.

The Tiered system can be confusing. When sharing the Tier system with practicing and pre-service teachers, we have had numerous questions about specific words, and whether a Tier One, Tier Two, or Tier Three categorization would be correct. There have also been questions about sight words and whether they represent a separate category or were Tier One words. While the Tiered approach has a logic with initial appeal, implementation and decision-making related to using this method can be overly complicated.

Sight Words and Tier One Words

Analysis of Beck and McKeown's Tier One category is confusing as it relates to sight words, which are excluded from Tier One (2002, 2013). The relevance of sight word instruction for beginning readers was established historically by literacy researchers; many educators view sight word identification as essential for young children (Browder & Lalli, 1991; Ehri, 1995; Miles, Rubin, & Gonzalez-Frey 2017; Rawlins & Invernizzi, 2018; Richardson et al., 2016). Most sight words "do not contain predictable grapheme-phoneme correspondence" (Kupzyk et al., 2011, p. 781); thus, these words are difficult to learn phonetically. Sight words are not simply learned by sight. Rather, the learning of sight words involves developing familiarity with the words, including pronunciation and meaning based upon memory (Rawlins & Invernizzi, 2018). All words that are immediately identified become sight words (Ehri, 1995).

A well-known collection of 220 sight words for beginning readers was identified by Dolch (1941). There is a high level of agreement among literacy researchers, teacher educators, and early grade literacy teachers that the learning of sight words is beneficial to early reading success (Ehri, 1991, 1995, 1998, 2014; McCormick & Zutell, 2011; Miles et al., 2017; Neuman & Dwyer, 2009; Pinnell & Fountas, 2016; Rawlins & Invernizzi, 2018; Reutzel & Cooter, 2018; Tompkins, 2016).

Beck, McKeown, and Kucan (2002, 2008, 2013) do not address "sight words" in their Tiered System. They mention

“High Frequency words” (p. 50), referencing Stanovich and Cunningham (1998) and Hayes and Ahrens (1988) in specifying that these are common words “that do not differentiate students with high and low vocabulary knowledge or good and poor comprehenders” (p. 50). Beck and colleagues (2008) define high frequency words as “easy to describe; they are the most common ones in the language – the ones we use the most every day” (2008, p. 13). There is little contrast between this definition and that of Tier One as, “the basic words of oral language that need virtually no attention to their meaning in school” (Beck et al., 2008, p. 9). Beck and her colleagues report that high exposure to Tier One words in conversations and everyday life experiences causes children to easily learn these words.

Do the Dolch sight words fit into the Tier One category? Not exactly. Beck and colleagues’ examples of Tier One words include some like: *tired*, *party* and *swim*. These are not on the Dolch List. However, some identified Tier One words like *run*, *wish*, and *look* are on the Dolch List. There is no valid and reliable means for determining variations between sight and Tier One words.

Distinguishing Between Tiers One, Two, and Three

Beck and her colleagues (2008) recommend that teachers focus vocabulary instruction on Tier Two words. There are difficulties separating words that in some ways meet the criteria of sight words and Tier One, Two, and Three words. Table 1 illustrates.

Tier Two words are not equal in terms of the importance when providing vocabulary instruction; rather, Beck et al., (2008) suggest that there is a “range of words” within this tier. They recommend that teachers determine the “mileage” or usefulness of each word within their students’ vocabulary repertoire (p. 8). Of course, various words require different degrees of instructional focus; however, trying to determine the “mileage” of each (possible) Tier Two word creates much complexity with regard to selecting vocabulary for instruction. When faced with common words like *draw*, *measure*, *degree*, *fly*, *green*, *pine*, and *yard* (see Table 1), teachers are no more likely to be able to easily classify them in a specific Tier than we are.

Beyond Systems for Vocabulary Selection

There is a need for grounded, research-based principles to guide identification of vocabulary words to be taught to children. The quantity of unfamiliar words in children’s literature and text materials is tremendous, making the business

of choosing words for instruction a difficult task of essential importance (Graves et al., 2017; Nagy & Anderson, 1984; Nagy & Scott, 2004; Nagy & Hiebert, 2011; Nation, 2011). Teachers must be empowered to select and teach words they *know* their students *need to learn* and will *use* in daily reading (as well as speech, listening, and writing). A vocabulary “diet” that puts limits on types of words (whether they are sight words, high or low frequency words, Tier One, Tier Two, or Tier Three words) will not meet individual learner needs and will leave students *undernourished* in their ability to read and comprehend texts. Teachers must make decisions with student needs being the most important factor. Deliberate instruction in schools requires teacher planning for a well-balanced vocabulary diet that will be interesting, motivating, meaningful, and useful for current and future reading tasks.

Principles for Selecting Vocabulary to be Taught

Children’s errors in speaking, reading, and writing are never random (Barksdale-Ladd & King, 2000; Bissex, 1980; Spivey, 1997; Walkerdine, 1988; Weaver, 1994) and they provide significant information about student learning, with the potential to reveal the zone of proximal development, representing an optimal learning environment (Eun, 2019; Hiebert, 2008; Johnston, 1984, 1993; Johnston & Allington, 1991; Tracey & Morrow, 2012; Vgotsky, 1978). When a child makes an error and doesn’t know there was an error, either the material is too difficult or the child is not developmentally prepared for instruction that would make it possible to identify and correct the error; thus, the child is not experiencing an optimal zone of proximal development. Likewise, when a child makes an error, is fully cognizant of it and is able to self-correct, again, the child is not in the optimal zone of proximal development. Here, this child exhibits knowledge and comprehension, and probably will not repeat this error again.

An optimal zone of proximal development can be viewed as that state at which a child makes an error, realizes that it has occurred, and needs instructional support to discover how to correct the error (Barksdale-Ladd & King, 2000; Bissex, 1980; Clay, 1991). The identification of errors as they relate to vocabulary can be particularly useful in providing guidance for selecting vocabulary to be taught. Errors that children are cognizant of can be analyzed with regard to classification and components (grapheme/phoneme, word family, sight, multiple-meanings and parts of speech, and meaning/s or morphemes) as they relate to ways in which they are found in text. Teachers should consider the purposes that learning a given word will serve for the students

relative to current literacy learning.

(1) *Identify vocabulary words to teach based upon recognition of the prior knowledge that the students bring to the classroom* (Feezell, 2012; Gallagher & Anderson, 2016; Graves et al., 2017; Rawlins & Invernizzi, 2018).

Informed, evidence-based teacher decision making is an essential tool for guiding vocabulary selection. “The most important job of the vocabulary teacher is to plan. Planning involves choosing the most appropriate vocabulary for a particular group of learners...” (Nation, 2011, p. 530). Teachers are exposed to children’s knowledge of vocabulary as demonstrated in their speaking, listening, reading, and writing every day. At the start of each new academic year, teachers begin to gather information about all of their students, in part because there is a need to develop positive and productive relationships that build solid connections to support teaching and learning. As they communicate with children, teachers build a knowledge base about each of them. By attending carefully to vocabulary usage and errors during conversations and lessons with children, teachers can take an essential step toward planning for vocabulary instruction within the zone of proximal development. Teacher knowledge about student knowledge is completely indispensable when selecting vocabulary to be taught and texts

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to be used in the classroom.

For instance, in one classroom, there might be no need to consider the word *buck* for instruction related to *Stand Tall Molly Lou Melon* (Lovell, 2001) because there was a recent reading of *Bambi*, and a discussion of multiple meanings of *buck* ensued at that time. In another classroom, the teacher might consider it likely that the children could determine the meaning of *buck* based on the context. During this part of the read aloud, the teacher would plan to attend to children’s understanding for the purpose of assuring comprehension of *buck*. There could also be classroom contexts in which prior knowledge about *buck* would be unlikely and the children’s ability to ascertain the meaning of *buck* might be uncertain; in this case, *buck* would be selected for vocabulary instruction.

(2) *Words selected for deliberate, systematic vocabulary instruction should be harvested from texts that children will be reading or listening to* (Gallagher & Anderson, 2016; Kindle, 2009; Nation, 2011, 2014; Rawlins & Invernizzi, 2018; Spencer et al., 2012).

Examination of children’s picture books and instructional materials for the purpose of supporting vocabulary learning should be meticulous and purposeful. It is common for a teacher’s guide to provide a list of words and suggestions for vocabulary instruction; however, these lists often contain far more words than can be digested and learned (and may contain many that the children already know). There is no substitute for intentional teacher readings of the texts to be used in the classroom for the express purpose of precision in word selection for the specific children being served.

Texts that will be read by children in the context of small group reading instruction should be examined before they are introduced to children. The goal is to target words for vocabulary instruction that are essential to comprehension and that are likely to be unknown or the source of previous errors. It is also imperative to read the books to be used in read-alouds to target instructional vocabulary. There is evidence that children can make gains in vocabulary knowledge through listening to and discussing books presented in read-aloud experiences (Beck & McKeown, 2007; Bus et al., 1995; Dickinson & Smith, 1994; Elley, 1989; Mol et al., 2009; Mol et al., 2008; Wright & Neumann, 2014). The likelihood of capitalizing on vocabulary learning during these experiences can be enhanced by introducing children to essential vocabulary prior to the reading. Teachers should examine picture books they intend to share with their students through read-alouds to identify target vocabulary words.

(3) *Teachers must be intentional in selecting words for vocabulary instruction that are fundamental to increasing the knowledge children need for success at a given time* (Beck, et al., 2013; Blachowicz et al., 2006; Ehri, 1991; Graves et al., 2017; Johnston, 1984, 1993; Johnston & Allington, 1991; Kucan, 2012; Nagy & Hiebert, 2011; Nagy & Scott, 2004; Nation, 2011).

Through analysis of errors, utilization of information about the prior knowledge, interests, and talents of their students, and examination of texts to be read or heard by the students, teachers can zero in on the zone of proximal development. This method of analysis sets the stage for providing the most valuable vocabulary instruction for meeting children's needs. Every word that is selected for deliberate vocabulary instruction must "count" in terms of: (a) supporting children in correcting errors that move them forward relative to the zone of proximal development, and (b) preparing children for success in comprehending read-alouds, participating in leveled reading instruction, using vocabulary in their speech and writing, and having productive learning experiences in the content areas. There is no substitute for teacher intentionality in examining their available data with regard to vocabulary in upcoming texts.

(4) *Allow students to self-select vocabulary words for instruction* (Berne & Blachowicz, 2008; Blachowicz et al., 2006; Lubliner & Smetana, 2005; Lubliner, 2006; Nagy & Hiebert, 2011).

Typically, vocabulary selected for instruction come directly from one of two sources: the teacher's view of words that should be learned (without analysis of student needs), or the textbook (Berne & Blachowicz, 2008; Blachowicz et al., 2006; Nagy & Hiebert, 2011). Teachers need to empower students to become "word conscious" and recognize when a word is unfamiliar or does not make sense (Scott et al., 2008). The natural reaction to an unknown word for most learners is to skip it or read on with the assumption that the context of the passage will assist them with the meaning of the unknown word. Empowering learners to recognize words they don't know and look further into their meanings will help them to become more word conscious readers in the future. Children have a natural fascination with certain words selected out of their own experience; the act of providing them with chances to add their own words to vocab-

ulary lists can be a motivating factor for vocabulary learning.

(5) *Teachers should engage in metacognitive analysis of their students in light of upcoming topics/texts for literacy and content area instruction when determining which words to teach.*

Teaching students to use metacognitive strategies to monitor their own thought processes while reading will help them to develop their vocabulary knowledge (Lubliner & Smetana, 2005; Lubliner, 2006). Children can be taught to use a signal during small group instruction or whole class read-alouds when they encounter a word they don't understand or that is new to them. Teachers can use the opportunity to engage students in a conversation about the unknown word and its use within the story. Children who value encounters with unknown words have realized that this happens to all readers and that it is not a sign of failure; when this occurs, the classroom environment becomes safer for all learners.

Some guiding questions can be utilized to inform the selection of vocabulary words relative to learner prior knowledge, accuracy, and error:

- Are there words that have been previously taught or addressed in this classroom, but that need additional attention?
- Is this a high frequency word that will be often encountered in upcoming reading or writing, or that can be also used in familiar texts, poems, songs, or refrains from known read-alouds (Rawlins & Invernizzi, 2018)?
- Does this group of children need to learn specific words by "sight" relative to other words, given current errors (for example, confusions about which, what and who)?
- Is a given word a member of a word family - and could exploration of this word lead to additional learnings within the word family (Blachowicz et al., 2006; Nation, 2011, 2014)?
- Are there words that work into reading instruction or read alouds that will also be encountered in social studies, science, or mathematics (Blachowicz et al., 2006). (Some of these could be multiple-meaning words)

It is also imperative to read the books to be used in read-alouds to target instructional vocabulary.

- Will the time investment required for this instruction related to a specific word provide foundational knowledge that will support comprehension of upcoming texts beyond the current one?

Conclusion

Much research has been conducted on vocabulary words and methods of vocabulary instruction; however, it can be incredibly challenging to tease apart the components of vocabulary analysis systems when trying to meet the needs of children in specific classrooms (Baumann, 2009; Beck et al., 2002, 2013; Biemiller & Slonim, 2001; Graves, 2006; Hart & Risley, 1995; Nagy & Hiebert, 2011; Nation, 2011; Stahl & Fairbanks, 1986). The most fruitful target words for instruction are those that have been heard or read, but whose meanings cannot be fully identified by the children (the zone of proximal development). After assessing the knowledge of the group and the texts and topics for upcoming instruction, teachers can make decisions about which words will meet the needs of the specific learners. The selection of words to be directly taught by teachers during whole class and small reading group instruction is a first step.

Recalling Frankie and the *hen* and *chick* errors: Had we taken a moment to reflect, we would have asked Frankie if he knew those terms (which the other children in this small town/rural school probably would have known). Thorough knowledge of the child/children being taught and the text that is to be read may sound simple—but it can become very complex in classrooms with 22-25 students who have intricate developing personalities and knowledge bases. It isn't the easiest or the hardest, or the Tier 2, or the root words, or the words recommended by publishers—it is the *right* words for a specific group of children at a given time, with regard to the upcoming texts these children will encounter in their classroom.

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Table 1 - Analysis of primary/elementary grade vocabulary words.

Word	Possible Category or Tier	Examples of Use	Questions
Draw	Dolch Sight Word List (Grade 3) Tier 1 - children know draw at an early age Tier 2 - multiple meanings	A child might draw a picture (thereby creating a drawing) A mother might draw a bath for her child A journalist might draw out information from a source A sleigh could draw passengers across the snow The protests draw hundreds of followers The lady dressed to draw the attention of others	A Sight Word, a Tier 1 word, or a Tier 2 word?
Measure	Tier 1 - measure is a term children hear at an early age related to measurement in the home Tier 2 - measure has multiple meanings and usages Tier 3 - measure relates to the content area of mathematics in particular	A yard is a measure of length Someone might measure the carpet The teacher was taking measures to assure that everyone learned The Congressperson measured her words The family's sorrow was beyond measure The man brought a dozen roses for good measure Thousands of people were opposed to this measure	Tier 1, Tier 2, or Tier 3?
Degree	Tier 2 because degree has multiple meanings and usages Tier 3 due to the various uses of degree in mathematics and sciences	There are "degrees Fahrenheit in science and in cooking" The number of "degrees in an angle in shop or mathematics" "A degree of humor in a story about a person of high or low degree" The degree that results from "the culmination of four years of training in college" (quoted examples from Smith, 1943, p. 246). Giving someone the third degree A prisoner charged with murder in the first degree The professor has a high degree of expertise	Tier 2 or Tier 3??
Fly	Dolch Sight-Word List (Grade 1) Tier One, to catch a fly Tier Two because of multiple meanings Tier Three (entomology)	You can fly on a plane. A fly can land on your lunch. You can make a quick change in plans on the fly. There was a fly ball in the first inning	A Sight Word, Tier 1, Tier 2, or Tier 3?
Green	Dolch Sight-Word List (Grade 2) Tier One Tier Two (multiple meanings) Tier Three (green energy)	Green is the color of grass. We are reducing our carbon footprint by using green energy. That man is green with envy. The artist mixes blue and yellow pigments of differing kinds to achieve various types of green hues	A sight word, Tier One, Tier Two, or Tier Three?

Table 1 - Analysis of primary/elementary grade vocabulary words. (continued)

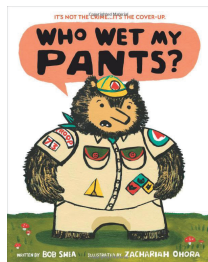
Word	Possible Category or Tier	Examples of Use	Questions
Pine	Tier Two (multiple meanings) Tier Three (dendrology – study of identifying trees, entomology)	A pine is a type of coniferous tree A person can pine for or miss something to the degree that it causes emotional pain	Tier Two or Tier Three?
Yard	Tier One Tier Two (multiple meanings) Tier Three (mathematics)	An outdoor area for play is a back yard An area set aside for fixing trains and tracks is a train yard The whole nine yards is an expression that describes a strong or an all-out effort. From mathematics, a yard is a unit of measure that equals 3 feet or 36 inches.	Tier One, Tier Two or Tier Three?

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Mary Alice Barksdale is now retired from Virginia Tech

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Virginia Readers' Choice Winners 2021-2022



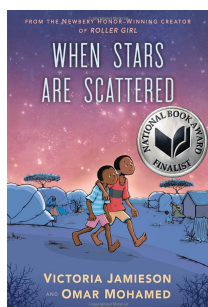
Primary Winner!

Who Wet My Pants?

Bob Shea, 2019

Reuben the bear's got donuts for everyone in his scout troop, but his friends are all staring at something else: there's a wet spot on Reuben's pants, and it's in a specific area. "WHO WET MY PANTS?" he shouts, and a blame game starts. His buddies try to reassure him there was no crime. Just an accident. It could happen to anyone! But as all the clues begin to point in Reuben's own direction as the culprit, Reuben must come to terms with the truth.

Shea, B (2019). *Who Wet My Pants* Little, Brown Books for Young Readers; Illustrated edition
ISBN: 978-0316525213



Elementary Winner!

When Stars Are Scattered

Victoria Jamieson and Omar Mohamed, 2020

Omar and his younger brother, Hassan, have spent most of their lives in Dadaab, a refugee camp in Kenya. Life is hard there: never enough food, achingly dull, and without access to the medical care Omar knows his nonverbal brother needs. So when Omar has the opportunity to go to school, he knows it might be a chance to change their future . . . but it would also mean leaving his brother, the only family member he has left, every day.

Jamieson, V., Mohamed, O. (2020). *When Stars Are Scattered* Dial Books; Illustrated edition
ISBN: 978-0525553915



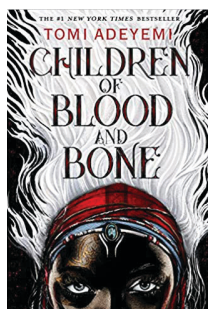
Middle School Winner!

Planet Earth Is Blue

Nicole Panteleakos, 2020

Twelve-year-old Nova is eagerly awaiting the launch of the space shuttle Challenger—it's the first time a teacher is going into space, and kids across America will watch the event on live TV in their classrooms. Nova and her big sister, Bridget, share a love of astronomy and the space program. They planned to watch the launch together. But Bridget has disappeared, and Nova is in a new foster home.

Panteleakos, N. (2020). *Planet Earth Is Blue* Yearling
ISBN: 978-0525646600



High School Winner!

Children of Blood and Bone

Tomi Adeyemi, 2018

Zélie Adebola remembers when the soil of Orisha hummed with magic. Burners ignited flames, Tiders beckoned waves, and Zélie's Reaper mother summoned forth souls. But everything changed the night magic disappeared. Under the orders of a ruthless king, maji were killed, leaving Zélie without a mother and her people without hope.

Now Zélie has one chance to bring back magic and strike against the monarchy. With the help of a rogue princess, Zélie must outwit and outrun the crown prince, who is hell-bent on eradicating magic for good. Danger lurks in Orisha, where snow leoponaires prowl and vengeful spirits wait in the waters. Yet the greatest danger may be Zélie herself as she struggles to control her powers and her growing feelings for an enemy.

Adeyemi, T. (2018) *Children of Blood and Bone* Henry Holt and Co.
ISBN: 978-1250170972



Framework for Integrating Content and Literacy

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Abstract

Although the benefits of integrating content and literacy instruction are well documented, less is known about how to support teachers in designing and implementing integrated instruction and overcoming challenges to infusing content into literacy. This article provides a framework for integrating literacy and content that is based on two years of practice, study, and research as well as existing literature. The framework includes: lead with content and use literacy as the vehicle; use a flexible approach to integration in which literacy can be used to pre-teach, align, or extend content instruction; select texts that provide opportunities for students to engage with content concepts, build content knowledge, and apply what they learned; select literacy standards and scaffolds that support reading development, and provide meaningful opportunities to write to support content learning. The authors provide concrete examples to illustrate the different aspects of the framework.

Ms. Johnson looks at her roster for her fifth grade class before school starts and is overwhelmed about how to do it all. Assessments from the previous year indicate that her students may need support with reading and writing as well as content-area literacy skills. For example, students had difficulty understanding word problems, conveying scientific arguments, and communicating their understanding of social studies concepts. Ms. Johnson realizes she will need to make the best use of her limit-

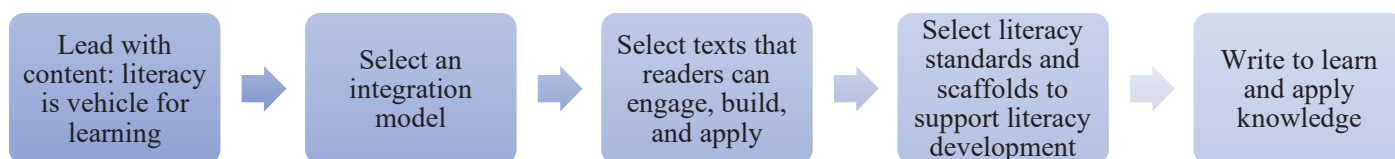
Background knowledge is a critical element of literacy, thus, focusing on building knowledge simultaneously supports literacy and vocabulary development

ed time and wonders if and how she can integrate more science, social studies, and even math into her ELA block to help her students develop these key literacy skills, while simultaneously strengthening their content understanding. However, she is worried this approach may minimize both literacy and content learning.

Integrating literacy and content is not a new concept (Duke, 2014; Guthrie et al., 1999), although it has gained traction in recent years (e.g., Cervetti & Hiebert, 2019; Revelle et al., 2020; Welsh et al., 2020). Integrated instruction is defined as including knowledge building activities to support science, social studies, or math learning alongside developing students' literacy skills (e.g., Hwang et al., 2020). As Ms. Johnson suspected, integrating content into the literacy block certainly has the *potential* to maximize student growth by supporting students in learning content alongside developing literacy skills (Cervetti & Wright, 2020; Cabell & Hwang, 2020). This is particularly important after several years when science and social studies instruction may have been pushed to the wayside (Sparks, 2021). But integrating content and literacy is not as simple as tossing a few content-related books into the literacy block or practicing writing around content-related topics (e.g., Lupo et al., 2021). Many teachers, similar to Ms. Johnson, have wondered if there is a way to address literacy skills *and* content learning without diminishing the learning goals across these subjects.

The benefits of integrating content learning into literacy instruction are well documented. Background knowledge is a critical element of literacy, thus, focusing on building knowledge simultaneously supports literacy and vocabulary development (Cervetti & Wright, 2020; Hirsch, 2006). Infusing content with literacy increases students' motivation and engagement (e.g., Guthrie, 2003) as well as provides purposeful, authentic literacy experiences (Cervetti & Hiebert, 2019).

Figure 1 - Framework for Integrating Content and Literacy



Concept-Oriented Reading Instruction (CORI), is one approach to supporting the integration of science and literacy that has benefits on students' reading comprehension, motivation, and scientific knowledge (Guthrie et al., 2004). In a CORI classroom, students read and research concepts using informational books, and through this, they read regularly and deeply about concepts. Hands-on activities are incorporated to help students engage with the science concepts and understand the real-world learning with science. Students are motivated since they can choose subtopics to read and research and their learning is tied to natural and scientific phenomena (Guthrie et al., 2004).

Project-based learning (PBL) is another well-researched approach for supporting integration of content areas like science and literacy. More specifically, PBL provides a rich context for development of both basic and higher-level skills in language and literacy while learning science. Moreover, it increases the amount of reading of nonfiction texts (Duke, 2016), as PBL incorporates opportunities for students to read and write for real purposes.

Scholars have rightly cautioned literacy teachers to be mindful that integration practices ensure content learning. For example, integrating content just to buy time, without thoughtfully considering the quality of texts or knowledge being built, will not benefit students (e.g., Alleman & Brophy, 1993). Thus, on paper, integration is a simple concept, but in reality, there are many factors to consider when integrating content and literacy effectively.

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Framework for Integrating Content and Literacy

We (researchers, teacher educators, and teachers), similar to Ms. Johnson, were curious about how to approach integration in a way that truly supports both literacy development and content learning. As such, we spent two years practicing, studying, and researching integrated instruction. Our work has resulted in the development of a framework to support teachers in integrating content and literacy in a way that dually supports both goals of developing children's literacy skills alongside supporting content learning across science, math, and social studies. Our framework can help teachers to develop and implement integrated units to cultivate both students' content knowledge and literacy skills. In this article, we will explain the framework and share examples of units we developed and implemented with teachers (see Figure 1).

Lead with Content, Literacy is the Vehicle for Learning

For elementary schools, which are often literacy-centric, focusing on literacy learning *first* and fitting content into the literacy standards is a common place to begin planning. For example, teachers often plan a literacy unit around a commonly taught literacy standard such as "finding the main idea," in which students read texts on an array of topics and find the main idea of each one. Teachers then focus their efforts on first finding texts that fit the literacy standard and consider the content learning objectives (such as learning about the plant reproductive cycle) secondary. However, this often leads to watered-down content learning and this approach to literacy learning is not supported by research.

Instead, we found in our work with teachers and schools that starting the planning process with a focus on *content learning* and using literacy as the *vehicle* to learn that content benefited both subjects (e.g., Hwang et al., 2020). We (Lupo et al., 2021) call this the Content-Driven Integration model (CDI), describing a way of approaching content that emphasizes content learning *first* and uses literacy to support that learning. We suggest beginning the integration process by first selecting a content topic from the science, social studies or math standards. For example, in one of the units we created, we selected the science standard “Conduct an investigation to determine whether the mixing of two or more substances results in new substances” (NGSS, 2013) to focus on developing students’ understanding of the properties of matter and what occurs when different types of matter mix together. Therefore, as discussed next, the teacher focused on selecting texts and writing opportunities to support learning about mixing matter.

But what about the literacy standards? Does this mean they will be only partially taught? No! After selecting content learning standards and texts (which we will discuss next!), *then* teachers should select literacy standards that support learning content. More on that later. We believe, and have witnessed in our work with teachers, that literacy learning actually *benefits* from this approach. By first selecting content standards, the reading and writing tasks that are generated from this unit are more purposeful, authentic, engaging, and meaningful, all of which have been shown time and time again to benefit literacy learning (e.g., Duke, 2014; Welsh et al., 2020). For example, Guthrie (2003) suggests by incorporating science and other content areas with literacy, teachers can use students’ natural curiosity to increase motivation for learning and reading.

Further, this approach supports development of children’s disciplinary literacy skills. For example, in science, literacy provides the opportunity to apply new information to make sense of a related phenomenon (Cervetti et al., 2012; Lupo et al., 2021; Romance & Vitale, 2012). In social studies, literacy includes engaging in the work of historians by reading and communicating information from source texts to make sense of social studies concepts, such as the roots of citizenship (e.g., Bickford & Rich, 2017; Marston & Handler, 2016). In mathematics, one way students engage in literacy is through problem solving and creating verbal and written explanations of mathematical concepts (Frykholm & Glasson, 2005; NCTM, 2014). By first selecting content standards and then letting literacy be the vehicle for content learning, teachers can strengthen these important disciplinary literacy skills.

We also suggest considering *other* connections that students

can make to your unit. Research shows that understanding how ideas and concepts are connected to each other is critical for students to be competent readers and thinkers (e.g., Alexander, 2005). The more connections that students can make between information learned across multiple subjects, the deeper students’ knowledge becomes of the target concepts they are learning. For example, when students understand how efforts around recycling are connected with human impact on the environment, students’ knowledge of both recycling and human impact are strengthened. Additionally, supporting students in making connections between and among the content areas provides a much-needed application of the concepts learned. When students have opportunities to apply what they have learned in a new area, their knowledge of that topic grows (National Research Council, 2002). This is especially true for math, which is often neglected when integrating subject areas. For instance, students can apply math knowledge to data learned in science or social studies to graph the data. This approach can support students’ understanding of math concepts as well as further their content learning (Frykholm & Glasson, 2005).

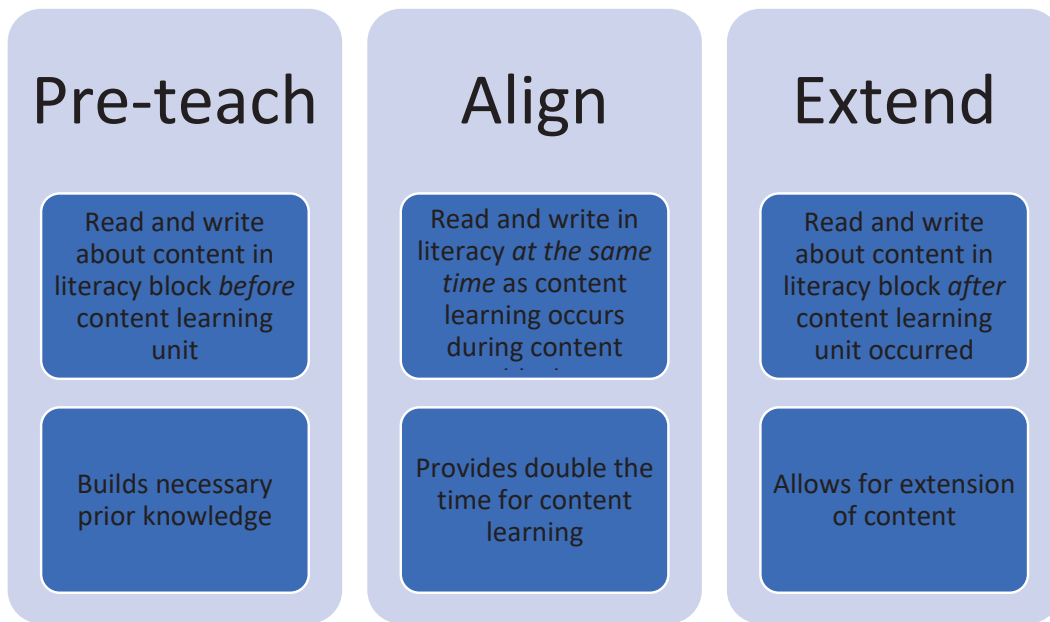
What does this look like? In our fourth-grade plant adaptations science unit, we primarily focused on teaching content associated with the plant life cycle science standards and we sought opportunities to make connections to other content learned. The teachers recently studied the U.S. colonial period, including examining colonists’ agricultural choices, such as how colonists brought many plants to the U.S., but some plants failed to grow. We developed plant adaptation lessons to help students draw connections between the science content and the social studies content. In the third-grade unit, students measured the monuments they designed for the city council to apply math learnings. In our fifth-grade unit example, students explored a math connection in measuring volume of liquids using the water displacement method.

Select an Integration Model

So, now you are leading with content and designing your integrated unit around the content concepts and standards that you selected. Great! Wait, how do you begin? Do you need to align what is happening in your content block with literacy? What does that even look like if you only teach literacy or math and not science or social studies?

When we talked to teachers about integration, the most common way people thought of integration was to *align* what was being learned in content with what was occurring during literacy. Meaning, if children were learning about the butterfly life cycle during their science block, teachers

Figure 2 - Flexible Approaches to Integration



incorporated texts and writing opportunities related to the butterfly life cycle during literacy on the same or adjacent days to support the learning that was happening in science. We observed that this worked really well for some teachers. However, other teachers expressed frustrations with this approach, indicating that it was difficult for them to align content and literacy for a variety of reasons. This was further complicated for teachers at schools who compartmentalized instruction, meaning one person on the team teaches all of the literacy or content or math instruction for the grade.

However, in our work with teachers who were integrating content and literacy, we found that teachers used three flexible “models” for integrating content, all of which are supported by research on how the brain learns new information (e.g., Bransford et al., 2000). These three models include *pre-teach*, *align*, or *extend students’ learning* of content (see Figure 2).

Pre-teach

Integrated literacy experiences can be built around providing students with opportunities to read, write, and discuss scientific or historical topics not yet learned during the content block. By *pre-teaching* content during literacy instruction before students learn in anticipation of covering them during the content block, students can build background knowledge and a deeper understanding of the concepts.

For example, Sarah (first author) worked with a fourth-grade teacher, Ms. Bell (all names are pseudonyms) who provided literacy instruction for fourth graders at her school, while her two colleagues provided math or science and social

studies instruction. Integrating science, math, or social studies into the literacy block had always seemed intimidating to Ms. Bell because she did not teach the other content areas. However, Ms. Bell decided to develop a unit around the American Revolution to *pre-teach* content to motivate students to want to learn about this topic. Ms. Bell centered her unit around a historical fiction novel set during the American Revolution, *The Fighting Ground* by Avi. She also included supplementary texts about the American Revolution, such as the picture book *George vs. George: The Revolution as Seen from Both Sides* by Rosalyn Schanzer to introduce her students to historical aspects of the American Revolution. Her colleague reported students were more motivated and deeper learning occurred as a result of *pre-teaching* content.

Align

As we described above, aligning content includes teaching content during literacy to supplement what is taught during the science or social studies block, essentially doubling the time spent on teaching content. For example, during the fifth grade unit, students learned about the topic of phase changes of matter during both science and literacy. The literacy block occurred first and students read, discussed, and wrote about matter and phase changes, leaving ample time during the science block to conduct experiments and apply what they learned from texts they read during literacy. When teachers *align* content and literacy, as we described above, students get a double dose of content learning on the same day.

Although there are many benefits, aligning content is challenging. For example, some teachers we worked with found

they cannot make their literacy content align with their content instruction because of rigorous pacing guides and testing procedures that box them into particular texts, skills, or topics at certain times of the year or they only taught literacy, but not other subjects. For these teachers, the pre-teach and extend models may work better.

Extend

Integration can also extend and enrich students' understanding of content by providing opportunities to read, write, and discuss scientific, mathematical, or social studies concepts that *extend* topics covered earlier in the year or even in previous grades. By taking this approach, students already have some background knowledge on the topics and are able to employ target literacy skills, such as comprehension skills related to these technical texts.

Danielle (second author), a first-year 6th grade teacher, wanted to support students in drawing conclusions that went beyond restating specific ideas from a text and reviewing weather standards from fourth grade. As such, she developed a unit assessing local area water quality. She began by having students re-read articles on smog, a concept covered during the previous weather unit, to practice drawing conclusions. By removing the cognitive load associated with reading about new science concepts, students could focus on the literacy concepts they were tasked with, including reading, writing, and discussing the concepts, as well as had a chance to review important science concepts learned previously. Students were then given an opportunity to apply their understanding of drawing conclusions to the water quality tests they performed. Students were given tables explaining water quality levels and were tasked with drawing conclusions about the local waterways based on the information they read in these texts.

Select Texts that Readers Can Engage, Build, and Apply

Although many teachers jump to text selection early in the planning process, we specifically have placed it later in the process, while also recognizing that planning is iterative and requires circling back to various steps. However, as we described previously, before selecting texts, it is critical to first select the *content concepts* as well as consider the *integration model* (pre-teach, align, or extend) for teaching. This ensures you are clear on your learning goals and what knowledge students have about the concepts you want them to learn going into the reading and writing experiences you design in your integrated unit. This also helps avoid issues of using low-quality texts, which may convey inaccurate or incom-

plete depictions of social studies, science, or math concepts that content experts have warned against (Bickford & Rich, 2017; Levstik, 2008; Sawyer, 2016).

In our fifth grade unit, students were learning about how mixing two substances created a new mixture. We decided to use the *align* model of integration, so we knew that students would not necessarily have much prior knowledge of the concept of mixing matter, but would be engaging in relevant activities during their content block. We also decided to make connections with math, specifically, finding volume using the water displacement method. When selected texts, we sought texts that supported reviewing the states of matter, as well as how mixing changes phases of matter, and looked for at least one text that would help solidify students' understanding of the volume of mixtures.

Additionally, as you seek texts, we suggest selecting texts to meet one or more of three goals: engaging readers with the concepts you have chosen, building relevant knowledge about the topic, and supporting readers to apply the content concepts taught to a real-world scenario.

Engage

Duke (2014) uses the term “launch” texts while Lupo and colleagues (2020) describe these as “hook” texts, but both approaches support *engaging* and *motivating* readers to *want* to learn more about the science, social studies, or math concepts you are teaching. For example, in the fifth-grade unit we had students read about a relevant problem that they would be able to solve by learning about mixing matter: farm runoff contaminating local area drinking water. As such, we first had students read the text *You Wouldn't Want to Live Without Clean Water* to garner students' interest about where water comes from to prepare them for thinking about solutions to reduce contaminants in the water. Sparking student interest through reading about the importance of clean water led to students wanting to learn about how matter changes phases and what happens to the various properties of matter during these changes.

Build

Next, we suggest selecting a variety of texts to *build* relevant content knowledge. This can include visual texts, such as videos or multimodal texts. For example, it is important that students understand states of matter can undergo phase changes by adding or removing energy. Moreover, mixtures are composed of materials in these different states, so you can mix solids and liquids, solids and solids, liquids and gases. As Table 1 depicts, in our fifth grade unit, students read

several informational texts to build background knowledge about phase changes and what happens to properties of matter as they mix, including *The Magic School Bus at the Waterworks* by Joanna Cole, a mixing matter text from Science A-Z, and a Bill Nye video on the phases of matter (PBS, 1994) as a visual text (see Table 2). These texts supported students in identifying states and changing phases of matter.

Apply

Lastly, we look for texts that will challenge readers to *apply* concepts they learned. As we previously mentioned, in the fifth- grade unit, we focused on a real-world problem, water contamination. We selected a text depicting a real-world example of mixing matter, *During a Hurricane Where Does All the Pig Poop Go? Into Your Water* by Jennifer Lu (2018). This challenging text explained a common problem experienced by local farmers: fecal matter in runoff contaminating local well water due to poor farming practices. After exploring the problem of water contamination, students read three additional challenging texts describing solutions to the problem, thus applying the knowledge they learned in the unit about

phase changes of matter and the water cycle. See additional examples of texts that *engage*, *build*, and *apply* content concepts learned in Table 1.

Read Aloud or Read Independently?

As you select texts, it is also important to think about literacy goals for your particular students and which texts may be read aloud versus which texts will be read independently by students. The needs and goals vary as students progress across the grades of elementary school. In a kindergarten classroom, most students' decoding skills are limited, thus, many of the texts that build content knowledge will be *read aloud* by the teacher. The texts that are used to teach students *how* to read look quite different for this age group. However, by third grade, students are able to decode many more texts, but certainly are still developing fluency as well as knowledge of more complex phonics patterns and syntax structures. Therefore, a third grade teacher may select a few texts that contain fewer challenging vocabulary words and perhaps simpler syntax that students can read to support their fluency and comprehension development (texts that also support content learning). They will also select texts

Table 1 - Examples of Text Sets

	Third grade unit	Fourth grade unit	Fifth grade unit
Engage	<i>Iggy Peck Architect</i> by Andrea Beaty <i>This Is How We Do It</i> by Matt Lamothe	<i>Video How Long Can You Survive if all the Plants in the World Die?</i> <i>Weeds Find a Way</i> by Cindy Jenson-Elliott	<i>You Wouldn't Want to Live Without Clean Water</i> By Canavan & Antram
Build	<i>Ancient Egypt and Ancient Mesopotamia</i> by Reading A-Z Third grade social studies textbook chapters on ancient civilizations <i>National Geographic Readers: Egypt collection</i>	<i>Wacky Plant Cycles</i> by Valerie Wyatt & Lilith Jones <i>The Wonderful World of Plants, Strange Plants, Traveling Seeds</i> from Science A-Z <i>Plant Reproduction</i> by Shelly Buchanan	<i>Video Bill Nye the Science Guy -- Matter</i> by PBS <i>The Magic School Bus at the Waterworks</i> by Joanna Cole <i>Phase Changes of Matter</i> from Science A-Z
Apply	<i>The Future Architect's Handbook</i> by Barbara Beck <i>Journey Through Our African American Community</i> by local city council	<i>Invasive Species</i> by National Wildlife Federation <i>Alien Plant Species-Kudzu</i> by Department of Conservation & Recreation	<i>During a Hurricane Where Does All the Pig Poop Go? Into Your Water</i> by Jennifer Lu <i>Grassed Waterway: Fact Sheet</i> by USDA

Table 2 - Literacy and Content Standards for Three Exemplar Integrated Units

	Third grade unit	Fourth grade unit	Fifth grade unit
Content Standards	The study of “people, places, and environments”, focusing on ancient civilizations (NCSS, 2013).	NGSS 4.LS1-1 “Plants have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction” (NGSS, 2013).	5-PS1-4 “Conduct an investigation to determine whether the mixing of two or more substances results in new substances” (NGSS, 2013).
Literacy Standards	RI 3.3 “Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect;” RI 3.7 “Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text” (CCSSI, 2013).	RI 4.8 “Explain how an author uses reasons and evidence to support particular points in a text;” RI 4.9 “Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably” (CCSSI, 2013).	RI 5.8 “Explain how an author uses reasons and evidence to support particular points in a text and identify evidence that support point(s);” RI 5.3 “Explain the relationship between two or more concepts in a scientific text based on specific information in the text” (CCSSI, 2013).

that provide a challenge for students and may even need to be read aloud. For students in upper elementary grades, teachers may continue to select texts at a variety of levels and consider how to scaffold students’ independent reading of challenging texts.

Select Standards and Scaffolds

Standards

We have learned that integration works best when literacy is the vehicle that supports content *learning*, which means selecting literacy standards later in the planning process after establishing content goals and texts that support disciplinary learning objectives. Instead of viewing a standard, say, using information from the text to demonstrate understanding (CCSSI, 2013), as the *goal* of the lesson, view learning about ancient civilizations as the goal of reading a particular text. Using information in the text to demonstrate understanding is *how* a student learns about ancient civilizations. By selecting literacy standards after content learning goals and texts, teachers can consider the information you

want students to gain from the text and select a literacy standard that will help students learn that information. See Table 2 for additional examples.

Scaffolds

As you select standards, it is important to consider how you will support students in the dual goals of developing reading skill while learning content. This is no easy feat, particularly given that synthesis of content area information of non-fiction texts can be more challenging for students than reading fiction texts. One challenge that occurs with integrated instruction is over-focusing on learning content to the detriment of developing literacy skills. This may lead teachers to do all of the reading and analysis work to ensure students learn the content concepts, but this approach will not support developing students as readers.

We suggest as you select scaffolds to support students’ comprehension, remember that the ultimate goal is independence in reading processes. For example, teachers may use a think-aloud (see Lapp et al., 2008) to model how to

figure out the meaning of an unfamiliar word or to make connections between different ideas presented in the text. This modeling of text-analysis and comprehension must be followed by intentional, meaningful opportunities to practice, coupled with teacher feedback. Students must have opportunities to engage independently in this same type of thinking that was modeled (with guidance and feedback from the teacher); otherwise, we are not furthering students' literacy development.

Further, we want to remember not to over-scaffold students' comprehension when they can read and analyze texts on their own. For example, a teacher should provide a heavy scaffold of a think-aloud, where she models how to make sense of a complex text while students read the challenging, above-grade-level text *During a Hurricane Where Does All the Pig Poop Go? Into Your Water*. However, the teacher can use a lighter scaffold, say, Directed Reading and Thinking Activity (DR-TA, Stauffer, 1969), while reading the text *Magical School Bus at the Waterworks* because this text was written in a way that students could engage in analysis and learning with less teacher support.

Write to Learn

As challenging as writing can be for students, it is an essential part of integrating content and literacy. For students to internalize content, they need opportunities to process information and reflect on what they are learning (e.g., Pytash & Morgan, 2014). Writing to learn is a great way to do this and can include various writing activities, including guided notes, journals, or entrance and exit tickets. Writing-to-learn activities are often ungraded, and grammar and punctuation are not the focus; instead, these writing activities focus on students *writing* in order to process the content information that they have learned (Daniels et al., 2007). Further, incorporating content writing opportunities is key to both supporting comprehension and ensuring students *learn* from texts (Kintsch, 1986). Writing to learn can occur before reading to support knowledge activation as well as during or after reading to support the integration of new knowledge with prior knowledge (Hattan, 2019).

What does writing to learn look like? In our fifth-grade unit, students engaged in writing opportunities with each text they encountered. For example, *after reading the text Where Did all the Pig Poop Go? Into Your Water* (Lu, 2018), students completed a process journal in which they explained how a hurricane caused fecal matter to contaminate local water sources. In another unit, the same students engaged in pre/post journal writing after observing an experiment in which they watched two candles burn, one in a jar and one on a candlestick. They also read the text *Burn: Michael Faraday's*

Candle (Pattison, 2016) while waiting for their candles to burn. Prior to reading the text and observing the experiment, they wrote their hypothesis for what would happen to the candle when it burned. After reading, they wrote to confirm or add to their responses. As you can see from the example in Table 3, the student observed that the candle in the jar stopped burning when the oxygen ran out, which was different from what occurred with the candlestick which continued to burn because it continued to have oxygen to allow it to burn. Consequently, writing to learn activities are also an excellent way to check for students' content learning!

Writing can also be used as a tool to help students inquire about a topic, especially when paired with real-world scenarios related to the content. For example, in our fourth-grade unit on plant adaptations that examined local invasive species, after reading, students added ideas to a driving question board (see Table 3). Through writing, students raised questions about weed problems and added facts about a plant's importance, parts, and the life cycle. They used this information to help them solve a local problem: the overgrowth of kudzu, a weed growing locally, that was choking out native plants as well as local area crops. Table 3 includes additional examples of the various types of writing-to-learn opportunities offered in the examples of the units we created.

Conclusion

As educators ourselves, we understand the integration of content with literacy can take time, flexibility, and practice. We can attest from our own experiences that the transition from compartmentalized instruction to integration is not easy, but it is in fact possible, even for novice teachers. Additionally, the rewards of infusing content into the literacy block are abundant. Throughout our two-year project, we received positive feedback from both the parents and students, requesting more integrated units due to the children's engagement and excitement that occurred with both literacy and content learning. Teachers also reported active student engagement during integrated lessons and increased student reading independence when teachers included more intentional scaffolding during reading. For example, one teacher we worked with shared, "I used to read everything aloud to my fifth graders, now I ask students to read on their own because I see that they can do it."

Using the framework we developed, we believe integration can help teachers who, like Ms. Johnson, are unsure how to adequately address both literacy and content during integrated instruction. We encourage educators to integrate content and literacy to create attainable and meaningful

Table 3 - Write-to-Learn Strategies

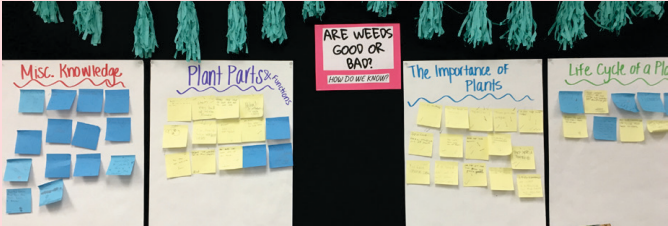
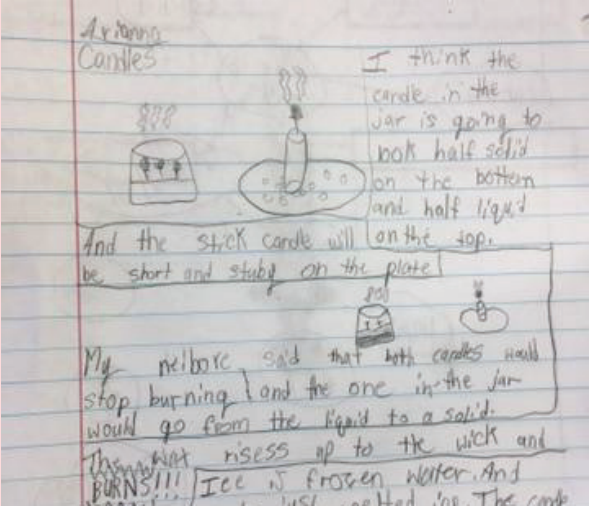
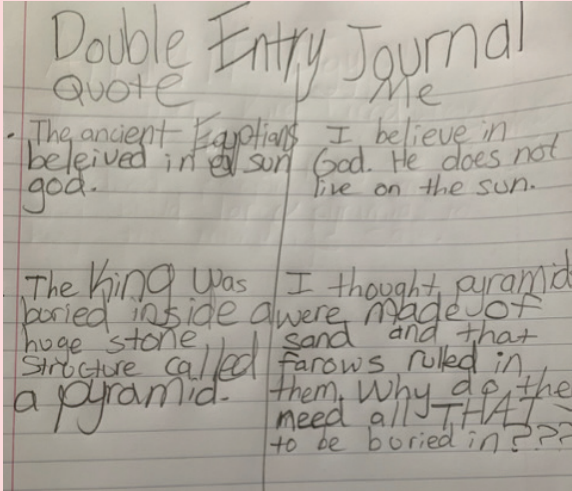
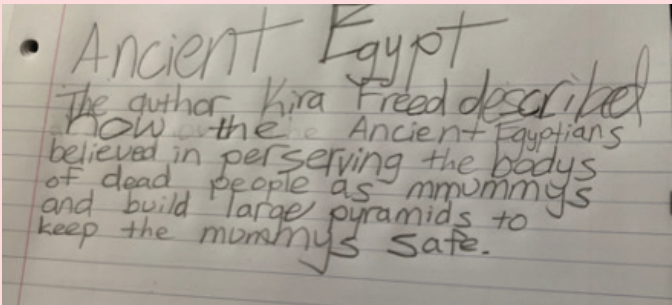
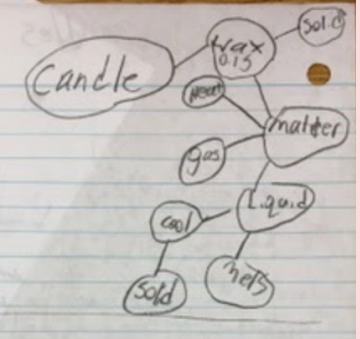
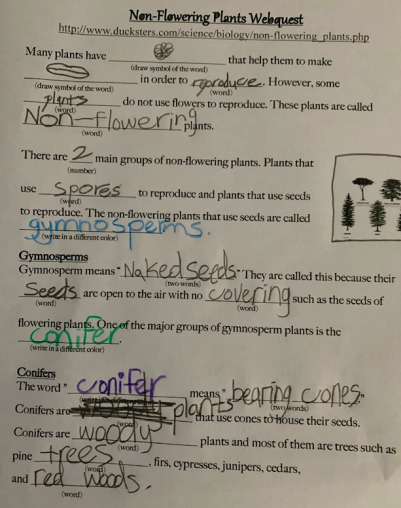
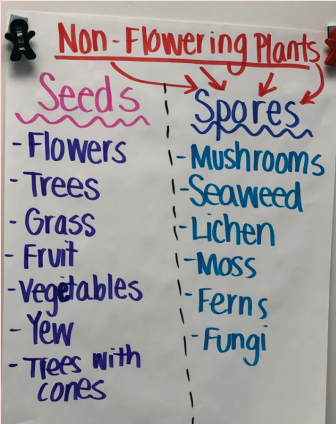

Strategy	Description	Example
Driving Question Board	A place where students can collect and organize questions and learnings across a unit.	
Pre/Post journal	A strategy in which students respond to a prompt before reading and then add to or adjust their response after reading.	
Double Entry Journal	A two-column journal in which students write quotes in the left column and reflect upon them on the right column.	
Summary Sentences	A three-step strategy to support students in writing a one sentence summary: identify the author, what the author was trying to do (describes, explains, compares), and complete the big idea.	

Table 3 - Write-to-Learn Strategies (continued)

<p>Concept Map</p>	<p>A map representing ideas and relationships among them.</p>	 <p>A hand-drawn concept map with 'Candle' in a central oval. Lines connect it to 'Wax' and 'Solid' (circled). 'Wax' is further connected to 'Liquid' and 'Solid'. 'Liquid' is connected to 'Gas' and 'Solid'. 'Gas' is connected to 'Cool' and 'Solid'. 'Cool' is connected to 'Solid'.</p>
<p>Guided Notes</p>	<p>Teacher-written handouts on content concepts that students complete with definitions or key concepts.</p>	 <p>Handwritten notes titled 'Non-Flowering Plants Webquest' with a URL. The text includes: 'Many plants have _____ that help them to make _____ in order to reproduce. However, some _____ do not use flowers to reproduce. These plants are called Non-Flowering plants.' It defines 'Gymnosperms' as 'Naked seeds' and lists 'conifer' as a major group. It also defines 'conifers' as 'bearing cones' and lists 'woody plants' and 'trees' as examples.</p>
<p>List, Group, Label</p>	<p>After reading, students list key words around the topic, then group and label them.</p>	 <p>A handwritten list titled 'Non-Flowering Plants' divided into two columns by a dashed line. The left column is headed 'Seeds' and lists: '- Flowers', '- Trees', '- Grass', '- Fruit', '- Vegetables', '- Yew', '- Trees with cones'. The right column is headed 'Spores' and lists: '- Mushrooms', '- Seaweed', '- Lichen', '- Moss', '- Ferns', '- Fungi'.</p>
<p>Draw, Label, Write</p>	<p>Students draw a picture to depict a text, label the picture with key vocabulary from a text, and then write to explain their picture.</p>	 <p>A hand-drawn diagram of a stream with trees on the banks. A pig is shown defecating near the stream. Labels include 'stream', 'river', and 'pig'. Below the drawing is a text box with the question: 'How does your drawing help to explain the pig poop pollution's impact on the environment?' The student's answer reads: 'The stream carried ground waste and pig poop to rivers that leads to oceans. Some of the contaminated water into the ground.'</p>

learning for all students and maximize both content learning and literacy development.

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Reflection as Evidence of Learning

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Abstract

Undergraduate students' reflections were examined at the completion of coursework that required them to tutor struggling young readers one-on-one in an after-school virtual setting. Background for the tutoring program is discussed, and the challenges and benefits of the experiences are examined through excerpts from tutors' reflective essays. Challenges related to the virtual administration of pre- and post-assessments are discussed, as well as the virtual implementation of lesson plans designed to meet the specific needs of the students tutored. Benefits of the experiences included: (1) the application of what was learned in class to the tutoring of struggling readers; (2) tutors began to recognize the benefits of providing developmentally appropriate instruction when working with struggling readers; and (3) the tutors' satisfaction in helping youngsters improve in reading when before they had not. Consequently, the tutors' confidence grew in their abilities to teach.

Reflection as Evidence of Learning

Faculty are always concerned about what their students are learning, and we look to grades and faculty course evaluations mainly for evidence of that learning. Another aspect about learning that may be overlooked and one that may give us even more insight into what students view as important and memorable about a course is the degree to which our students believe that they are learning. And perhaps one of the best ways to determine the degree to which students view themselves as learning is through reflection.

The purpose of this project was to examine tutors' reflections about their learning experiences while tutoring struggling readers in a virtual setting.

Schon (1987) told us, and Morris (2021) reminds us, that reflection is critical for teachers to improve. Reflection may be even more important for teacher education candidates as they prepare to become teachers.

Reflection is also a key part of Wise CONNECTS, an Academic Community Engagement (ACE) initiative at the University of Virginia's College at Wise (UVA-Wise) where community engagement is integrated with academic instruction. According to the National Service Learning Clearinghouse, this type of learning "integrates meaningful community service with instruction and reflection to enrich UVA-Wise and encourages students to use the skills, knowledge, and dispositions learned in the classroom to collaborate with community partners in making a difference in society" (Wise CONNECTS, 2022).

The purpose of this project was to examine tutors' reflections about their learning experiences while tutoring struggling readers in a virtual setting. Eleven tutors participated in our program and wrote essays about their experiences, which took place in the fall semester of 2021. We include excerpts from four of those tutors' essays as representative of the overall learning experiences from the project.

Background

We offer the following background to understand more clearly the circumstances and experiences about which tutors reflected and wrote. In the fall of 2021 seven undergraduates seeking an endorsement in elementary education completed a course in the diagnosis and correction of reading problems, and four undergraduates seeking an endorsement in special education completed a different but comparable course in diagnostic-remedial instruction for students with learning and behavioral disabilities for the elementary level. The courses were taught by different professors, but the same textbooks were used in both courses, as well as similar assessment procedures, and instructional strategies.

Before COVID, the major component of both courses was for tutors (undergraduates) to tutor students who were struggling in reading. We know that early literacy interventions can make dramatic differences in helping struggling readers catch-up (Clay, 1993; Invernizzi et al., 1998; Morris, 2003; Morris, 2005; Morris, 2015; Morris, 2021; Morris, et al., 1990; Morris et al., 2000; Sylva & Hurry, 1996; Torgenson, 2020). As part of our teacher education candidates' preparation, since 2011 we have involved our undergraduates in an after-school tutoring program. Participating students were selected from a suggested list of struggling readers attending a local primary school. The reading coach there would contact parents at the school whom she thought might be interested in having their children receive extra tutoring in reading at the college. The tutoring took place in an after-school reading clinic at the college each semester twice a week (Tuesdays & Thursdays) from approximately 4:00-5:00 p.m. The instructors for the courses supervise all informal assessments (pre- and post-), lesson planning, and tutoring instruction.

Informal reading and spelling inventories are administered to the children, and results are interpreted and used to plan one-on-one instruction for participating youngsters. Tutors meet the first 2-3 weeks of the semester to learn how to administer assessments and plan appropriate activities, and then tutoring takes place approximately the last 10-12 weeks of the semester. The tutoring program was begun at the college in the fall of 2005. While the tutoring program has remained popular with the families served, the purpose of this article is to share what the instructors and the most recent tutors have faced, overcome, and learned as a result of trying to continue to provide one-on-one tutoring but in a virtual setting.

Helping struggling readers to improve within pre-pandemic classroom circumstances is a challenge for the best of teachers. Even in clinical circumstances where tutoring can be done in a one-on-one setting by undergraduate or graduate students who are supervised by experienced clinicians, challenges remain, although chances for improvement are probably better in a clinical setting, as Morris (2021) documents. Transforming a clinical-like experience into the virtual world has its own unique challenges.

Adkins (2021) documented some of our first attempts at tutoring virtually in a study where she compared the experiences of students who had received classroom instruction and tutored face-to-face in the course in earlier semesters to the experiences of students who had received classroom instruction and tutored in the course virtually. Based upon Adkins's findings and recommendations, and loosening re-

strictions for providing coursework at the college, we decided to meet both courses in person for classroom instruction but continue to have students tutor virtually.

Administration of Assessments

The informal assessments administered before and during the pandemic remained the same, but the formats and procedures had to be adapted for virtual administration. Assessments included informal reading and spelling inventories from Morris (2015), as well as an interest interview survey to learn about students' reading habits, family situations, and interests. Before COVID, students would come to the reading clinic and the assessments were administered face-to-face in the more traditional way where students would be flashed words in isolation (in graded word lists) using small blank cards, and if a student did not recognize a word when flashed, the word would be shown again in an untimed presentation. Leveled reading passages were used as well to help determine overall functional reading levels by considering reading rates, comprehension, and oral reading errors for miscue analysis.

When assessments were administered virtually, several changes were made. For example, the word lists were administered using Google Slides (<https://docs.google.com/presentation/u/0/?tgif=d>). We also either mailed packets of the IRI passages to students' homes, or we used an e-book format for the Morris assessments (Morris, 2015). We preferred using the mailed paper copies, so that we could observe youngsters reading the passages; with electronic versions, tutors could not see their students while sharing their screens.

Lesson Planning

The lesson plan outline and the routine for feedback on and approval of lesson plans for tutoring virtually remained much the same as when tutoring was done face-to-face. For example, a lesson plan for an upcoming tutoring session and the reflections on the last tutoring session were required to be turned in via e-mail on the morning of an upcoming tutoring session, so that feedback could be provided and plans approved by the instructors. The lesson plan outline and instructional strategies used were similar to the suggested plans strategies used in other early literacy intervention efforts (Cantrell, 2014-2015; Invernizzi et al., 1998; Morris, 2005). A typical lesson plan included strategies that addressed issues of reading fluency, comprehension, word study (spelling and phonics), and writing. However, the implementation of strategies had to be altered because of the virtual format. While tutors were required to follow the ba-

sic lesson plan outline, they were also encouraged to find and/or develop games and/or other activities to help sustain the interest of the students tutored.

Challenges

As we expected, there were numerous challenges that tutors encountered. Including technical difficulties with Zoom, distractions at home that caused students to lose focus when tutored, the way books and e-books were read, implementation of word study strategies and apps, and ways to engage students in writing activities. All tutors expressed frustrations at times with one or more (if not all) of these challenges. Excerpts from a representative sample of tutors' reflective essays are shared to provide insights into the tutoring experiences. The first names of the tutors (and co-authors) are used, but pseudonyms are used for the students tutored.

Tutoring Virtually

The effect of COVID on learning and schooling has begun to be examined since its beginning in 2019. For example, Hebebcı and colleagues (2020) examined the views of students and teachers on distance education practices during the pandemic and found both positive and negative opinions about distance education activities (virtual learning). Challenges that they identified were similar to ones that we faced when tutoring virtually, especially network and technical issues. Another study (UNESCO, n.d.) found that while more educators and students relied on technology during the pandemic, online learning was hindered by the same issues of limited network accessibility and poor digital skills.

All tutors realized quickly that tutoring virtually was a challenge. As Destiny observed: It was very difficult as I had to share my screen on Zoom for her to read the stories, complete the word sorts, and play the games; therefore, I was not able to see her on the screen during our sessions. She was able to easily get distracted by her animals, siblings, and toys which hindered the learning experience. Patty also often told me she wished that she could play the games such as when we manipulated words on the Word Wizard app instead of just telling me what to do. Her response to virtual tutoring is completely understandable because it is difficult for most children to remain focused on a screen for long periods of time and most children would prefer to be hands-on instead of just communicating in games and activities. If I were to start at the beginning of this experience again, I would definitely

try to tutor in person instead of virtually. I feel as if this was a wonderful experience; however, it would have been more beneficial to actually meet Patty in person.

Emily observed:

The most difficult part of this experience was the fact that it was virtual with Zoom. I feel that being able to interact with my student in-person would have made this experience more enjoyable for both of us. Technical difficulties over Zoom, finding new mediums for reading instruction like word study, books in an online/e-book format, methods for writing practice, and others proved more difficult than I had thought initially. It was often hard to acquire photos of my student's writing or spelling activities, and the word sorts that we did every session had to be done virtually. For example, she was telling me how to sort the words, but I had to manipulate the words myself, and I felt that this detracted from the learning and the fun of this method of instruction.

Nettie as well observed:

The most difficult part about this experience was having to tutor my student via Zoom. My class had to work extra hard to make sure students could use the resources that we provided just as well as they could during in-person tutoring. For example, some of us sometimes took pictures of the books we wanted our students to read and share them on our iPads, so they were able to see the texts to be read. If we attempted to show the books via zoom, they would be mirrored or "flipped" and the images would not be able to be read by the student.

And finally, Marissa wrote:

The tutoring was done virtually, which created challenges. One was having to administer the assessments through Zoom. Although Betsy's mother was wonderful to have paper and pencils ready and then send me pictures of the work Betsy had completed, it would have been better to have the actual work instead of just a picture.

Books & Instruction

Because all tutoring was virtual, all books used and read were electronic; therefore, tutors shared their screens so the youngsters could read the selected books. Tutors chose among a variety of websites for the most relevant and appropriate texts for their youngsters; popular websites used included Epic Books (<https://www.getepic.com>),

Fly Leaf Publishing (<https://portal.flyleafpublishing.com/instructional-resources/>), Reading A-Z (<https://www.readinga-z.com>), and/or Kahn Academy (<https://www.khanacademy.org>). A disadvantage of this format was that tutors could not observe their youngsters while they read, nor were tutors able to physically point to words in text to help focus youngsters when they struggled with a word.

Perhaps one of the most important aspects of this project was for tutors to begin to understand the benefits to youngsters of providing developmentally appropriate instructional activities and supporting their students in reading appropriate level texts. Because no two youngsters with whom tutors worked were at the same point on the developmental continuum of learning to read and spell, the instructors emphasized how important differentiated instruction is for those who have fallen behind in reading and spelling.

From the results of the interview and administration of the IRI, tutors were able to select appropriate level and interesting books for students to read during the tutoring sessions. As Emily wrote:

First, we were provided with an interest survey for our students in order to get to know them better, as well as to gauge their attitude toward school. I later found the interview quite helpful when searching for books to read with my student. Being able to find books on topics I knew she would enjoy made our time together more enjoyable for the both of us. After the interview, administration of an IRI, and a spelling inventory, we determined that my student was at a first-grade independent reading level, a second- or third-grade instructional level, and frustrated with fourth-grade materials. My student struggled with reading comprehension and fluency, so those were the main areas that I wanted to target in our tutoring sessions.

We did not blame the students for struggling, but recognized and accepted their struggles as our responsibility as tutors and teachers to change what we are doing to meet students' needs.

Word Study

Another challenge related to word study. For word study instruction, apps such as Google Slides (<https://www.google.com/slides/about/>), Jamboard (2022), This Reading Mama (<https://thisreadingmama.com>), Word Wall (<https://wordwall.net>), and Word Wizard (2022) were used to create sorts that were developmentally appropriate for the youngsters tutored. The greatest challenge with conducting a word study activity such as a word sort virtually was that youngsters could not manipulate the words that were being examined for the sort. The tutors had to move the words as the youngsters pronounced the words and instructed the tutor to move the words into the selected categories of the sort. After each sorting activity, tutors often gave a “spell check” (Morris, 2005) where students were asked to spell a couple of words representing each of the patterns examined in either closed or blind sorts (Morris, 2005). As Nettie noted:

...another challenge was administering spell checks via Zoom, which are mini-tests on the words that were examined in the word sorts. It was really difficult for students to understand what you are saying in person and extremely difficult to understand words over an electronic device.

The same kind of challenge was faced when engaging the youngsters in a “making words” activity using the Word Wizard app. In a making words activity, the tutor manipulates letter tiles to change words into different words by deleting and adding different letters. In an in-person setting, the youngsters physically manipulate the letter tiles; in a virtual setting, the tutor has to move the letter tiles while sharing her screen.

A guiding principle when tutoring youngsters who are behind is to make decisions about texts and spelling patterns that make sure the youngsters are successful; if they are not, we (tutors and instructors) did not make the right decisions about texts, spelling patterns, or instructional strategies. We did not blame the students for struggling, but recognized and accepted their struggles as our responsibility as tutors and teachers to change what we are doing to meet students' needs.

What Was Learned

Students' Progress

While the focus of this article is on what tutors learned from their experiences, we cannot help but share some of our tu-

tors' observations about their students' progress. All tutors reported that their students made progress in a variety of ways.

For example, Destiny observed:

As our sessions progressed, I noticed that Patty began to seem more confident and comfortable in her reading abilities. To continue to sustain interest, I asked Patty to tell me stories of her choice for me to write out to use as weekly readings. She not only loved telling me these stories, but she loved reading them as well. This was a great method to help a student who started our sessions by saying she did not enjoy reading turn into a student who was excited to read each session. From looking at Patty's pre- and post-tests, it was apparent that her reading rate improved. It was rewarding to be able to watch her grow as a learner and have improvement at the end.

Emily wrote:

After discussing the testing results of my third-grade student with my professor, we decided to plan the tutoring sessions to include repeated readings, word study (we typically did word sorts), a spell check of words in the word sorts, writing practice, and shared readings. The repeated readings helped my student improve on her fluency. We used short poems, and switched poems every few sessions once she showed major improvement with one. For example, she began our tutoring sessions with her first repeated reading at 40 words per minute (WPM), and ended reading that same selection at 150 WPM after several readings. With word study, we sorted and discussed spelling patterns that we determined that she was ready to learn. With our shared readings, we were able to discuss the books, make predictions, and share opinions. I modeled these as we read by thinking aloud or asking questions to assist her in developing comprehension strategies. Seeing her growth and improvement over our time together has been the most meaningful part of this experience.

At the end of our tutoring sessions, I administered the same IRI tasks to assess my student's growth. I was shocked to see an improvement in all areas. Her reading rate, accuracy, and comprehension all improved along with her spelling knowledge and word recognition. It was so rewarding to see that I was successful in helping her improve; I had many doubts in my own teaching abilities prior to the beginning of our tutoring sessions.

Nettie noted:

My student and I both had goals we wanted to achieve by the end of the semester. My goal was to see progress. My student's goal was to be able to read an entire book by herself. By using leveled texts, I chose easy, predictable pattern books (about a pre-primer 1 level of difficulty with short sentences on each page and engaging illustrations) that were just right for her to read. By the fifth week of tutoring sessions, my student was reading and re-reading entire books on her own. I could tell she was very proud of herself because she had never been able to do that before.

My student also became more confident in herself. At the end of the semester, I tested her again. Her progress was easy to see. During the post-test, she was able to complete more than I had planned for her to complete. After this experience, I changed the way that I feel about teaching.

And finally, Marissa wrote:

I enjoyed working with a very sweet first-grader named Betsy who was receiving services at her school for speech. Knowing that she had issues with speech allowed me to prepare for her to be comfortable. Often if a student has an issue with their speech, it can keep them from speaking out or interacting with the teacher and their peers. She was always willing to work and loved to talk about her favorite animals and to be on the cheer team. I looked for books about animals to share because she told me she wanted to be a farmer, and a cheetah was her favorite animal.

Betsy scored in the below average range on our first assessments, but she was very enthusiastic and eager to try new words by sounding them out. She could sound out many words but had trouble spelling the words. Even when she did not know or understand words, she did not get frustrated. When we read stories, either together or when she or I took turns, she talked with me about the stories we read and predicted what she thought would happen. She was always excited to work on different activities with sight words and sounds, although she could get distracted if the activity had

All tutors reported that their students made progress in a variety of ways.

too many parts. She loved reading about animals and could hardly wait to read; she would always get a text from her collection for us to read together. She had help from her mother if the words in the book were too hard for her to pronounce on her own. Betsy had an excellent support system that encouraged her learning.

Betsy was also very consistent in attending the tutoring sessions. We only had to cancel a few times for sickness or family emergencies. Betsy's mother accommodated Betsy in the tutoring sessions even if she was not there. Betsy even met with me from her great-grandmother's house because she was excited to show how her reading was improving.

As our sessions went on, Betsy's personality kept shining through. She is a very bright, energetic, enthusiastic first grader. She would share about her day, what she was doing in school, and her activities after school, such as cheer, which she loved. She would talk about being a farmer when she grew up and wanted a farm full of animals. She could make connections between the stories we read with real-life experiences. When we read about Junie B. Jones not wanting to talk to a girl who lived on a different street, she stated that her BFF lived on another road, and they were still BFFs. She was very good at looking at the pictures in the stories and adding to the actions and interactions with the characters.

Tutors' Growth and Reflections on Teaching

All tutors grew in their knowledge of pedagogy, as well as in their confidence as future teachers.

Destiny wrote:

The tutoring sessions were quite valuable. Tutoring is crucial in elementary education, as it allows for the evaluation of a student's strengths and weaknesses, which can help determine a variety of intervention methods. In a classroom environment, it will be much more challenging to determine the strengths and weaknesses of each student and implement intervention plans; however, it is crucial that interventions be tried so that every student is given an opportunity to succeed.

As a future teacher, the experience of tutoring during COVID was eye-opening as it demonstrated what virtual teaching is like. It is likely that I may

have to teach virtually at some point during my career, so having this experience is a great start. I learned several methods that help students like Patty improve in her spelling, reading, and writing skills. I plan to use these with my future students. Overall, this was a valuable learning experience that helped me feel more confident as I approach my future career in teaching.

Emily wrote:

This semester, we learned about techniques, methods, and materials that would allow us as future teachers to diagnose reading difficulties. We also learned how to assess students, interpret the testing results, and design a reading instruction plan to help. This class typically involves tutoring these children at the college, in person, but because of COVID we tutored with Zoom sessions. Although this was not the end of the world, it did prove to make some tasks more difficult.

I believe that this experience has allowed me to be more prepared to teach. Not only was I able to interact with a child in the role of a tutor, I gained a lot of insight about reading instruction and literacy intervention. Reading is an essential element of education, and it carries over to every other subject. If children struggle with reading and comprehension, they are going to struggle in most other subjects and in their everyday lives. This program has helped prepare me with the knowledge and skills to administer informal reading and spelling assessments, interpret the results, and then use that data to help guide reading instruction. I thoroughly enjoyed this experience and think that it has improved my confidence in my ability to teach.

From Nettie:

Too often, teachers talk about the challenges in their classrooms. After seeing my student make progress and knowing that my help was the reason that she made such progress, I feel great about myself; it is a great feeling to know that I could help someone and then actually see it happen. This course was very beneficial to me; I was able to take the classroom information and apply it to actual teaching.

This experience was very beneficial to me as a future teacher because it gave me the opportunity to work with a struggling youngster by recording and noticing her progress. This is the first class that I have taken where we are assigned to work with

one specific student all semester. I will now be able to take the knowledge and experience that I have learned and apply it to my future classroom.

My beginning expectations were that this would not be hard because she already knew how to read and write. I was surprisingly wrong. Because of COVID shutting schools down, the child that I tutored was never in a classroom setting until first-grade. She missed out on a lot of foundational reading and writing skills, including knowing some of the most frequently occurring sight words. Luckily, she did know her alphabet, but she was not very confident about learning to read from the beginning, which made her struggle even more. I have learned that we should never expect students to already know information.

And finally, Marissa wrote:

The class was done as a community outreach, and it was excellent. I feel like I have come full circle with the program. My son attended the program when he was in elementary school and worked with several tutors. He enjoyed attending; we joked that he had college on Tuesday and Thursday, so his schedule was booked those days. As a parent, I was thankful for the program. It allowed my son to receive extra instruction, but being done at the college in a different environment made it more enjoyable for him than studying at home. At the time, I wanted him to receive extra help with his reading but did not want him to feel overwhelmed and frustrated. The tutors were always excited to see him, and he worked well for them. I did not think I would one day be on the tutoring side, but once I was, I tried to remember what I felt like as the parent of a struggling student and wanted to encourage the student and the parent. It can be hard to parent a student who struggles; I wanted the student to be comfortable and for the parent to know I wanted only the best for their student.

Overall, the tutoring is an excellent program and provides a much-needed service in the community. I would recommend the program to any parent who struggles with reading, and I would also recommend the class to any other student. The program allows students in the class to have interactions with children of different ages and skill levels. Sometimes it can be a change of environment or the person delivering the information for a concept to click with a struggling student. The program allows the com-

munity to see that there are programs for children available for younger students and that the college campus is not just for college students and adults. It is a program that I would recommend to anyone because the benefits for the students, college and elementary, are tremendous.

Summary

Both instructors involved in this project were pleased with the outcomes, both for the tutors and the students tutored. Everyone expected there to be challenges, and there were. For example, most of the tutors expressed apprehension and anxiety about tutoring virtually, beginning with concern about the changes required for the virtual administration of the components of the pre-tests. Some tutors were anxious about tutoring because they had never taught a youngster one-on-one before. Other challenges included technical difficulties, the awkwardness of transforming learning activities (e.g., word sorting and making words) typically done in person but now needing to be implemented virtually, finding e-books appropriate for the youngsters tutored, and distractions in the homes of the youngsters when tutored.

While the challenges were daunting at times, all of the tutors expressed candid reflections and very positive feelings about their experiences. Tutors recognized the benefits of applying what was learned in class to the tutoring of their youngsters. As tutors tried different strategies with their students, tutors began to understand the importance of being flexible. But perhaps the most important aspect of this project was for tutors to begin to understand the benefits to their youngsters of providing developmentally appropriate instructional activities and supporting their students when reading appropriate level texts. This project allowed tutors to understand and apply developmentally appropriate instruction when working with struggling readers, and experience the joy of helping youngsters improve in reading when they had not before. Finally, the tutors' confidence grew in their abilities to teach, and they became more assured and committed to their choice of becoming teachers.

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Promoting Social-Emotional Learning Through Multicultural Adolescent Literature

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Maya Angelou (2014) once stated, “In diversity there is beauty and there is strength” (p. 9). This sentiment can be applied to the school setting and individual classroom environments. Due to the ever-growing diversity in classrooms, educators must prioritize literature that promotes the identities of all students and increases exposure to diverse literature for all learners, no matter their identity or background. Reading can transport students to a different place and time and aid in developing empathy and building connections with others. Literature can be conceptualized as windows and mirrors. Books that are windows help us “peek-through” someone else’s experiences and worldviews. Whereas books that are mirrors help us learn more about ourselves and those who have similar identities (Bishop, 1990).

Over the past two years, our country has dealt with the COVID-19 pandemic and increased awareness of the prevalence of racism and discrimination in the United States (Bennett et al., 2021). These concepts are not unfamiliar to many students. In a 2021 study, researchers emphasized the necessity for books that encompass a variety of identities to promote cultural humility and emotional growth and improve one’s sense of belonging within the classroom (Bennet et al., 2021). Additionally, educators can align the social-emotional learning (SEL) practices of social and self-awareness by incorporating multicultural literature. This paper will explain the importance of diverse literature in the classroom and its connection to SEL practices, highlight potential techniques for incorporating multicultural books, and identify reflective questions to develop one’s practice.

SEL and Diversity Based Literature

Social-emotional learning (SEL) is defined as the educational process that supports the development of students’ interpersonal and intrapersonal skills, understanding of emotional responses to themselves and others, as well as strengthening their ability to empathize with others. The five major learning competencies of SEL include self-aware-

ness, self-management, social awareness, relationship building, and responsible decision-making (CASEL, 2022). Over the past year, educators have seen a rise in conversations around SEL due to evidence that suggests that students who are exposed to SEL have improved academic performance, a decrease in mental health concerns related to depression and anxiety, an increase in empathy and self-compassion, and improvement in overall motivation (Clarke et al., 2021). As noted previously, the two domains of SEL that closely align with exposure to multicultural literature are social-awareness and self-awareness.

Social awareness can aid in a student’s ability to expand their worldview and overall cultural awareness and practice cultural humility. Literature can be used to help students navigate and understand the complexity of identities through a lens of empathy and respect as well as understand current issues and concerns within their larger community (Iwai, 2015; Linder, 2021; Monoyiou & Symeonidou, 2016). Books that enhance one’s social awareness can be viewed as “window” books wherein a student is exposed to other cultures and perspectives outside of the dominant one (Brinson, 2012). Through exposure to multicultural literature, students can improve their overall relationship skills, their ability to empathize with others, and explore differences with curiosity as opposed to animosity.

Conversely, books that aid in self-awareness can be identified as “mirror” books in which students are able to expand and reflect deeper on their own identity and culture (Brinson, 2012). This form of representation through reading can also aid in students’ sense of belonging and acceptance (Garces-Bacsal, 2022). When students, specifically those with minoritized identities, are represented within the books they read, they may be better able to dismantle negative perceptions of their identities and foster a positive self-image.

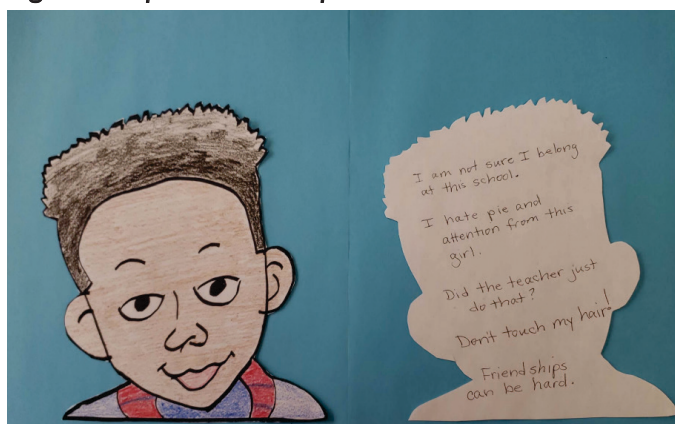
There is currently a deficit of diverse and nonstereotypical

characters in children and young adult literature. Within a recent study, researchers found that a majority of children's literature had main characters that were White (41.5%), followed closely by main characters that were depicted as an animal or other inanimate objects (29.2%). This is in comparison to other minoritized identities, which had Black/African American characters (11.9%), Asian/Asian American (8.7%), Latino (5.3) %, characters from differing ability statuses (3.4%), LGBT+ characters and families (3.1%), Indigenous persons (1%), and Asian Pacific Islanders (0.05%) (Cooperative Children Book Center, 2019). The data presented illustrate a need for more diversity depicted in children's literature. When educators intentionally select books that depict diverse backgrounds, they can provide transformative change to help readers grow in their identity, compassion for others, and love for reading overall.

Techniques to Incorporate into the Classroom

There are several techniques that educators can incorporate into their classrooms when using literature to address SEL. When selecting texts, teachers should ensure that the characters depicted and the language used do not reinforce negative stereotypes of minoritized groups (Monoyiou & Symeonidou, 2016). For instance, are Black characters only depicted as being involved in aggressive activities? Are Asian-Americans always portrayed as being studious and quiet? Are boys always depicted as being in charge and leaders? Additionally, teachers can incorporate activities such as open-mind portraits and interactive writing. Open-mind portraits aid in students' ability to reflect on characters' perspectives and connect to their emotional states. Students create a portrait of the main character and reflect on the characters' thoughts, feelings, and/or personality traits within this activity (Iwai, 2015).

Figure 1 - Open-Mind Example From Class Act



Note. A main character's image is followed by a second page where the student records the character's thoughts, feelings, beliefs, etc.

In Figure 1, an open-mind example is shared related to Jerry Craft's (2020) graphic novel, *Class Act*. This story about middle-school students who grapple with differences in socioeconomic level and race provides ample opportunities for learners to delve into understanding how feelings and beliefs can change over time. An age-appropriate feelings chart similar to the one in Figure 2 can be incorporated into the open-mind portrait activity to increase the readers' emotional vocabulary. Interactive writing activities for younger students or those with learning differences can be used to further develop students' reflective skills by writing their thoughts and reflections about the story and collaborating with their teacher or peers (Iwai, 2015). Through exploration of story characters, educators can assist students in developing an understanding of varying perspectives in texts.

Based on the age group of students, teachers may find it beneficial to incorporate critical literacy-based questions into their reading lessons. Within these questions, students are able to further reflect and explore the character's emotional state and power dynamics highlighted in the text, as well as bring awareness to injustices that are depicted (Linder, 2021). Critical literacy questions promote critical thought around the purpose and impact of a given text. Common critical literacy questions include, "Why did the author write this work?", "Whose voices are highlighted within the text?", "Whose voice is overshadowed or missing?", and "What issues of power and potential injustices are

Figure 2 - Feelings Chart



Note. A feelings wheel that depicts range of emotional responses to aid in enhancing one's emotional vocabulary.

depicted within the text?” (Luke, 2012). While some may object to the language and violence, books such as Jenny Torres Sanchez’s (2020) critically acclaimed, *We Are Not From Here*, offers opportunities for high school educators to discuss recent immigration issues while bringing awareness to multiple perspectives on the topic. Numerous online book lists, such as those from the American Library Association, can help educators find books that tackle prevalent issues such as immigration, gender identity, racism/discrimination, and mental health concerns. Selected books can aid in increasing knowledge around presenting concerns as well as provide multiple perspectives on current topics. These book lists and other sources (e.g., Goodreads.com) also provides summaries and reviews to help increase awareness of potentially objectionable content.

To further develop students’ critical literacy skills, educators, specifically those in middle and high schools, may also evaluate historical texts and other primary resources as a way of analyzing alternate perspectives, biases and misconceptions, as well as eliciting reflective responses (Delaney et al., 2022). Through the use of the teaching strategy of “reading against the grain,” educators can develop students’ analytic and synthesis skills through immersion and discussion of texts that reinforce or resist dominant perspectives and Eurocentric beliefs (Learning for Justice, 2022). Interpreting texts in this way helps students understand the social construction of knowledge and empowers them to question and dismantle beliefs embedded in society.

Researchers suggested creating “brave spaces” (Arao & Clemens, 2013) as a framework for discussing more sensitive issues. “Brave spaces” allow students to be courageous as they have difficult conversations and encourage respectful discord between students who have varying viewpoints. The foundation of creating a brave space includes (a) addressing controversy with civility where alternative perspectives are heard and respected, (b) owning intentions and impacts where the emotional responses elicited from the dialogue are acknowledged and further discussed, (c) giving students the autonomy to challenge themselves to open up within more sensitive discussions, and (d) engaging in (difficult, insightful, thought-provoking) conversations without attacking or criticizing an individual for their viewpoint. The common thread within the creation of brave spaces is vulnerability and respect within oneself and within the group (Arao & Clemens, 2013).

Pause and Ponder

As educators continue to reflect on utilizing multicultural works and promoting an equitable classroom, they can process the following questions to better their practice personally and professionally.

- What are the characteristics of an equitable classroom?
- What steps have you taken as an educator to be intentional with literature in the classroom?
- Evaluate your current library. What groups are represented within your books? Do you have books around connecting with individuals from different backgrounds? Do you have more books that depict animals/objects or people? Are any characters tokenized? Are there any groups that are not represented within your library?
- How have you handled conversations around multiculturalism with both colleagues and students?
- How have you integrated conversations around biases, discrimination, stereotypes, and power dynamics into the classroom?
- Do your students have access to quality, multicultural texts in and outside of school (Bennett et al., 2021)?
- What barriers have you faced with using multicultural literature in the classroom?

Implications

Existing research suggests that exposure to diverse, authentic, and representative literature positively impacts students’ development (Linder, 2021; Monoyiou & Symeonidou, 2016). Through exposure to diverse literature, students have the opportunity to transform and explore their beliefs, build community through reading, and continue to evaluate relationships and dynamics within their lives (Jagers et al., 2019). The benefits of exposure and appreciation of literature in childhood and adolescence can not only create lifelong lovers of reading but also create individuals who are more accepting, open, and understanding of differences and advocate for change.

Teachers may face potential barriers when integrating repre-

sentative literature into the curriculum. These include push-back from administrators, discomfort with being perceived as pushing an “agenda” onto students, and fear of saying or doing something that may be perceived as harmful or politically incorrect. Teachers can navigate these barriers by increasing their network with other educators and attending professional development workshops to stay abreast of current literature and best practices. First and foremost, teachers must identify and evaluate their own beliefs and reflect on how one’s belief system can promote or hinder students’ learning. By enriching lesson plans with diverse literature, teachers can unpack their beliefs around multiculturalism to better support the students they serve (Iwai, 2015., Linder, 2021).

Conclusion

It is essential that educators integrate literature that is representative of all students in their classrooms and offers opportunities to embrace the diversity students will encounter throughout their lives. Techniques that educators can incorporate into their classrooms include intentionally selecting diverse and non-stereotypical literature, utilizing open mind portraits, incorporating writing activities, using critical-literacy based questions to reflect on power dynamics, as well as embracing the idea of “brave spaces” within the classroom to promote discussion around issues around discrimination and inequality. Having representative literature and incorporating specific techniques are only one piece of the puzzle. Educators are also called to reflect on their own biases and perspectives and create a space for learners to reflect deeper on identity, power, and equity. Diverse literature creates lifelong lovers of reading and plants seeds for students to reflect on their identity and increase their empathy and respect for those around them.

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Virginia Readers' Choice Titles for 2022 - 2023

Primary Titles

Hugo and the Impossible Thing by Renee Smith
In My Mosque by M.O. Yuksel
Marsha is Magnetic by Beth Ferry
Mel Fell by Corey Tabor
My Bed: Enchanting Ways to Fall Asleep Around the World by Rebecca Bond
Saturdays are for Stella by Candy Wellins
Someone Builds a Dream by Lisa Wheeler
The Chicken Who Couldn't by Jan Thomas
The Suitcase by Chris Naylor-Ballesteros
Watercress by Andrea Wang



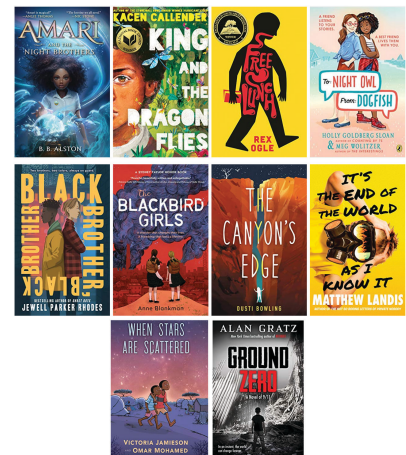
Elementary Titles

Allergic by Megan Wagner Lloyd
Before the Ever After by Jacqueline Woodson
Butterfly for a King by Susan Roth
Don't Check Out This Book by Kate Klise
Exquisite: The Poetry and Life of Gwendolyn Brooks by Suzanne Slade
JD and the Great Barber Battle by J Dillard
Ruby in the Sky by Jeanne Zulick Ferruolo
Skunk and Badger by Amy Timberlake
The Elephant's Girl by Celesta Rimington
The Silver Arrow by Lev Grossman



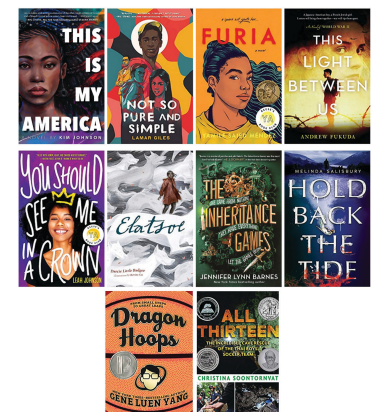
Middle School Titles

Amari and the Night Brothers by B.B. Alston
Blackbird Girls by Anne Blankman
Black Brother, Black Brother by Jewell Parker Rhodes
The Canyon's Edge by Dusti Bowling
Free Lunch by Rex Ogle
Ground Zero by Alan Gratz
It's the End of the World As I Know It by Matthew Landis
King and the Dragonflies by Kacen Callender
To Night Owl from Dogfish by Holly Goldberg Sloan
When Stars Are Scattered by Victoria Jamieson and Omar Mohamed



High School Titles

All Thirteen: The Incredible Cave Rescue of the Thai Boys' Soccer Team by Christina Soontornvat
Dragon Hoops by Gene Luen Yang
Elatsoe by Darcie Little Badger
Furia by Yamile Mendez
Hold Back the Tide by Melinda Salisbury
Not So Pure and Simple by Lamar Giles
The Inheritance Games by Jennifer Lynn Barnes
This is My America by Kim Johnson
This Light Between Us: A Novel of World War II by Andrew Fukuda
You Should See Me in a Crown by Leah Johnson





Putting Things into Focus: Using a Focused Inquiry Design Model (IDM) to Cultivate Cross-Disciplinary Connections in the Elementary Classroom

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Introduction

"I don't have time to teach Social Studies!" In today's classrooms, this lament is all too familiar. As teachers, finding time to address all required and necessary content in a single school day can be challenging. With a greater testing emphasis on language arts and math, ancillary subjects like science and social studies are often squeezed into the final minutes of the day, put into alternative rotation, or disregarded (Fitchett, et al., 2014; McGuire, 2007). The Inquiry Design Model (IDM), provides a cross-disciplinary solution for infusing social studies concepts into language arts instruction so that history can become an asset rather than an afterthought. In this article, we introduce the IDM and provide two concrete examples of how this model can be used in lower (K-2) and upper (3-5) elementary school settings. These examples provide a case for how teachers can implement this engaging instructional tool in their own classrooms to integrate social studies into language arts instruction.

Literature/Supporting Research

Literacy is more than just the ability to read and write. While students must successfully use literacy skills and tools to systematically decode and comprehend content, they also need to be critical consumers of knowledge who can apply reading instruction to their everyday lives. Instruction should include opportunities to improve literacy skills in content areas (Gross, 2010), and students should apply both productive and receptive skills across all disciplines in order to be successful and critical consumers of literature (Ampa & Akib, 2019). Purposefully integrating social studies and literacy instruction allows students to authentically implement their reading skills into real-world contexts to empower and improve their critical thinking, vocabulary, comprehension, and engagement (Soares & Wood, 2010; Tyner & Kabourek, 2021).

The Inquiry Design Model (IDM) allows teachers to actively spark students' curiosity and prior experiential backgrounds in order to facilitate their ability to become informed global citizens and critical consumers of social studies content. Additionally, pairing the IDM with purposeful literacy instruction allows students to become collaborative participants in both disciplines (Massey, 2017). While often used by social studies teachers, the IDM and inquiry-based approaches to curriculum and instruction provide powerful opportunities for cross-disciplinary connections with language arts as students engage with primary sources, employ close reading strategies, and engage in research and authentic writing. The framework allows students to grapple with difficult topics without making them feel isolated or stigmatized (Pellegriano & Hilton, 2012) and encourages curiosity, critical thought, and questioning (Coiro et al., 2016). The model also empowers students to self-identify as change agents who can affect change in their immediate environments and throughout the world (NCSS, 2017).

As social studies instruction continues to take a backseat to literacy and math instruction (Fitchett & Heafner, 2010; Haverback, 2017; Pace, 2012) it is imperative for teachers to provide alternate pathways for teaching social studies content (Haverback, 2017). Components of the IDM provide systematic opportunities for infusing social studies content into literacy instruction. Additionally, the IDM provides a resource for improving students' achievement in language arts while also providing purposeful social studies instruction that promotes critical thinking and inquiry. Finally, utilizing a variety of children's literature, including primary sources and fictional narratives can provide students with mirrors, windows, and doors to not only appreciate others across history but also to self-identify as current-day global citizens and agents of change (Gay, 2018; Ladson-Billings, 1995, 2014; Sims Bishop, 1990; Tessman, 2019).

Explanation of Template

The Inquiry Design Model (IDM) is a one-page blueprint grounded in the College, Career, and Civic Life (C3) Inquiry Arc Framework (NCSS, 2013). This teaching tool (see Appendices 1 and 2 for examples), developed by Swan, Lee, and Grant (2015) allows teachers to focus on a particular point of inquiry by aligning learning **Standards** and **Disciplinary Practice** with an overall compelling question for students to explore. The **Compelling Question** serves to engage and interest students while supporting the curriculum and content. These questions are open-ended, with several potential answers or explanations, which allows students to craft a summative argument using evidence from the featured sources to support their claims (Swan et al., 2015, 2018).

Since compelling questions must be broad enough to generate several potential answers, teachers can utilize one or more **Supporting Questions** to help narrow the focus of the inquiry, focus on different aspects of the topic, and/or identify useful information for addressing the compelling question (Swan et al., 2015, 2018). The supporting question(s) should have an accompanying **Formative Performance Task** to allow students to practice the skills, identify content, and organize information (Swan et al., 2015, 2018). Teachers may design these tasks to help students focus on specific skills and disciplinary tools as students unpack the featured sources. Then, students draw on the information from these tasks to create their argument to address the overall compelling question at the end of the inquiry.

The **Staging the Question** component of the inquiry is a warm-up activity that serves as a “hook” to introduce the topic and generate student interest. This activity presents the overall idea posed by the compelling questions and prompts students to begin thinking critically about the topic (Swan et al., 2015, 2018).

The **Featured Source(s)** within the inquiry are selected with

Purposefully integrating social studies and literacy instruction allows students to authentically implement their reading skills into real-world contexts to empower and improve their critical thinking, vocabulary, comprehension, and engagement.

the purpose of providing necessary content to build student understanding, to provide opportunities to practice identified skills, and to interest and engage students (Swan et al., 2015, 2018). Featured sources should provide enough information for students to be able to draft a claim to answer the compelling question with evidence. For the examples in this article, we selected children’s narrative texts as the central featured sources to introduce the topic, and then accompanied them with supporting primary sources which served to provide further information and authentic, real-world examples (see Appendices 1 and 2).

At the conclusion of the inquiry, students create a **Summative Performance Task** to answer the overall compelling question. Summative performance tasks can take many creative and authentic forms, but require students to include information from the featured sources as evidence to support their argument (Swan et al., 2015, 2018). Finally, an **Extension** activity allows students to use a different format to share their knowledge, and can be used in place of the summative **Argument**, or offer an acceleration or challenge activity for students if time allows (Swan et al., 2015, 2018).

In an attempt to demonstrate how the IDM can be used in both lower and upper elementary school classrooms, the following sections provide concrete examples of how this model can be used in the lower (K-2) and upper (3-5) elementary grades. In these examples, we elected to focus on the topic of refugees, which provides a timely opportunity for students to discuss and explore relevant events that are currently unfolding on a global scale.

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IDM Example: Lower Elementary (K-2)

The focused inquiry for grades K-2 (see Appendix 1) begins by staging the **Compelling Question**: “Who is a refugee?” This inquiry focuses on defining who a refugee is so that students can then draw parallels to their own identity, which ultimately helps foster greater understanding and empathy for diverse individuals. Within this inquiry, students are asked to consider three **Supporting Questions**: (1) What makes someone a refugee; (2) What do refugees leave behind on their journey; and (3) How can we help refugees feel welcome in their new homes? This particular model aligns

with cross-disciplinary learning **Standards** for the state of Virginia in English and history, and provides opportunities for **Disciplinary Practice** as students learn about different groups throughout history and the present day, while also providing opportunities for reading comprehension and purposeful writing experiences.

Teachers can introduce the topic by **Staging the Question**. To begin, teachers ask students to consider: “If you were forced to leave your home, and a backpack was all you could carry, what would you put inside? What would be important or valuable to take? What would you be forced to leave behind? How would you decide?” After a brief discussion, teachers conduct a read aloud of the first **Featured Source**, *My Name is Sangoel* (2009) by Karen Lynn Williams and Khadra Mohammed. This children’s picture book narrates the fictional journey of Sangoel, a refugee from Sudan, as he and his family find refuge in the United States.

The idea of identity is first addressed at the beginning of the story when Sangoel expresses concern about leaving his home, and the Wise One tells him: “You will be Sangoel. Even in America” (Williams & Mohammed, 2009, n.p.). However, when Sangoel arrives in his new school, he finds that his classmates have a difficult time pronouncing and remembering his name, and over time, Sangoel begins to feel that his identity is being taken from him, just like his home. At dinner, he even laments to his mother, “In America, I have lost my name,” to which she responds, “America is our home now. Perhaps you need an American name” (Williams & Mohammed, 2009, n.p.). This story juxtaposes maintaining one’s identity against the desire or needs to assimilate into mainstream culture. It also addresses the sense of loss refugees feel, not just on a physical level, which is commonly addressed in books about refugees, but also on a deeper, emotional level, and how displacement can lead to a loss of self. At the end of the story, Sangoel finds that while he has suffered profound loss as a refugee, he is still able to maintain his identity. He creates a shirt with an image of the sun and a soccer goal to help his classmates learn how to pronounce his name, which then helps them begin to understand one another and connect.

This book helps students explore the things refugee children are forced to leave behind when leaving their homes. In addition to this story, teachers can display images from the second **Featured Source**, “What’s in My Bag? What Refugees Bring When They Run for Their Lives” (Corryology, 2015). These images depict real-life refugee children of all ages, posing with their backpacks and the items they chose to bring with them on their journeys. These images provide a starting point for identifying needs versus wants and

discussing the difficult choices refugees must make about what to take and what to leave behind when they flee their homes.

After discussing the images, teachers can immediately “hook” students with a **Formative Performance Task** by constructing a visual of a backpack on loose-leaf paper and asking students to draw the items they would pack if they were forced to leave their home. Teachers can encourage students to think broadly and deeply about the things they would carry and the things they may lose and encourage students to craft an **Argument** that moves beyond just physical items but also addresses intangible losses refugees may feel, including their sense of identity and culture.

After sharing, teachers may conclude by addressing the **Summative Performance Task** and encouraging students to turn their learning into authentic action. Students revisit the final supporting question, “How can we help refugees feel welcomed in their new home?” and consider again how Sangoel (Williams & Mohammed, 2009) felt before he created a shirt to help his classmates pronounce his name. Students can draw from the fictional life of Sangoel (Williams & Mohammed, 2009) and the real-world examples of refugees around the world (Corryology, 2015) to create a visual explaining who a refugee is, and to illustrate the things they may take or lose on their journey to their new life. As part of the **Extension**, students can also create a brochure that addresses how to help refugees feel welcomed in their new homes by affirming their identity and valuing the things they bring with them while also honoring what they have lost. Students can share this brochure with their families, students in other classrooms, administrators, or other special guests.

As social studies instruction continues to take a backseat to literacy and math instruction (Fitchett & Heafner, 2010; Haverback, 2017; Pace, 2012) it is imperative for teachers to provide alternate pathways for teaching social studies content (Haverback, 2017). Components of the IDM provide systematic opportunities for infusing social studies content into literacy instruction.

At the conclusion of the lesson, students combine literacy skills like oral and written reading responses with identifying who a refugee is and what they leave behind.

IDM Example: Upper Elementary (3-5)

The focused inquiry for grades 3-5 (see Appendix 2) asks students to address the overall **Compelling Question**: “Why do some children have to leave their homes?” This inquiry is designed to (1) help students grasp the concept of refugees, (2) explore why some people are forced from their homes, and (3) describe how these changes can alter the lives of refugees. Focusing the overall compelling question on children allows students to draw connections to their own lives and realize that anyone can be a refugee. Within this inquiry, students learn what a refugee is and discover a few reasons why some refugees are forced to flee their homes. This inquiry helps students practice several skills tied to learning **Standards** for the state of Virginia and **Disciplinary Practices**, including summarizing, using evidence to answer a question, identifying new information, and asking and answering questions about what is read. Students are also introduced to several different perspectives through the use of fictional and nonfiction texts.

The first **Featured Source** associated with this inquiry is a children’s picture book entitled *My Beautiful Birds* (2017) by Suzanne Del Rizzo. This text follows Sami, a Syrian refugee who flees his home with his family due to war. While in Syria, Sami cared for pet pigeons, and he worries about their safety after his family is forced from their home. When

Sami and his family settle into a refugee camp, he struggles to adjust as other children begin to play and attend school. It isn’t until several birds fly into camp and Sami cares for them that he is reminded of a sense of home, and he begins to adjust to his new surroundings. The narrative gently examines the effects of a refugee crisis on children and offers a new perspective of life in a camp, providing insight into how difficult and traumatic these situations can be for the individuals living through them. It also addresses the theme of home and emphasizes the notion that home is not necessarily a physical place, but somewhere familiar that we feel safe and loved.

To begin the inquiry, teachers can **Stage the Question** by asking students to examine a photo from a news article about Syrian and Iranian refugees crossing the Greek-Macedonia border in 2016 (Todd, 2019). During a whole-group discussion or think-pair-share, students can share what they think is happening and what evidence in the photograph led them to those conclusions. Providing this photograph provides a common starting point for students to make predictions and generate questions prior to reviewing the featured sources. Since students need to explain why refugees must flee and describe life for refugees in the summative argument, the formative performance task asks students to focus on these ideas in order to identify and list information as they read the featured sources.

After brainstorming, teachers can pose the **Supporting Question**: “What is a refugee?” and then provide three additional **Featured Sources**, including three *Newsela* articles. These real-life examples focus on refugees in three different contexts and provide additional sources for students to read about in order to build on Sami’s story (Del Rizzo, 2017). As students read these sources, they can compile a list of ideas and evidence to answer the compelling and supporting questions.

The first article, “She Travels 3,500 Miles in a Wheelchair to Find Safety” (Oltermann, 2016), discusses Nunjeen, a 17-year-old Kurdish girl who leaves Syria and travels to Germany when the arrival of the Islamic State threatens the safety of her family. Nunjee’s journey was especially difficult since she is in a wheelchair, which provides a powerful reminder that refugees include individuals from all walks of life.

The second article, “Waiting, Fearing Singing: A Night Sheltering in Ukraine Amid Constant Russian Bombing” (Associated Press, 2022), provides an opportunity for present-day connections and shares the experiences of Ukrainian families seeking safety in bomb shelters during Russian bomb

Engaging students with literacy skills and exploring fictional children’s literature and primary sources through a social studies lens can provide purposeful opportunities for instruction facilitated by mentor texts. Highlighting these perspectives may help students become more understanding, informed global citizens, which is a goal of social studies instruction as defined by the National Council of Social Studies (NCSS, 2017).

raids. The article helps students to realize how everyone, even children, can be a refugee, and how dangerous it can be when people are forced from their homes.

The third article, “‘Sesame Street’ Unveils Rohingya Muppets to Help Refugee Children” (Al-Jazeera, 2021) focuses on the introduction of Rohingya Muppets. Many Rohingya have fled Myanmar and are living in camps in Bangladesh, and Sesame Street is working to bring educational videos to children within the camps. This source focuses on how displacement affects children in particular and explores how difficult it can be to create life with a semblance of normalcy in refugee camps.

After students collect information and evidence from the featured sources, the final **Summative Performance Task** asks students to use their list of ideas to construct an **Argument** explaining why refugees are forced to flee their homes, and then describe their new lives. This task can take many shapes. For example, students may create Found Poetry with the news articles, they may write descriptive paragraphs, or they may design posters illustrating their argument. Providing students with choice in their **Summative Performance Task** allows for creativity in processing and sharing information they learn from the featured sources. As an **Extension** activity, students may choose a specific refugee crisis and create a presentation to explain the crisis and its effects on children to an audience, which can help prompt higher-order thinking. After the inquiry, students should gain an understanding of refugees, be able to identify events that cause refugee crises, and describe what life is like for refugees.

At the conclusion of the lesson, students combine literacy skills like summarizing, questioning, and providing evidence to demonstrate social studies knowledge regarding what a refugee is and why they are forced to leave their homes.

Implications

Social studies education does not have to continue to be marginalized within the elementary classroom. Engaging students with literacy skills and exploring fictional children’s literature and primary sources through a social studies lens can provide purposeful opportunities for instruction facilitated by mentor texts. Highlighting these perspectives may help students become more understanding, informed global citizens, which is a goal of social studies instruction as defined by the National Council of Social Studies (NCSS, 2017). Using these texts in conjunction with the Inquiry Design Model (IDM) is one-way teachers can create pathways for cross-curricular instruction between literacy and

social studies. This model provides authentic opportunities for instruction and supports inquiry to prepare students for the C3 Framework and the study of social studies-related content including civics, economics, geography, and history (Duplass, 2020). Implementing social studies within the context of literacy instruction creates a cross-curricular pathway for improving social studies content knowledge while also expanding instructional opportunities for literacy (Haverback, 2017). Furthermore, using children’s literature portraying marginalized populations also serves to provide purposeful pathways for providing mirrors, windows, and doors for students (Gay, 2018; Ladson-Billings, 1995, 2014; Sims Bishop, 1990; Tessman, 2019). Finally, it is important to note that all children’s literature can be used as read-alouds to provide a foundation for teachers to promote social justice in both literacy and social studies instruction (Norris, 2020).

Conclusion

Though the time for social studies is often severely limited or even eliminated at the elementary level, the Inquiry Design Model (IDM) provides a tool for teachers to thoughtfully integrate social studies with language arts instruction. Focused inquiries in particular allow for close examination of relevant topics, opportunities for pairing children’s texts with primary sources and practice with cross-disciplinary skills. With its immense flexibility, the IDM is a tool teachers can use to interest and engage students, and a concrete way to convert social studies from merely an afterthought into an asset.

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Appendix 1

Focused Inquiry Template

Compelling Question	
Who is A Refugee?	
Standard	History K.2 Recognize that history describes events and people from other times and places English K.9: Demonstrate comprehension of fictional texts English K.12 Write to communicate for a variety of purposes
Disciplinary Practice	Understand different groups of people represented throughout history. Gather evidence from sources.
Staging the Question	Have each student hold up their backpack. Ask: If you were forced to leave your home, and this was all you could carry, what would you put inside? What would be important or valuable to take? What would you be forced to leave behind? How would you decide?

Supporting Question	
What makes someone a refugee? What do refugees leave behind on their journey? How can we help refugees feel welcome in their new homes?	
Formative Performance Task	
After you read the sources aloud to the students, prepare an outline of a backpack on loose-leaf paper. Have students imagine they are a refugee who is forced to leave their home. Ask them to draw the items they would choose to take with them inside the backpack, and to draw the items they would be most sad to leave behind outside of the backpack.	
Featured Sources	
<i>My Name is Sangoel</i> (Williams & Mohammed, 2009) "What's in My Bag? What Refugees Bring When They Run for Their Lives" (Carryology.com)	

Summative Performance Task	<p>ARGUMENT: Why do some children have to leave their homes? Construct an argument explaining why refugees are forced to flee their homes, and what their lives are like. (i.e., found poetry with news articles; descriptive paragraphs; poster displaying reasons why refugees leave home).</p> <p>EXTENSION: Have students choose a refugee crisis and create a presentation to explain the crisis and its effects on children. Students can share the presentation with family, students in other classrooms, administrators, or other special classroom guests.</p>
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Appendix 2

Focused Inquiry Template

Compelling Question	
Why Do Some Children Have to Leave Their Homes?	
Standard	History 3.1d: Summarizing points and evidence to answer a question English 3.6d: Ask and answer questions about what is read English 3.6f: Summarize major points found in nonfiction texts English 3.6k: Identify new information gained from reading
Disciplinary Practice	Understand different perspectives in history.
	Gather evidence from sources.
Staging the Question	Display the photo at the top of the news article “By the Numbers: Syrian Refugees Around the World” (Todd, 2019). Ask students: What do you think is happening in the photo? What in the photo makes you think that? (Whole group discussion or think-pair-share)

Supporting Question	
What is a refugee?	
Formative Performance Task	
As students read the sources (or during read alouds) have students make a list of the reasons why people have to leave their homes and what life is like for them.	
Featured Sources	
<p><i>My Beautiful Birds</i> (Del Rizzo, 2017)</p> <p>“She Travels 3,500 Miles in a Wheelchair to Find Safety” (Oltermann, 2016)</p> <p>“Waiting, Fearing, Singing: A Night Sheltering in Ukraine Among Constant Russian Bombing” (Associated Press, 2022)</p> <p>“‘Sesame Street’ Unveils Rohingya Muppets to Help Refugee Children” (Al-Jazeera, 2021)</p>	

Summative Performance Task	<p>ARGUMENT: Why do some children have to leave their homes? Construct an argument explaining why refugees are forced to flee their homes, and what their lives are like. (i.e., found poetry with news articles; descriptive paragraphs; poster displaying reasons why refugees leave home).</p> <p>EXTENSION: Have students choose a refugee crisis and create a presentation to explain the crisis and its effects on children. Students can share the presentation with family, students in other classrooms, administrators, or other special classroom guests.</p>
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2022-2023 Call for Manuscripts: Reading in Virginia

Theme: Voices from the Field: Literacy Grows Here

Reading in Virginia (RiV) is the peer-reviewed journal of the Virginia State Literacy Association. It publishes articles to support literacy instruction for and by researchers, specialists, and teachers. RiV offers a forum for the exchange of information on current theory, research, and classroom application, as well as to foster connections between literacy teachers, librarians, specialists, and researchers in Virginia and the United States as a whole. We broadly conceptualize literacy to include speaking, listening, reading, writing, and creating within and across grades and disciplines.

We seek original manuscripts that describe topics, issues, and events of interest to all levels of literacy educators. Possible examples include research reports, teacher action research, classroom applications of literacy research, teaching tips, digital literacy tool use and online engagement, parent involvement in literacy, school-based literacy leadership, as well as literature reviews. This journal is published in a digital format. Manuscripts of varying lengths are accepted. RiV is published annually.

Of particular interest in 2022-23 are two special departments: Teaching Texts and Coaching Connections. Templates to assist manuscript development are included at the end of this announcement. Given the recent shifts and additions to supporting students' broad literacy development, we believe that many voices and many experiences are needed to fully discuss and share what is happening in the field of literacy, and how we can best grow together. Please consider sharing your classroom and research expertise with colleagues in Virginia and beyond!

The fall submission window is now OPEN and manuscripts will be accepted until December 31, 2022. Manuscripts will be peer reviewed in the winter in anticipation of spring publication.

Author Guidelines: Reading in Virginia

Manuscripts will be evaluated for the following elements:

1. Relevance to the audience (literacy teachers, specialists, librarians, and researchers).
2. Significance and importance of the topic and treatment.
3. Sufficient grounding in literacy theory and research

Additionally, manuscripts will be evaluated for clarity and organization of writing, appropriate tone for the audience, and overall writing quality, including mechanics. Papers should adhere to American Psychological Association (APA) formatting according to the 7th edition.

Preparing Your Manuscript: Style and Format

All submissions must be electronic, and Word document format is highly preferred for text, tables, and figures (e.g., docx; .doc). Any submitted artwork may be saved in other appropriate formats (e.g., .pdf, .jpeg, .tiff). Please prepare a blinded manuscript using a 12-pt font (e.g., Times New Roman, Arial, or Calibri) and double-spaced text with one-inch margins. All elements should adhere to APA 7 format, and headings and subheadings are encouraged.

Submit your blinded manuscript to Dr. Allison Ward Parsons at award12@gmu.edu. In your email, please include your contact information, full names of all authors as they should appear in the journal, and affiliations. If you are a VSLA member, please indicate your local council as well. Note that membership is not a prerequisite for submission and will not affect the review process.



A Foundation for Readers, Writers, and Spellers Beyond K-2: A Middle School Pilot in Developmental Spelling

Michelle Picard
Loudoun County Public Schools

At the time of this writing, two years into the COVID-19 pandemic, there is a resurgence of attention on early literacy and a focus on the Science of Reading. While the Science of Reading refers to an interdisciplinary body of research from the past five decades and includes phonological awareness, phonics, fluency, comprehension, and vocabulary, the vast amount of attention has been directed to phonics and early literacy. This focus exists not only in the literature, but also in legislation. For example, Virginia recently passed the Virginia Literacy Act with requirements including an adherence to the Science of Reading.

Arguably much less attention has been devoted to the development of word knowledge beyond the primary grades, which continues to influence reading, writing, spelling, and vocabulary. Once young children have “broken the code” and *begin to read*, instruction in decoding and spelling is often diminished. While a shift toward fluency and comprehension is appropriate, considerable attention is still needed in the acquisition of foundational word knowledge. Linea Ehri reminds us of a useful metaphor: reading and spelling (decoding and encoding) are two sides of a coin (Ehri, 1997). Understanding how words work is essential in reading and spelling and depend on similar processes. Spelling is more exacting since every letter must be in place to be correct (Bosman & Van Orden, 1997). Spelling stages, which extend deeply into morphology, provide insight into student’s understanding of the phonics, orthography, and morphology in all aspects of literacy.

Rationale

Given the importance of foundational knowledge in phonology, orthography, and morphology, the disruption of traditional education these past few years, and an increasing number of English learners entering the school system for the first time at the secondary level, the Office of Secondary English and Reading decided to pilot a developmental spelling approach, also known as word study, at the sixth-grade level.

The pilot is unique in that the Virginia Department of Education (VDOE) Standards of Learning (SOLs) no longer include spelling acquisition at the sixth-grade level. Rather, there is a substantial focus on morphology (prefixes, suffixes, Greek and Latin roots) and overall word consciousness teaching multiple types of words such as homophones, homographs, idioms antonyms, and synonyms. This focus is founded on an assumption that students have mastered the continuum of developmental spelling features evident in reading and writing, including the 44 phonemes, multiple spelling patterns and the conditions under which they function in words, and the spelling meaning connection, that words related in meaning are also related in spelling (Templeton, 1986). While this focus is appropriate for on-grade level performance, it is insufficient to serve students who have not mastered the spelling features outlined in Table 2. Without this foundation literacy skills are adversely affected for students of all ages.

Once young children have “broken the code” and begin to read, instruction in decoding and spelling is often diminished. While a shift toward fluency and comprehension is appropriate, considerable attention is still needed in the acquisition of foundational word knowledge.

The purpose of this article is to share our pilot work in five Title I middle schools. We focused on three questions:

1. To what extent do gaps exist in our sixth-grade students' foundational word knowledge as evidenced in the Developmental Spelling Assessment (Ganske, 2000)?
2. To what extent might teachers be able to accelerate the mastery of spelling (decoding) features in a single year?
3. How can we support teachers to focus on assessment-driven instruction to provide a solid foundation in word knowledge across all three tiers of the English language?

Background: Key Research on Developmental Spelling

There are at least six key findings in spelling research. First, a developmental continuum of spelling acquisition has been identified and documented in alignment with reading stages. Researchers have identified a predictable continuum of spelling features which are synchronous with characteristics of reading and writing behaviors (Bear et al., 2020; Gentry, 2004; Templeton & Gehsman, 2014). Spelling stages have been defined and described across three layers of the English language – sound, pattern, and meaning. Developmental spelling stages (emergent, letter name-alphabetic, within word pattern, syllables and affixes, and derivational relations) provide insight for teachers for instruction. As a student progresses, their focus of understanding and application shifts from sounds, to patterns, and ultimately to meaning and morphology. Students begin by reading and spelling letter by letter, sound by sound, and progress to chunks (onset and rime), patterns, and syllables until reaching proficiency to read and spell with morphemes and units of meaning (See Table 1)

A quick look at spelling stage development feature acquisition across the layers of the English language is highlighted in Table 2. For more information on specific stage develop-

ment, readers can consult the reference list.

Second, researchers have confirmed that students learning English and students identified with learning disabilities progress along the same documented developmental continuum (Helman & Bear, 2007; Invernizzi & Worthy, 1990; Templeton et al., 2014).

Third, valid and reliable assessments for word knowledge, the continuum of spelling features, across phonology, orthography, and morphology have been designed (See Table 3). These qualitative spelling inventories allow teachers to identify the stage of a student's spelling development and catalog spelling features which have been mastered and those currently under study. These user-friendly inventories provide insight into a student's knowledge of the continuum of sound, pattern, and meaning and how those features function in words. The inventories also provide an assessment-based starting point for instruction and a tool for progress monitoring. Inventories also provide insight to reading and writing behaviors commensurate with student's word knowledge.

Fourth, researchers have concluded that an instructional spelling level does exist (Morris & Perney, 1986), similar to reading instructional level (Betts, 1936) and Vygotsky's zone of proximal development (1962). In a series of studies, Morris and colleagues compared students who were taught a traditional grade level spelling approach with same-grade students engaging in differentiated instruction according to a developmental spelling inventory. Students engaged in the developmental approach not only made larger gains, but also demonstrated longer retention of these skills than the grade-level traditional approach group (Morris et al., 1986; Morris et al., 1995a, 1995b). Developmental spelling researchers and practitioners have grounded explicit, assessment-based instruction on the premise of instructional level and differentiated instruction.

Lastly, there is a preponderance of evidence that explicit, systematic instruction on phonics, orthography, and morphology is essential to reading and writing. The National Reading Panel (NRP, 2000) promoted the use of explicit, systematic instruction in phonics for students from kindergarten through sixth grade and for student with difficulties

Table 1 - How Students Read and Spell

Reading Stage	Focus on Word Knowledge
Advanced reader	Focus on morphemes
Intermediate reader	Focus on syllables
Transitional reader	Focus on sound and pattern
Late beginning reader	Focus word chunks with short vowels onset/ rime
Beginning Reader	Focus on sound by sound, letter by letter

Table 2 - Spelling Features in the Five Stages of Spelling Development Across the Three Layers of the English Language, Sound Pattern, and Meaning

	Sound			
		Pattern		
			Meaning	
Emergent	Letter Name	Within Word Pattern	Syllables and Affixes	Derivational Relations
<ul style="list-style-type: none"> ● Phonological Awareness ● Alphabet recognition ● Letter sounds 	<ul style="list-style-type: none"> ● Beginning Consonants ● Ending consonants ● Blends ● Digraphs ● Short vowels ● Preconsonantal nasals 	<ul style="list-style-type: none"> ● Vowel-consonant-e ● Common long vowels ● Uncommon long vowels ● R-influenced vowels ● Complex consonant clusters ● Homophones 	<ul style="list-style-type: none"> ● Homographs ● Adding Inflected endings -ing, -ed ● Plurals ● Syllable Types ● Open syllables ● Closed Syllables ● Vowel patterns in accented and unaccented syllables ● Two syllable homophones and homographs ● Prefixes ● Suffixes ● Greek and Latin Roots 	<ul style="list-style-type: none"> ● Advanced study of Prefixes ● Advanced study of Suffixes ● Greek and Latin Roots ● Consonant alternation ● Predictable spelling changes in consonants and vowels ● Assimilated prefixes ● Spelling-meaning patterns

or delays in reading beyond sixth grade. Teaching the full continuum serves as the foundation in the written English language and is highly correlated with word recognition, fluency, reading comprehension, vocabulary, spelling, and writing (Carlisle, 2004; NRP, 2000; NELP, 2008; Bear et al., 2020; Nagy et al., 2006).

Methodology

Given the fundamental importance of word knowledge and the anticipated gaps in instruction during the past two years due to COVID-19, selected schools and staff in the Office of Secondary English and Reading made the decision to assess and teach students with word study in grade six, middle school, for the 2021-2022 school year. Schools were selected based upon one criterion: schools with the highest free and reduced lunch rates. We piloted word study with five Title I middle schools. All sixth-grade teachers, including teachers of English language learners and students with learning disabilities, in the selected schools participated in professional learning and implementation of assessment-driven instruction in word knowledge.

One of our Instructional Facilitators for Secondary English and Reading facilitated small group workshops at each of the schools to teach teachers the following:

- 1) How to administer and score the Developmental Spelling Assessment (DSA)
- 2) How to group students with similar spelling and literacy profiles for instruction
- 3) How to establish and conduct an efficient, research-based routine of explicit instruction which included differentiated small group instruction This included five essential instructional strategies at the middle school level: model sorts, writing sorts, word hunts, reflection on big ideas, and word study notebooks.

Participating teachers were provided with three professional texts on developmental spelling to anchor their face-to-face learning. Two of the three texts provided weekly lessons and guidance by spelling stage, the third provided an in-depth understanding of stage development and the relationship of word knowledge to reading, writing, and vocabulary development. An online study group was also established. The online platform hosted instructional video segments and

Table 3 - Valid and Reliable Qualitative Spelling Inventories

Kindergarten Qualitative Spelling Inventory (Bear et al., 2020)
Words Their Way Elementary Qualitative Spelling Inventory (Bear et al., 2020)
Words Their Way Upper Elementary Qualitative Spelling Inventory (Bear et al., 2020)
Developmental Spelling Inventory (DSA) (Ganske, 2013)
McGuffey Spelling Inventory (1992)

other resources to support and to deepen teacher understanding.

Beginning in late October, as teachers began to implement word study, the small team in the Office of Secondary English and Reading visited classrooms to observe, provide feedback, express support, and address questions. While readers may be familiar with the instructional strategies outlined in multiple professional texts and noted above, it is important to share that this learning was entirely outside of the experience of most of our middle school teachers. The only exceptions were the reading specialists at each school who use assessment-driven literacy practices for word recognition, spelling, fluency, and comprehension on a routine basis. Therefore, we delved into each of the five practices with an emphasis on the five-part lesson and the role of dialogue and reflection.

Word Study Methodology Five-Part Lesson

Once teachers had a clear understanding of instructional level, stage development, and grouping, they worked to implement a consistent routine which began with the five-part model lesson. According to the authors of *Words Their Way: Word Study for Phonics, Vocabulary, and Spelling* (Bear et al., 2020), the overall purpose of word study is to “actively explore and understand the nature of the spelling system, developing general knowledge of the regularities, patterns, and conventions to read and spell (p. 5).” Specific knowledge of words, spellings, and meanings are also achieved. The heart of word study instruction is sorting words, comparing and contrasting features across sound, pattern, and meaning. Each lesson has five components:

- 1) Introduce the words and explore their meanings
- 2) Establish categories for the sort
- 3) Model how to sort several words and discuss why, justify the categorization

- 4) Invite students to join in the sorting and discussion
- 5) Guide the reflection

Teachers were taught the importance of explicit instruction and facilitating a dialogue around how spelling features work within words. The teacher is instructed to begin with open-ended questions such as, “Why are all the words in this category together? What is similar about the words in each category? What’s different? What do you notice?” During the lessons, questions become more specific and focus on issues of structure, frequency, position, and related words.

At the within word pattern stage, students are consistently asked to consider the position and frequency of the spelling features. For example, the spelling feature *-ay* is commonly found at the end of a word as in *play* or syllable as in *crayon*, while the features *ai* as in *rain* and *aCe* as in *cake* have vowel sounds in the middle and are far more common than the features *a* as in *table* or *ay* as in *stay*. An accommodation that was frequently made for our middle school students was to include polysyllabic words, even at the within word pattern stage of development which traditionally includes monosyllabic words. Long vowel patterns are easily learned in multisyllabic words, provided students can read them. This gave middle school students an opportunity to work at their instructional level without feeling that they were being treated like elementary students or beginning readers.

As students explore polysyllabic words, teachers encourage students to examine related words. They are asked, “What is the spelling meaning connection among these words? (Templeton et al., 2014). For example, how is *graph* related to *autograph*, *photograph*, *monograph*, *biography*, *autobiography*, *graphic*, and *graphite*? Students learn in this example, that the word root *graph* means “to record.” The spelling remains consistent, and the word root provides insight to multiple word meanings. For example, *biography* is the recording of one’s life as is an *autobiography* which is narrated by the self.

Reflection is the most critical portion of the lesson. Teachers

ask students how the underlying generalizations or big ideas can assist the students in their spelling, writing, and reading. They learn not only the words and features under study, but also are able to transfer that knowledge to new words with similar sounds, patterns, and conditions.

During our classroom visits, our team observed teachers charting the “big ideas” for the week and listened in on formal and informal conversations with students about words and how they work. As an example, one student was playfully concerned when he was hunting in authentic texts for words with the /j/ sound spelled with the complex consonant cluster *-dge*, because he had identified the word *magic* which fit one of the two criteria. It contained the sound /j/ but not the spelling feature *-dge*. His word consciousness was heartening.

Word Hunt

Reflection continued during the word hunts. Each week students were asked to hunt for words that either had the same sound and/or pattern as the words or features under study. Word hunts are a critical strategy for three reasons. First, students will find words with patterns that are new to the student, just as our student found the word *magic* and wanted a word ending in *-dge*, and students will integrate the new knowledge into their own schema about words. Second, students will often find interesting vocabulary. Third, the word hunt draws an explicit connection between reading (in this case browsing) and spelling.

As an example, if students are looking for long and short *a* words, they will likely find the common patterns under study (e.g., *aCe* as in *cake*, *ai* as in *rain*, *ay* as in *play*), but they will also find polysyllabic word such as *mistake*, *decay*, *dismay*, *mayonnaise*, *sustainability*, *disdain*. They will also discover patterns that are less common such as *ea* as in *steak*, *a* as in *table*, *au* as in *gauge*, *et* as in *ballet*.

One modification we made for our middle school students in word hunting included the use of the Internet. Once students reach the upper stages of developmental spelling (syllables and affixes and derivational relations), the specific spelling features do not always appear readily when browsing through authentic text, while we have a seemingly limitless number of words available online. For example, you may browse for 10-15 minutes and find several words ending with *-tion*, *-sion*, and *-cian*, while a quick search on the Internet reveals hundreds. The quick searches allowed us to emphasize the spelling generalizations and vocabulary development in text.

We also modified the use of word sorts for the students

who were performing at the derivational relations stage. Sorting prefixes, suffixes, and roots becomes a visual discrimination task more than a reflective activity. Therefore, we began the sort with instructions to collect words with similar word parts, and then discussed the meaning of the parts and how they influenced meaning in words and spelling. We spent less time sorting and more time in other engaging instructional activities including root webs, related collections of words, and exploring word histories. Again, the Internet was a reliable partner in this work and students kept selected lists in their word study notebooks.

Word Study Notebooks

Lastly, our middle school teachers were encouraged to facilitate the use of word study/vocabulary notebooks. Notebooks are places where students can save their sorts, writing sorts, word hunts, dictations, and collections of words. They document the study of spelling features and provide a handy reference for students, teachers, and families. As noted earlier, the Standards of Learning in Virginia at the middle school level requires explicit instruction in many types of words including homophones, homographs, idioms, antonyms, synonyms, Greek and Latin roots, prefixes, and suffixes. Word Study notebooks are an excellent place to collect words over time and to expand vocabulary to deepen word consciousness (Bear et. al, 2020; Quigley, 2018; Stahl & Nagy, 2006).

Word study notebooks are also a place to record reflections. We asked our students to reflect upon, discuss, and record the big ideas for word study each week. Students were asked to consider how these understandings help them develop as readers, writers, and spellers. Students were reassessed at midyear and in the spring to monitor progress and make instructional decisions.

Results

Guiding Question #1

After 6-7 months of instruction and a final assessment with the Developmental Spelling Assessment (DSA, Ganske, 2000) at the end of the year, we reviewed our guiding questions. Our first question, “To what extent do gaps exist in our sixth-grade students’ foundational word knowledge as evidenced in the Developmental Spelling Assessment (Ganske, 2000)?” was answered early in the pilot. Table 4 outlines the significant gaps in students’ word knowledge upon entering sixth grade in our five Title I middle schools. Typically developing students are performing at the late syllables and affixes stage of development in the sixth grade (Bear et.

al., 2020). Using a score of 70/100 as a DSA benchmark for late syllables and affixes and as a benchmark for grade level performance, we found substantial gaps for students. All five schools had less than 45% of their students meeting grade level expectations of 70 or higher. Two schools reported 31% of their students meeting grade level expectations in the fall.

Guiding Question #2

Results that address the second question, “To what extent might teachers be able to accelerate the mastery of spelling features in a single year?” are outlined in Tables 5 and 6.

Teachers were able to implement word study through small group, differentiated instruction that led to significant gains in achievement as measured by the DSA. Results varied from school to school with increases of 13% - 39% of students meeting or exceeding the benchmarks. Reviewed as a whole group, there was an increase of 23% of students achieving grade level expectations, a movement from 37% to 60% in less than an academic year. A review of the quantitative data also revealed that *all* students participating in the pilot gained specific spelling feature knowledge and many moved into the adjacent stage of spelling development.

Table 4 - Based on the Developmental Spelling Assessment, Number and percent of students in grade 6 performing at the Late Syllables and Affixes Stage (70 or higher on the DSA)

		DSA Score 70+	Total Tested	% on or above Grade 6 Word Knowledge
School 1	Fall	128	293	44%
School 2	Fall	119	300	40%
School 3	Fall	120	295	41%
School 4	Fall	77	250	31%
School 5	Fall	82	266	31%
Total	Fall	526	1404	37%

Table 5 - Fall and Spring Results of Developmental Spelling Assessment (DSA) in Five Title I Pilot Middle Schools

		DSA Score 70+	Total Tested	% on or above Grade 6 Word Knowledge
School #1	Fall	128	293	44%
	Spring	183	323	57%
School #2	Fall	119	291	41%
	Spring	196	292	72%
School #3	Fall	120	295	41%
	Spring	171	269	64%
School #4	Fall	77	250	31%
	Spring	127	278	46%
School #5	Fall	82	266	31%
	Spring	187	269	70%
Total for All Schools	Spring	864	1431	60%

***The number of students reflect any student in attendance at the time of testing. In other words, these statistics do not reflect only students who were present for both assessment cycles, but rather all students in school at the same time.**

Table 6 - Spring Results Developmental Spelling Assessment (DSA) 2022 in Five Title I Pilot Middle Schools

		DSA Score 70+	Total Tested	% on or above Grade 6 Word Knowledge
Total	Fall	526	1404	37%
Total	Spring	864	1431	60%

Guiding Question #3

To address our third and final question, “How can we support teachers to focus on assessment-driven instruction to provide a solid foundation in word knowledge across all three tiers of the English language?” we administered a teacher survey. Open-ended questions led to three themes: benefits, challenges, and shifts in thinking.

Teacher Survey Themes. The survey was delivered in June 2022, and 28 out of 60 possible teachers participated (47%). Teachers were asked to share the challenges and benefits of word study implementation and what they might need to successfully move forward.

Benefits. Survey participants remarked on three major benefits from the implementation of the word study program. First, they recognized growth not only in the developmental spelling assessment, but in the students’ daily reading and writing. One teacher wrote, “Students were able to apply/recognize spelling patterns in their writing/reading.” Another wrote, “Students improved their spelling and varied their word choice when writing.” Next, teachers reported an increased *word consciousness* for students. One teacher remarked that her students were more likely to talk about and ask about word meanings, especially with homophones. The students understood that words have multiple meanings and spellings and were eager to understand the differences. Teachers reported increased confidence in spelling, reading, and writing, especially for students identified as English language learners. One teacher wrote, “Students are more vocal when they don’t understand a word meaning or how something works in a word.” Another wrote, “Our students became more fluent readers.” Finally, teachers remarked that there was a seamless transition for many students since word study was implemented at many elementary schools. Teachers referred to the instructional routine “as a comfort” for students as they mastered content. One teacher wrote, “My [English Learners] benefited the most from Word Study. It helped them to understand word sounds and patterns in the English language.”

Challenges. Participating teachers also remarked on several challenges to implementing word study. According to the survey data, the greatest challenge appeared to be the amount of time it took to start up the program – for teachers to learn how to administer, score and analyze the student data, form groups, prepare, and begin to implement differentiated lessons. While many respondents noted that the process of assessment and planning became easier over time, teachers clearly stated that startup time and scoring time as their greatest challenges. One teacher wrote, “The time needed to assess 65+ students was very demanding. It consumed planning time and personal time, in order to meet expectations” and another wrote “Time consuming in the beginning with giving/grading DSAs (Developmental Spelling Assessments), then grouping, and then finally starting and teaching sorts.”

A shift to managing and teaching small groups also presented as a challenge for many of the sixth-grade teachers. One teacher wrote, “In two of my classes, I co-teach with a reading specialist so we could divide and conquer, but I have no help in my other class so planning and spending adequate time with each group was always a challenge.”

Finally, sixth grade teachers in the pilot expressed discomfort with their own lack of knowledge of the spelling continuum and viewed this as the work of elementary teachers and

The Science of Reading and early literacy are not only the domains of the primary grades but for any student learning to read, write, spell, and understand vocabulary. We must teach the students before us, based on student assessment, regardless of grade level standards, curriculum, instructional programs, or school focus.

reading specialists. One teacher wrote, “There are also struggles from the fact that I, as a secondary English teacher, am not trained in how to teach reading,” and another wrote, “I felt like some sorts I could teach without much prep [preparation], but others I had to practice and learn more about.”

Shifts in Thinking and Practice. Teachers also recognized shifts in thinking over the course of the implementation. As teachers recognized their students’ growth, confidence, and increased word consciousness, they valued the instructional time spent on the foundation of word knowledge - a continuum of phonology, orthography, and morphology. One teacher wrote, “The initial set up of the program with students took some time, but overall, I found it to be rather easy for routine and independent tasks.” Another teacher wrote, “The system actually works! The amount of students we saw increase in spelling and word study implementation during reading was great!”

Support for Teachers. As we consider how to support teachers, insights from the surveys suggest the following four actions.

1. *Provide more support in scoring.* Middle School teachers traditionally serve from 60-150 students and qualitative scoring takes time. It may be possible to offer professional development to other staff members in the scoring process and provide support and/or to explore having administrative support for entering the scores into electronic spreadsheets, which makes grouping and progress monitoring more efficient.

2. *Focus on deepening teacher’s content knowledge of phonics, orthography, and morphology.* Several teachers expressed concern about lacking foundational knowledge and although each teacher was provided with lessons and talking points regarding the underlying generalizations in spelling, it may be beneficial to facilitate professional learning to increase confidence in implementation.

3. *Model and provide professional learning on differentiated, small group instruction in spelling and other areas.* While middle school teachers do use small groups, they are not as accustomed to weekly processing for differentiation and targeted instruction.

4. *Consider providing more intensive professional learning.* Professional learning should occur before implementation instead of simultaneously facilitating the learning during full-scale implementation.

Limitations of the Pilot Study

There are several limitations to the study described here. First, pre- and post-test statistics were not analyzed for a specific cohort of students – such as those students that were assessed in the fall, experienced the entire program of instruction, and were reassessed in the spring. As the Office of Secondary English and Reading, we were interested in the effects on all students in the school and have reported these results. Second, we were unable to quantify the fidelity of implementation. Approximately 60 educators including classroom teachers, English language learner teachers, and special education teachers participated in the pilot. Future exploration will include measures to quantify teachers’ degrees or quality of instruction across schools. A third question lingers, which is “To what extent might instruction in developmental spelling affect reading and vocabulary acquisition?” While there are studies which address this question, our pilot study did not explore this aspect. We find that it would be a worthy question for future research in the district as administrators and teachers are often most focused on the overall outcome of reading achievement and specifically meeting or exceeding the benchmarks established by the Standards of Learning.

Concluding Thoughts and Future Research

It is our hope that schools will embrace explicit instruction in word study for all students, based on assessment. It is critical well beyond the primary grades. Given the challenges of the past two years with the pandemic and distance learning and the renewed focus on early literacy, we must not neglect older students who are dependent on this knowledge to read and write well. The preliminary data in our pilot suggests that students may accelerate learning and close gaps in word knowledge with intentional, assessment-based instruction. Our public school system plans to increase the number of schools implementing word study in the new school year for a total of 11 schools in the sixth grade. Two Title I middle schools plan to expand the instruction into classroom study in seventh and eighth grades.

The Science of Reading and early literacy are not only the domains of the primary grades but for any student learning to read, write, spell, and understand vocabulary. We must teach the students before us, based on student assessment, regardless of grade level standards, curriculum, instructional programs, or school focus. Word study is essential to developing critical readers, writers, and spellers.

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Reading Research Recap: Summaries of Five Research Studies

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The science of reading (SOR) movement has re-centered attention on the importance of teachers knowing the research base that informs, grounds, and guides our practices. Unfortunately, however, it is difficult for practitioners to keep up with the research. One obstacle is time: with thousands of research articles published a year—spanning journals in neuroscience to educational psychology to elementary education—it is impossible for anyone to keep up with the latest recommendations and practices. Another obstacle for practitioners is access: even if someone devoted an hour a week to reading research, most articles are behind a paywall and inaccessible without paying exorbitant fees.

How, then, do teachers keep up with the “science” of reading? One might be tempted to circumvent reading the research and instead rely on programs and practices promoted by certain organizations on social media. We caution against such an approach. On occasion, practices are advanced without a strong evidence base. This holds true for many recently promoted activities and techniques, including phonemic awareness instruction without print (see Clemens et al., 2021) and the teaching of syllable types (see Kearns, 2020).

It’s critical therefore that teachers remain informed about what researchers are finding (Goodwin, 2022). Thus, for a teacher to really be in step with the *science* of reading, they need to be consuming the research. The purpose of this article is to provide a research recap of five recent articles that we think are valuable to understand. We chose articles that we think hold immediate implications for practice and that shed key insights given current conversations around reading. We summarize them and present their implications. Our goal in writing this is to make the “science” of reading accessible to teachers and specialists and we end with some

favorite resources for teachers interested in furthering their knowledge of reading research.

Phonological Awareness

Brown, K. J., Patrick, K. C., Fields, M. K., & Craig, G. T. (2021). Phonological awareness materials in Utah kindergartens: A case study in the science of reading. *Reading Research Quarterly*, 56 (S1), S249-S272.

What did they do?

Brown and colleagues set out to understand the alignment between commercial phonological awareness (PA) curricular materials and the research evidence of experimental and quasi-experimental comparison studies. They achieved this by conducting a content analysis of the K-6 materials (both core and supplemental) used in all of the Utah School Districts during the 2019-2020 year.

What did they find?

Their first finding was that components of phonological awareness instruction was included in curricula. In fact, they found that 100% of the districts provided commercial materials related to phonological awareness instruction. The most widely used program, which was available to 50% of Utah kindergarten students and is used in at least 25 states, included 5 minutes of daily instruction at the phoneme level and 5 minutes of twice-weekly instruction of larger units. In all, the program included 22 different PA tasks, across phoneme and larger unit levels (e.g., syllables) and spanned over 33 weeks of instruction. The most widely used supplemental program, which was available to two-thirds of Utah kindergarten students and is used in more than 5,000

school districts across U.S., involved 10-12 minutes of daily instruction. In all, the supplemental program included 32 different PA tasks.

Both programs placed PA at the center of the kindergarten curriculum, however they varied in terms of their emphasis on tasks. The core curriculum focused on an average of 4.5 different tasks per week, assigning 2-3 tasks each lesson. The supplemental curriculum, on the other hand, focused on nine different tasks each lesson.

Neither program included manipulating letters for phonemic awareness. The core program included a phonics strand that often matched up with the phonemic awareness component, but it was not always the case. The supplemental program recommended the use of letter cards and suggested teachers integrate the tasks with their phonics scope of sequence, but this was not explicitly provided.

What does this mean for teachers?

Although this study focused on the state of Utah, the programs analyzed are used in many other states, including here in Virginia. Though popular and widely touted, both programs came up short in terms of their connections to both developmental theory and the research base.

Given the recent push for the adoption of commercial materials--particularly as they relate to phonemic awareness--understanding these curricula in depth proves helpful for those currently considering reviewing possibilities for text adoption. Overall, both the core and the supplemental programs came up short on the synergy and integration of phonological and orthographic development, requiring tasks not aligned in a developmental continuum and not using letters to explicitly connect the PA tasks to reading/spelling.

It is important for school leaders, therefore, to cast a critical eye on materials when considering them for adoption and to acknowledge that no program is perfect. Specifically, both programs brought in PA tasks that are likely too difficult for most K students to meaningfully grasp and transfer without having sufficient word reading abilities. Both programs allotted considerable instructional time to a suite of PA activities rather than focusing intensely on the two highest-leverage tasks: segmenting (for spelling) and blending (for decoding) of individual phonemes. Further, the advanced tasks (such as substituting, deleting), when done oral-only, have not been supported by decades of research as necessary for reading and spelling development. Finally, neither program incorporated tasks that were differentiated into small-groups to target the specific PA needs of students.

The study holds direct implications for teachers, too, who may be tasked with using one of these curricula, but who recognize that tasks are sometimes too difficult and that some students need additional differentiation and support. This evaluation, thus, suggests that teachers might sometimes need to adapt the curriculum to meet the needs of their students. Because the study revealed flaws in commercial programs, and because countless research studies assert the importance of teacher knowledge, it is important that schools continue to work to build teacher knowledge rather than just put all of their faith in a curriculum.

Phonics

Roberts, T. A. (2021). Learning letters: Evidence and questions from a Science-of-Reading perspective. *Reading Research Quarterly, 56*, 171-192.

What did they do?

This article is based on not one, but four, studies conducted by Roberts and colleagues to discern the features of letter instruction that produced the best results for 3 and 4 year-old children (N = 342). In all the studies, children were randomly assigned to either the alphabet instructional treatment of interest or a no treatment control. At least 30% of participating children were Dual-Language Learners (DLLs). All children worked with instructors in small groups meeting 10-20 minutes for four days per week for 7-10 weeks.

The studies tested many different questions about alphabetic instruction. Several of the studies tested "paired associate" learning--a basic learning psychology principle involving "quickly pairing the two items, repeating the pair, limiting extraneous information between the presentation of each item, and providing sufficient practice (p. 3)." Other questions addressed: a) if learning letter names with the sounds in the names (Bb, Jj) provided a benefit; b) if teaching articulation referencing (mouth moves) for sounds influenced learning; c) if writing letters added value to instruction; d) if mnemonic embedded letter forms were beneficial (e.g. an apple embedded in letter Aa to remind students of the sound); e) if children learned letters better in decontextualized (letter by itself) or contextualized treatments (stories, people's names, or meaningful words); and f) many other features not mentioned in this brief review.

What did they find?

The series of studies have many important findings but in all the studies there were effects for the paired associate learning approach, a simple, routinized sequence used daily.

There has been evidence that children learn letter-sounds for names with the target sound at the beginning of the name (e.g., Bb, Jj) (Share, 2004) but in this study there was no benefit for learning letter sounds in those types of letters. Writing letters did add value to instruction as did teaching children the place and manner of articulation of sounds using mirrors and mouth pictures. The mouth moves were highly beneficial to DLLs. Further, as found in previous studies (e.g., Shmidman & Ehri, 2010) letter forms with embedded pictures to remind children of sounds did have benefit. Importantly, the letter itself remained the most salient and noticeable element of the mnemonic with pictures lightly drawn in around the heavily outlined letter. Lastly, the results showed that instruction that decontextualized letters was preferable to teaching letters and sounds through stories, names, and other meaningful words. One interesting omission from the instructional treatment is any explicit phonemic awareness.

What does this mean for teachers?

The series of studies reinforced the importance of small groups, simple routines, and repetition, with particular focus on instructional language. The consistency of the paired associate learning sequence and consistent, simple language is not typical in many classrooms where teachers inadvertently bombard young children with directions, questions, and a diversity of labels for the same things. Teachers should use a clear system and routine for instruction involving showing the letter form, naming the sound, and asking children to repeat it. This is especially important if working with DLLs. All the instructional language used consistent words and short sentences to support DLLs. Teachers should be careful to use the same words and should include gestures, wait time, and watching to ensure children's attention is on the target content.

In four other areas, the results were particularly helpful. First, lessons kept children actively *doing* with a high number of *individual* practice items, using concrete, simple materials. Materials were managed *without losing instructional time in distribution or transition*. Children played games in which they had letter cards, used mirrors, wrote letters, and "read" letters in books. Second, mouth moves/articulatory gestures followed a simple sequence: a) showing a chart with mouth parts; b) labeling the tongue, mouth, teeth, throat; c) showing a mouth picture for the sound; d) modeling the sound exaggerating the mouth moves; e) using mirrors to ask children to say the sound while watching their mouth moves (2x). Third, when the goal is learning letter-sounds, instruction should present letters *by themselves* in decontextualized ways so that children can clearly see the visual features

of the target letter. Fourth, letters with simple characters lightly woven around a clear, bold letter were useful in helping children to remember sounds. Character cues should not be more salient than the outline of the letter form itself.

Word Recognition and Word Meaning

Austin, C. R., Vaughn, S., Clemens, N. H., Pustejovsky, J. E., & Boucher, A. N. (2021). The relative effects of instruction linking word reading and word meaning compared to word reading instruction alone on the accuracy, fluency, and word meaning knowledge of 4th-5th grade students with dyslexia. *Scientific Studies of Reading*, 1-19.

Dr. Linnea Ehri observed that learning to read words is more than just learning to match sounds to letters; it involves orthographic mapping: "the formation of letter-sound connections to bond the spellings, pronunciations, and meanings of specific words in memory (p. 5)." So, learning to read words involves more than just learning to match sounds to letters, such as in phonics instruction. Learning to read also requires that we integrate that letter-sound knowledge with words' meanings (Ehri, 2014; Perfett & Stafura, 2014). In fact, the brain's reading network builds on hubs for words' pronunciations and meanings in our existing oral language network. As we learn to read, we must graft in knowledge about how letters and spellings map onto those pronunciations and meanings, which results in a new hub: the letterbox or visual word form area that is devoted to processing spellings (Dehaene, 2009; Seidenberg, 2017). In other words, strong connections between all three of these aspects of words (spellings, pronunciations, and meanings) characterize skilled readers' reading.

How, then, do teachers keep up with the "science" of reading? One might be tempted to circumvent reading the research and instead rely on programs and practices promoted by certain organizations on social media. We caution against such an approach. On occasion, practices are advanced without a strong evidence base.

What did they do?

Austin and colleagues (2021) set out to compare the effectiveness of typical phonics instruction to phonics instruction plus meaning in 4th and 5th graders with word reading difficulties. The children experienced 12 daily one-to-one lessons that lasted 45 minutes each. In the phonics condition, students were taught letter-sound correspondences within 10 academic words (e.g., capture) and how to use that information to decode the words for 25 minutes, then they spent 20 minutes reading high frequency words. Students in the phonics + meaning condition spent 25 minutes doing the same types of phonics activities with 10 academic words, and then they spent 20 minutes of each lesson learning the meanings of the words.

What did they find?

They measured students' word reading accuracy, fluency, and vocabulary knowledge for the taught words at the end of each lesson and at posttest after all 12 lessons were completed. In both immediate and posttest assessments, the phonics + meaning instruction produced significantly higher accuracy, fluency, and vocabulary for the 4th-5th grade students with word reading difficulties.

What does this mean for teachers?

Meaning matters for word recognition instruction and helps to strengthen connections among words' spellings, pronunciations, and meanings in children's memories, improving their reading skill. Teachers should explicitly teach grapheme-phoneme (letter-sound) correspondences (i.e., phonics), and they should also integrate teaching of words' meanings into phonics instruction to support orthographic mapping of taught words.

Comprehension

Filderman, M. J., Austin, C. R., Boucher, A., N., O'Donnell, K., & Swanson, E. A. (2021). A meta-analysis of the effects of reading comprehension interventions on the reading comprehension outcomes of struggling readers in third through 12th grades. *Exceptional Children*, 88(2), 163-184.

What did they do?

The authors examined the literature around reading comprehension intervention for 3rd through twelfth graders and determined that research has shown that literacy interventions address one or more of the following approaches:

- a) Strategy Instruction: teaching specific strategies such as identifying text structure, stating the main idea, making inferences or drawing conclusions, restating facts or ideas from the text, or making predictions.
- b) Supporting Background Knowledge: explicitly teaching students words from the text or providing topic-specific information to support students' background knowledge prior to reading.
- c) Metacognitive Approaches: teaching students when and how to use a specific strategy such as self-monitoring or keeping track of one's own behavior during reading.
- d) Instructional Enhancements: graphic organizers or technology (for example, hypermedia vocabulary enhancement) that help students organize information and relate and understand concepts

The authors identified a gap in the research around how much each of these individual approaches is associated with growth in comprehension for older struggling readers. In response to this identified gap, the authors conducted a meta-analysis of existing reading intervention studies, focusing on studies that isolate one of these four components. The goal was to identify the effects of the individual component on reading outcomes for older readers and determine if there were differences across grade levels or reading measure used, for example, standardized tests versus researcher-created assessments, which may be more open-ended or formative.

What did they find?

The authors found 64 studies that isolated either strategy instruction, supporting background knowledge, metacognitive approaches, or instructional enhancements. These studies were conducted with a total of 6,349 participants, two thirds of which were in elementary school and approximately one third in secondary school. The participants had a range of socio-economic backgrounds and the majority identified as either at-risk for reading difficulty or having some type of learning disability. The greatest gains in comprehension across interventions were seen on researcher-created measures of comprehension and significantly fewer gains were seen on standardized comprehension tests. No differences were found in gains across grade-levels.

The authors found that interventions that supported students' background knowledge or focused on strategy in-

struction had the highest impact on readers' comprehension. In particular, the most helpful strategy was supporting students in identifying the gist or main idea of a passage. Supporting students in making inferences, retelling, or making predictions were also highly effective in increasing students' comprehension. Supporting students in identifying the text structure (identifying the type of passage, such as compare contrast) had the smallest effects.

Studies that utilized metacognitive approaches or instructional enhancements were not associated with gains in reading comprehension ability. There were no differences across the type of metacognitive approach, thus all metacognitive approaches equally had little impact on readers' comprehension.

What does this mean for teachers?

Teachers should support students in using their background knowledge or by building relevant topic knowledge immediately prior and throughout the reading comprehension process. Knowledge building should be brief and interactive and focus on the most relevant topic knowledge that will enhance students' text understanding. Activating readers' knowledge and focusing on teaching vocabulary in texts are powerful ways to support readers' comprehension.

Teachers should also engage in brief strategy instruction, such as helping students identify facts or the gist of a text as well as help students retell what happened, or make predictions. It is important to note that strategy instruction as well as knowledge building should occur in the service of making meaning of the text. For example, the focus of instruction should not be on making an inference, rather, it should be on how to make an inference to improve understanding of the text as a whole. This can also be combined with supporting students in learning from texts to provide authentic experiences reading alongside teaching strategies and building knowledge.

Additionally, this study tells us that comprehension instruction supports students across all grade levels, even in elementary school. Additionally, this study highlights, as many others have, that it is hard to move the needle on comprehension on standardized assessments. As such, teachers should also examine formative measures, such as students' writing about texts they read, to learn about the efficacy of their approaches as well as to assess students' text understanding.

Reynolds, D. (2021). Scaffolding the academic language of complex text: an intervention for late secondary students. *Journal of Research in Reading*, 44(3), 508-528.

What did he do?

Although many scholars have recommended teachers abandon leveled texts (at the elementary level) and abridged or easier texts (at the secondary level), few have explicitly unpacked how teachers can support students with difficult texts, particularly ones that span disciplines and contain considerable academic language. In this research study, Dan Reynolds designed an intervention with 11th graders to see what types of scaffolds would support their comprehension of complex texts. There were 82 intervention students who worked in small groups with a tutor (either a teacher, college student, or graduate student) during their 37-minute advising period. The comparison group received a computer-based ACT prep program.

The tutors were trained for 2 hours and were provided with lesson plans, designed by the researcher. Each lesson included a big question and centered around a short, complex text, such as a Stephen Jay Gould essay or an excerpt from a Joseph Ellis book about Thomas Jefferson. The lessons were necessarily standalone in nature, with texts of 700-800 words in length and aligned with the ACT's framework for text complexity. There were eight lessons altogether and students attended an average of 5.7.

The focus of each lesson was comprehension: students were tasked with orally paraphrasing the text after reading. When students struggled to paraphrase the text, the tutors had a list of possible scaffolds to use to support comprehension. In all, Reynolds created a taxonomy of 10 groups of scaffolds and the tutors received a list of these groups with actual prompts of what to ask or say. For example, some scaffolds addressed the vocabulary and language in the text (i.e., *morphology*: "Ask student to mark morphemes;")

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academic register: “What connotation/feeling does this word have?” p. 512), whereas other scaffolds addressed the text’s syntax or structure (i.e., *logical connections*: “What does this transition word (e.g., nevertheless) tell you?”; *syntax*: “How do the different parts of the sentence work together?”, p. 512). Still, other scaffolds called on students to reread the text for understanding or had to do with providing necessary background knowledge or motivation.

What did he find?

Students who received the intervention outperformed students in the control group. In fact, participating in the intervention predicted a 1.2 point increase in the ACT reading comprehension subtest-- a significant finding. Of the different types of scaffolds employed, the use of two types of scaffolds predicted higher outcomes than others. These were the syntax scaffolds (e.g., “How do the different parts of the sentence work together?”) and the structure scaffolds (e.g., “What is the structure of this text?”). The rereading scaffold (“Tutor rereads sentence or asks student to reread”) had negative effects.

What does this mean for teachers?

Students receiving the intervention significantly outperformed students who did not receive it-- and the intervention was rather brief. Moreover, Reynolds pointed out that the gains made in these sessions (totaling approximately 4 hours) were greater than some previous researchers speculate students make in a year on a standardized test. Given the significant gains in such a short time, this study holds promise for teachers who are looking to improve students reading comprehension. The study includes specific prompts that tutors used that led to improved comprehension of

We recognize that it is difficult to keep up with research, but hope that at least one of these summaries might invite readers of this article to make a change or tweak to their instruction. Knowing what researchers are doing and have established is an important starting point for any teacher who wishes to be aligned with a “science” of reading.

complex texts. Teachers can adopt some of these prompts when working in complex texts with students to facilitate comprehension. Although designed with 11th grade students in mind, the suite of interactional scaffolds presented by Reynolds in this article could easily be adaptable for elementary use and likely would hold promise across other content areas as well. One immediate application could be for a teacher to print out several of the prompts and have them printed on a bookmark or in a visible area. When they notice students struggling to paraphrase or summarize text, the teacher could try to use scaffolds to see if that helps the student. Given his findings, teachers might want to start with prompts related to text structure and syntax.

Concluding Thoughts

For this paper, we selected five studies from the past year that we think hold significant implications for teachers. In the first study, we presented a summary of an extensive case study of popular, commercialized phonemic awareness programs. Though the study has many implications--particularly for those charged with adopting curricula-- a key takeaway directly related to teachers is that no program is perfect and that teachers will sometimes need to adapt the commercial programs when tasks are too difficult. Teachers should also consider when instruction is best delivered in a more targeted manner through differentiated small groups.

The next paper we summarized, which included four phonics studies, also highlighted the value of small groups. The paper highlighted the importance of systematic instruction, clear language, and repeated practice to ensure that students learn. In addition, the study also highlighted value in teaching articulatory and mouth gestures when working on letter sounds-- and that this technique was particularly helpful for dual-language learners. Our third paper turned to phonics instruction with 4th and 5th grade students struggling with aspects of reading. In that study, students who learned the meaning of the word alongside phonics instruction outperformed those who did not. The immediate implication for teachers is clear: teach meaning of words alongside the decoding. Students’ accuracy, rate, and vocabulary improved as a result.

The first three studies addressed some of the foundational skills of reading that are necessary--but certainly not sufficient --for comprehension. Our second two studies focused on comprehension: the first study was a meta-analysis of previous research on comprehension with 3rd-12th graders; and the second study was an intervention study examining how scaffolding might improve students comprehension of complex texts. The results of the meta-analysis

underscored the importance of comprehension instruction. Specifically, teachers should attend to students' background knowledge and should support students to identify the gist of what they are reading. Additionally, strategies such as inferring, retelling, and predicting led to increased comprehension. The intervention study revealed that providing specific scaffolds to students, when they are struggling to make sense of complex text, can lead to improved comprehension both of that specific text, but also of comprehension on a standardized measure.

We recognize that it is difficult to keep up with research, but hope that at least one of these summaries might invite readers of this article to make a change or tweak to their instruction. Knowing what researchers are doing and have established is an important starting point for any teacher who wishes to be aligned with a "science" of reading. We hope the articles summarized in this manuscript are useful for you and also include some additional sources we think are helpful in Table 1.

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Table 1 - Helpful Resources for Those Interested in Keeping Up with Reading Research

The Reading Forum	https://thereadingforum.com/
IES Practice Guides	https://ies.ed.gov/ncee/wwc/practiceguides
IES videos	https://www.youtube.com/c/InstituteofEducationSciences/videos
VDOE videos	https://www.doe.virginia.gov/instruction/english/literacy/index.shtml
Reading Rockets	https://www.readingrockets.org/teaching/reading101-course/welcome-reading-101
Text Project	www.textproject.org