Indiana Literacy Journal

Volume 50, Issue 2, Spring 2022

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A Message from the Chair of the Board….

Thank you for taking the time to read the Spring 2022 edition of the Indiana Literacy Journal. I'm thrilled that so many passionate and dedicated professionals were able to contribute their thoughts and ideas to this latest edition.

The theme of this spring edition is focused on taking the first steps in making change in the literacy classroom. To that end, there are amazing articles highlighting different steps literacy professionals can take regarding topics that take a little bit of nudging, take a little bit of research, and might even be a little uncomfortable but ultimately worthwhile.

Rebecca Harper and Darla Linville start this issue by highlighting the use of book clubs as a safe space for literature about LGBTQ+ and the debates surrounding difficult and sensitive topics. Amy Carney Heath's article examines the use of research cycles to promote authentic literacy opportunities in the classroom and the importance of integrating different content areas into literacy. Jennifer Snow helps expand the idea of literacy professionals taking charge of their own professional development to meet their own needs.

Finally, there are two articles surrounding a hot topic in literacy: Science of Reading. Stefany Bragg provides a first-person account of how learning about Science of Reading has changed her classroom practice and her student learning outcomes. To provide another perspective on Science of Reading, Deborah Corpus and Ann Giddings promote the idea of building a teacher's self-extending system to become informed practitioners.

We also have a visual artifact from some kindergartner's who were studying Aboriginal storytelling as part of their greater world cultures unit. Thank you for sharing, Ms. Argus's kindergarten class!

I hope you enjoy the articles in this latest edition, and I would encourage you to check out the Call for Proposals for the Fall 2022 edition. We are excited to be returning to an in-person setting for our 58th annual state conference on October 8th, 2022 at Noblesville High School. Our Conference theme is Celebrating Diverse Voices and we welcome articles that address this theme.

Thank you for your continued passion towards promoting literacy in the state of Indiana.

Benjamin Boche

Indiana Literacy Journal

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

For our Fall 2022 issue, we welcome submissions for the following categories below and invite authors to consider writing articles **about Celebrating Diverse Voices**, our 58th annual state conference theme, held on October 8th, 2022. Throughout history, society has relied on traditional dominant voices to tell stories. In a way, stories have been comprised of only a few patterns of experiences—like a simple quilt. In reality, society is comprised of rich lives full of colorful experiences that, when woven together, tell a complex, harrowing, and beautiful tale of humanity. Please join us in celebrating all voices and experiences as we explore diverse stories, learn effective pedagogy, navigate criticisms, and support our various learners.

Deadline for submission: October 15th, 2022

Bridging Research and Practice Articles

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

Voices from the Region

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

Visual Artifacts and Graphics

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

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

Reading Between the Lines: Book clubs as a safe space for literature about LGBTQ+ characters

By Rebecca G. Harper, Ph.D. & Darla Linville, Ph.D.

Many adults are concerned about children's and adolescents' reading habits. For some adults, this is because of what young people are reading, as evidenced by recent and recurring curriculum debates in state legislatures (Schwartz, 2021). For others, it is because recreational reading has declined for children and adolescents. Adolescents in the United States are among the least engaged readers in the world (OECD, 2011), with many students admitting that they only read the material assigned in class (National Endowment for the Arts, 2007). In recent years, reading habits of school children have declined as they spend more time on technology completing digital assignments and interacting on social media platforms.

While students may be reading fewer traditional texts, like bound, hardcover books, in reality, many students are reading and writing a variety of texts daily. These might include ones that are digital in nature, such as social media, blogs, and internet sites, but also traditional texts that they have selected for themselves. This type of recreational and digital reading offers students opportunities to interact and engage with texts that are part of their worlds all while capitalizing on student interest and their prior knowledge. Many times, the texts students choose to read independently and on their own time are ones that have relevant material and characters that students can readily connect with.

Schools have a role to play in developing students' independent engagement with literature. Independent reading offers a number of benefits such as improvement in vocabulary, comprehension, and fluency, the creation and building of background knowledge, and increase in self efficacy and agency with regard to reading (Krashen, 2014). Independent, *in-school* reading increases the likelihood of students reading outside of the classroom (Allington, 2017; Krashen, 2014; NCTE, 2019). Students who engage with high quality literature in the classroom from classroom libraries (experts recommend an average of 10 books per student in a well-stocked classroom library) are more likely to read outside of school (Catapano, Fleming, & Elias, 2009; Fractor, Woodruff, Martinez, & Teale, 1993; Reutzel & Fawson, 2002). In fact, students who have access to diverse books read 50-60% more than their peers (ILA, 2018). Choice and diversity among titles are especially important for struggling readers and underrepresented student populations. Research indicates that when students have a variety of books readily available to them and are allowed choice and avenues for dialogue and discussion amongst their peers, many students will read widely and willingly (Brooks & Frankel, 2019; Guthrie & Humenic, 2004; Ivey & Johnston, 2013).

Novels offer students an opportunity to tackle difficult topics and issues in a safe space. Engaging in a discussion about the contents of the stories found in novels helps young people further elaborate their ideologies, beliefs, and positions. Freire (1970) argued that dialogue has transformative power for individual identities, identity construction, and collective action. His premise of hope that "can be carried out in communion with others" (Freire, 1970, p. 91) presupposes that creating this community through dialogue can only occur when students are able to "speak their world" (Freire, 1970 p. 88). By naming their realities and situations as true participants in the dialogue, they can acknowledge and transform their worlds. For some students, their realities may be different from many of their peers or may include challenges that they find difficult to openly discuss. However, when teachers utilize novels with characters that mirror students, they offer opportunities for students to make connections and develop conversations about difficult and/or troublesome issues. In many instances, students can channel their feelings through characters in literature, thus creating a sense of anonymity, yet still offering a space for discussion centered around difficult topics (Harper, 2021). When students are engaged in reading, they are able to think through character decisions, analyze and contemplate problems presented in a character's life, navigate tensions between difficult situations and decisions, all under the guise of a literary experience

or a transactional reading experience (Rosenblatt, 1983). Adolescents readily engage with characters that are relevant to them and mirror life situations and dilemmas that they are familiar with.

While numerous titles have been published that address contemporary and social issues, few classrooms utilize them as primary reading sources (Lewis & Docker, 2011). This can be partially attributed to the fact that many of the topics that students find personally relevant may involve content that some adults find difficult, such as substance abuse, sexuality, homelessness, race, and physical abuse. While many educators are aware of what Moll and colleagues (2006) describe as rich "funds of knowledge" that students possess, it is those "dark funds of knowledge" (Zipin, 2009) that many teachers wrestle with. For many students, these dark funds include knowledge of drug abuse, physical violence, mental health issues, or other sensitive matters. Yet, while students may be presented with challenges or may possess identities that aren't necessarily mirrors of the sanitized version of adolescence that is often described as the norm, these experiences are just as valid.

Utilizing texts with diverse characters helps aid in the creation of an inclusive classroom and offers additional opportunities for students to see the world through several lenses. While Style (1996) described the need for curriculum to serve as both windows and mirrors, Bishop's (1990) notion of texts serving as windows, mirrors, and sliding glass doors offered us insight when choosing the texts used in this study. Window texts allow students to see the world through a window, almost like viewing a character and his/her world and experiences through a windowpane. These types of texts allow readers to see glimpses of a world that may be very different from the one that they have experienced. Correspondingly, mirror texts are ones in which readers see much of themselves in the character's actions and experiences. In other words, it is like looking in a mirror and seeing similar experiences and characteristics. Yet texts also serve as sliding glass doors, offering readers the opportunity to step into a character's world and take part in the imagined experiences and world the author has created. For students to have a comprehensive understanding of the complex nature of characters, a mixture of texts should be employed in the classroom because they allow students to not only see the world through different eyes, but also through connections and relationships they can build with characters due to similarities in background, situations, and experiences.

Historically, lesbian, gay, bisexual, trans, and queer or questioning (LGBTQ) characters are underrepresented in literature and even more so in the required reading of many middle and high school curricula. While teachers may want to incorporate books with diverse characters in their curriculum plans, some districts have extensive approval processes for the adoption of new required texts which can discourage teachers from including these books in their current instruction. Affirming LGBTQ identities in classrooms and educational settings is pressing, as a significant amount of research has shown that anti-LGBTQ bias can negatively affect LGBTQ students and their academic success including lower attendance rates and GPAs, as well as significant links to depression and substance abuse (Kosciw et al., 2016). Excluding the identities of LGBTQ individuals creates the message that they do not exist or are somehow wrong or deviant (Linville, 2017).

One way that teachers can incorporate books with LGBTQ characters is through optional book clubs. Because these are not mandated instructional events, teachers can utilize them in extracurricular settings where the approval process may not be so laborious. Of course, other methods for incorporating books with LGBTQ characters might consist of the inclusion of the books in classroom libraries, recommended reading lists, or options within larger units of study which allow for students to make independent choices regarding their reading. However, if teachers are unfamiliar with titles that include LGBTQ characters for their grade level, they may not be sure how to begin adding these materials into the extra-curricular or recreational reading selections in their classroom or school.

In order to investigate the potential for teachers and other school personnel to use LGBTQ young adult novels in our local districts, we advertised a book club for teachers that would utilize books that were LGBTQ friendly and inclusive. Our titles included only ones that had LGBTQ characters and topics. Through intramural grant funding, we purchased titles for all participants of the book club. We advertised our book club through emails and listservs, as well as flyers that we distributed in our undergraduate and graduate level classes, as well as at local schools. Ultimately, the Reading Between the Lines book discussion group brought together twelve teachers and

other school personnel, including school counselors and library media specialists. The participants included four Black women, six White women, and two White men. In monthly meetings, participants discussed curricular possibilities for the stories, as well as adults' understandings of non-heteronormative sexualities and gender creativity among young people in their schools, and how they understood adults' roles in making those young people feel welcomed and safer in schools. The book discussion meetings were audio recorded, and the recordings were transcribed so that the researchers could conduct close readings of the discussions to interrogate the nuances in the questions and responses that participants offered to the group. In addition, researchers completed observational field notes from the interview sessions. Participants elaborated on the challenges, barriers, and successes each had in utilizing texts such as these, as well as other related LGBTQ stories.

During the study, we explored the benefits that the inclusion of LGBTQ-themed book clubs with middle and secondary students offered as well as the challenges presented with the inclusion of diverse, and sometimes controversial literature. All teachers in this study indicated that incorporating books with LGBTQ characters was important and needed in schools. However, some of the participants indicated that inclusion of the reviewed titles was more difficult in the classroom, unless they were used as self-selected books for independent reading. While some indicated that students in their schools had access to books with LGBTQ characters, participants admitted that access wasn't always easy. Some of the books with LGBTQ themes were held in special closets or rooms behind the circulation desks so that students had to specifically request the material, thus creating a barrier for access. Others noted that when LGBTQ books were placed on shelves in media centers or classroom libraries, they "walked away" either with students who read them and didn't choose to return them or with teachers who removed them because they did not agree with the content presented.

Media specialists indicated that when discussing the integration of LGBTQ books into their libraries, they often heard other media specialists saying they were afraid to put those books on the shelves in their libraries. Others confirmed the special shelves behind the circulation desks that held the LGBTQ books that other participants in the study had seen. In order for students to check out the books, they had to ask the desk attendant for them and in other schools, a signed parental permission form was required before a student could check out the book, which participants indicated was wrong for multiple reasons, including the potential that the form would "out" the student. All participants acknowledged the potential impact on the perception of these titles. "It makes it feel like these are bad books," one participant remarked.

Another participant talked about how students might be embarrassed to check out a book that had LGBTQ characters in it or dealt with topics that were sensitive, such as STDs or sex, so she placed some books with these topics on carts for students to take. These books were there on an honor system; students could take them without officially checking them out and simply return them when they were ready. Because these carts were not labeled with a specific genre and different types of books were intermixed on the carts, access to titles with sensitive subjects was made easier for students.

The media specialists in the group indicated that they could justify inclusion of books with controversial topics to district and school administrators if they met the criteria and guidelines for book selection which often included positive reviews from reputable sources and/or award nominations. Books that participants indicated difficulties with often included substance or physical abuse, sexual assault, the occult, and profanity. Yet, despite the justification of awards and reputable reviews, they often were approached by colleagues or administration who questioned their inclusion in the school library. One participant had a colleague who would take books off the shelf that had LGBTQ characters in it and refuse to return it because she did not believe students should be exposed to the content.

Along with issues regarding access, our participants indicated that there were also challenges with how certain material was addressed in schools. The content taught in schools, and fear about talking to youth about queer identities and sexual practices creates social environs in which queer trans identities are often not recognized formally or informally in classrooms, which was evident in our discussions with participants. Heteronormative beliefs are also codified into law in six states where it is illegal to discuss queer and trans identities and lives (see https://www.glsen.org/activity/no-promo-homo-laws). The prevalence of these beliefs was evident in book club discussion

as one participant who had taught health in the past, recalled mandates from her district and state. "They were very specific in the health standards for seventh grade that the only mention.... of homosexuality was that it was basically another good way for STDs to be spread, " one participant remarked. Other participants described the absence of Gay Straight Alliances (GSA) at their schools or difficulty in the creation of groups. One recalled a conversation with a friend who asked her about the club at the high school that "taught people to be gay."

Because access to LGBTQ-inclusive literature can be so challenging, and the representation of LGBTQ identities so pathologized in schools, participants in the book club imagined ways to provide students opportunities to read and discuss these texts. Participants agreed that the inclusion of books with positive examples of sexualities, identities, and intersectionality offered a new lens through which they might imagine another individual's experiences. Adults in this book club were able to imagine LGBTQ youth relationships with empathy, as they were presented with fictional characters' experiences with sexuality and identity-questioning behaviors (Linville & Harper, 2021). Teachers commented that many of the images students encountered of sex were often perceived as negative and explicit and were easily accessible outside of the media center. The titles used in this group offered another more balanced experience with content and topics that were often deemed too controversial or taboo to discuss. One participant remarked, "It would be good for someone who was trying to figure out their sexuality to be able to read something like [Drama by Raina Telgemeier]," yet many continued to struggle with the reality that obtaining access to the titles was a challenge.

Teachers also viewed the storylines as places where students could find themselves mirrored and envisioned how these narratives could offer opportunities to discuss identities. One teacher described,

I think, if you were to have a conversation with a student who picked [Luna] up and read it, and was a transgender student, the interesting thing would be to ask them if they can think about anybody in their lives that has always been there consistently for them.

In this observation, literature was viewed as the connection between teacher and student, offering yet another layer of support for students who might possess identities that deviate from the heteronormative. In other comments, teachers noted how setting, demographics, and geography served as other methods of connections for students. Many of the teachers in this group were teaching in rural school districts, so books such as *The House You Pass Along the Way* offered other connections aside from LGBTQ themes. Similarly, the representation of different types of families (single parent families, diversity in race and culture, and other non-traditional representations) was well-received by participants. In addition, conversations in this book club addressed the notion of intersectionality and discussions of how individuals' identities overlap and intersect, thus offering another layer in our conversations regarding identities and lived experiences.

Participants viewed the literature as another open opportunity for teachers and other adults to initiate conversations and offer support to youth. These books, and the structure of book clubs allowed the participants to envision supportive communities and outlets for students who are often marginalized. All acknowledged that the discussions and conversations were often difficult to begin and could be considered uncomfortable by many. Some expressed concern over saying the right things, but all believed that these types of discussions were necessary and needed.

As participants returned to their schools with plans to implement diverse books into their media center collections or begin book clubs of their own, many continued to acknowledge the potential for LGBTQ books as lightning rods for controversy. However, there are several approaches and tips that educators can adopt and employ when planning for the inclusion of diverse and sometimes controversial material in their schools.

1. We encourage educators to become familiar with their district, county, and school policies regarding book selection. Determine what policies and procedures are in place for the inclusion of books that are "mandated" and "taught" novels or works of literature versus the policies and procedures for classroom library materials, media center inclusion, and self-selected/independent book titles. In many instances, the procedures for

adopting a text that is specifically "taught" in a classroom are more stringent than ones that focus on inclusion and access to a title in a classroom library or media center.

2. Find parental and community support for the inclusion of diverse titles in school settings. Seek out those parents and community members who are allies for LGBTQ youth and/or are themselves LGBTQ and encourage them to attend local school board meetings and other school based assemblies. In some instances, teachers can reach out to book authors who may discuss their work and the inclusion of their books in classrooms, which is something we have facilitated in collaboration with our National Writing Project Site on campus. Conversations with book authors often offer educators additional insights and suggestions for inclusion in schools.
3. Reach out to professional organizations, university partners, and other educational associations for support and guidance. In many instances, professional organizations have valuable information (statistics, research-based materials, fact sheets, etc.) that educators can utilize and distribute to parents, administration, and colleagues. These organizations also can often point educators to additional resources that can be valuable as they plan these types of book club projects.
4. Work with community partnerships/local libraries (Family YMCAs, Boys and Girls club, churches, and other community organizations) to make diverse literature accessible to individuals in the community. If a title is not available in a school or can't be purchased due to school policy restrictions, contact your local library to see if the book could be added to their circulation. Teachers can also work with small grass roots organizations like the Little Free Library (https://littlefreelibrary.org/) to bring small book exchange boxes to neighborhoods without public library access. Local bookstores are often great partners for educators as well as their staff can often offer suggestions for alternative titles in addition to the traditional texts featured in classrooms.
5. When implementing book clubs with students, work with English Language Arts (ELA) teachers to help select pertinent titles. Positioning book clubs as optional by offering them before school, during lunch, as part of an enrichment period, or after school can potentially limit opposition since it is not a mandatory engagement. If possible, connect with authors for book chats, collaborate with educators from other schools, and take part in professional organization continued education for suggestions and strategies to navigate this unique space.
6. Finally, it is important to remember that afterschool, student-initiated clubs are protected by the Equal Access Act that protects groups that might encounter discrimination in schools. This legal protection states that if any student, nonacademic clubs exist, then all student clubs must be allowed (Darden, 2015). Therefore, if schools have any student clubs that are not based on a class or academic grades, afterschool bookclubs to read LGBTQ+ young adult literature will be protected, if students initiate the club. Although this is a moment when school and public librarians are being followed on social media by political groups intending to oust them from their jobs and remove books from the shelves based on "objectionable" content (Natanson, 2022), current federal legislation protects the rights for identity groups to exist in schools.

In the end, the participants and researchers concurred that the value of diverse literature was undisputed. By integrating quality books that address LGBTQ themes, students could begin to see themselves represented in the literary and real world and adults could envision new ways to initiate conversations surrounding these topics. With this in place, literature becomes a vehicle through which teachers and students are offered opportunities for empathizing with diverse characters, thus aiding in the creation of a school climate and culture that is inclusive and safe for all.

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Darla Linville (@DrDarlall) is an Associate Professor of educational foundations and research at Augusta University. She researches discourses of sexuality and gender in schools, and how those discourses affect student engagement in educational spaces. She is currently researching how adults ally with lesbian, gay, bisexual, trans, queer, and intersex youth in out-of-school youth organizations and what adults working in schools can learn from those adult "co-conspirators".

Research Cycles: Upcycling Literacy through Authentic Literacy Opportunities

By Amy Carney Heath

Figure 1. Example of Student Recording Presentation for Step 6 of Research Cycle

Do you dream of creating authentic literacy opportunities for your students? During these opportunities, children use reading, writing, and talking in ways that are situated in the real world (Duke et al., 2006). After a successful year of implementing authentic literacy opportunities as a third-grade teacher in a suburban school district, I reflected on the process that I created: Research Cycles. Through Research Cycles, students chose to learn answers to their own questions. Twenty-seven students with diverse backgrounds, whether in capabilities, culture, socio-economic status, or religion, participated. Students' research included topics like how to code a dance party, how to write a travel blog, how to determine the gender of pine cones, how to grow crystals, and how to give CPR in emergency situations.

After working over a decade in the classroom, I realized that my students loved Science and Social Studies; however, I also realized that we rarely had time to learn these important subjects. We did not have time because we had implemented structural changes in our daily schedules to address recent legislative reforms. The structural changes meant that sometimes students received two to three doses of Reading, Writing, and Math per day. Who has time for Science? Who has time for Social Studies? Not me!

After reflecting on the needs of my students, I realized that I could integrate Literacy into Science and Social Studies through authentic learning opportunities. I tinkered with the idea of creating a system in the classroom. This process led to a routine system that could be repeated again and again. The system that worked for my classroom was Research Cycles. Below, I will define Research Cycles, explain how I taught my students to use Research Cycles, and provide a lesson plan template.

What is a Research Cycle?

What are Research Cycles? Research Cycles include concrete steps for independent student research and learning. These steps include questioning, choosing a question, reading for information, taking notes, interviewing an expert, and presenting. Research Cycles are an instantiation of inquiry-based instruction. Inquiry-based instruction is instruction centered on students' questions and curiosities. For example, Welsh (2019) engaged in a form of inquiry-based instruction entitled "Inquiry Cycles" in a second-grade Science inquiry unit which included three phrases (p. 725).

1. Phase One: Becoming aware and developing a conceptual focus with an anchor text.
2. Phase Two: Identifying problems/solutions with an additional anchor text.
3. Phase Three: Taking action with a text set (p. 725).

Through this process, the teacher asked the students to use "literacy tools as scientists use them" (p. 725). In addition, writing was used as a tool with guiding instructional principles: "central inquiry questions, active engagement with science phenomena, and interactive read-alouds" (p. 725). In this way, teachers used a central inquiry question to frame a science unit (p. 732). For example, "Why do we need to care for our air, water, and land" (p. 724)? Another example is "What are the differences between biotic and abiotic things in the environment" (p. 727)? These types of central inquiry questions frame a science unit.

Authentic literacy activities are at the core of Research Cycles (Piaget and Duckworth, 2012, Welsh et al., 2019, and Moje, 2015). Moje (2015) argued for the practice of inquiry and indicated discourse as vital to the learning of reading, writing, and speaking. Moje (2015) also argued this work occurred as teachers integrate literacy teaching practices in authentic ways. Further, Moje (2015) believed that teachers can apprentice students into understanding how to find purposeful literacy work in the day to day classroom. Through this apprenticeship process, students find significance in disciplinary reading, writing, and speaking. Moje (2015) defined authentic literacy activities as "uncovering, examining, practicing, challenging, and rebuilding the tools of knowledge production and critique" as learners saturated in inquiry gain inspiration for asking questions and drawing conclusions (p. 257). Why? Moje (2015) argued young children are connected in wonder about the world. The literature revealed the importance of authentic literacy activities, yet I wondered how this approach would look in my classroom. I wanted to develop a system that would allow students to lead and sustain their own learning. Over the course of learning from my students, I developed a cycle to streamline this process.

How did I apprentice my students through the Research Cycles?

I helped my students learn Research Cycles through a 6-step apprenticeship.

Step 1: Questioning

At the beginning of the school year, I asked for four black and white, marble, wide-ruled journals per student. I placed this request on the beginning of the year supply list for our families. I also asked for donations in case a family was not able to provide journals. In the journals, for the first Research Cycle, I encouraged students to write questions about the world in different ways. Students brain-stormed topics and wrote questions on topics for 5-10 minutes. Students were also encouraged to create questions as they read informational text during independent reading. In addition, after Science or Social Studies, students wrote questions. The initial questioning phase lasted for 2 weeks. After the initial phase, students used their questions to do research. When students completed a Research Cycle, the students returned to Step 1, reread questions, and wrote new questions.

Step 2: Choosing a Question

Students read through the questions and circled three questions for project work. Students ordered the questions and chose question number one for project work.

Step 3: Reading for Information

Before step three, I provided a series of mini lessons on primary and secondary resources. Students sorted primary and secondary resources and learned how to find primary resources. Students reread the chosen question and underlined the keywords in the questions. Students looked for primary resources via books in the library and digital resources to learn more about the topic. Students also used search engines like Google or Google Voice to search for information. The goal was three to five primary resources on a topic. After the initial introduction to Step 3, students were encouraged to find resources for their questions.

Step 4: Taking Notes

During this step, students read and listened to resources to find answers to the research question. As students read, students created notes on the information in Google Slides. Students were encouraged to create three to five slides with information. If students did not know how to type, they were encouraged to voice type. The final slide included the titles and authors of resources. During this step, I invited the librarian to do a series of mini lessons on plagiarism, and we also learned about using quotation marks to copy quotes.

Step 5: Interviewing an Expert

If the student could not find answers to the question during the research process, students were encouraged to create more questions around the question. Then, students were encouraged to call an expert. Students determined experts through the research process. For example, one student wanted to learn about diamonds. In her research, she learned that diamonds are at jewelry stores, so she asked to call the jewelry store to learn more about diamonds. Another student was interested in the gender of pine cones. Through her research, she read about trees on the United States Forest website. The first expert could not answer her questions but that expert led her to another tree expert that provided insight. When it was time to call the expert, the teacher sat with the students to introduce the work to the expert. Then, the student took over with the questions and took notes and inserted the findings into the presentation.

Step 6: Presentation

Students presented the work to the class via Seesaw. The Seesaw app provided opportunities for discourse as well as provided a platform for the creation of student portfolios. In real time, families viewed student work and even engaged with the content through positive feedback. Students also posted positive feedback. In addition, students had opportunities to create video presentations with a green screen and posted the presentations on Seesaw. For example, if a student created a presentation on polar bears, the Green Screen may be the habitat of polar bears. If a student created a presentation on the moon, the Green Screen may make it appear the student is walking on the moon. At this point, students worked together to record one another's presentations. When students finished the work, the students were immediately encouraged to look at their journal and choose the next research question to start the cycle again. Below, I provided a lesson plan template in Table 1.

Table 1
Sample Lesson Plans for Research Cycles

<table>
<tr><th colspan="2">Before Research Cycles</th></tr>
<tr><td>Materials: Journals, Pens, Pencils, Colored Pencils, Author Chair

Introduction:
Before the teacher starts Research Cycles, the teacher must do some prep work with the students. First, the teacher creates “I wonder” anchor charts. For this task, the teacher asks the students what they are wondering about. The teacher records exactly what the student says and gives the student credit for the idea. The teacher also uses the opportunity to model quotation marks and other punctuation. The teacher writes the “I wonder” anchor chart on chart paper and allows the students to dictate the teacher’s writing. The teacher rereads the anchor charts with the students.

The teacher completes an “I wonder” chart with the students and provides an opportunity for each student to respond.</td><td>Example of “I wonder” Anchor Chart:

1. Lucy said, “I wonder about volcanoes.”
2. Trinity said, “I wonder about the gender of pine cones.”
3. Bryan said, “I wonder about planets.”
4. Monica said, “I wonder why dogs bark.”
5. Joe said, “I wonder how motors work.”
6. Jesse said, “I wonder about ocean waves.”
7. Leslie said, “I wonder about the Anasazi Indians.”
8. Zane said, “I wonder about the Grand Canyon.”
9. Maria said, “I wonder about diamonds.”
10. Jack said, “I wonder about rubies.”
11. Earl said, “I wonder about race cars.”
12. Amelia said, “I wonder how snowflakes are made.”
13. Mark said, “I wonder why race cars are made different.”
14. Abigail said, “I wonder how tornadoes form.”</td></tr>
<tr><td>After each student responds to an anchor chart, the students sort the ideas by themes.</td><td>Examples of Themes:

Theme #1: Rocks and Minerals
1. Zane said, “I wonder about the Grand Canyon."
2. Maria said, “I wonder about diamonds.”
3. Jack said, “I wonder about rubies.”
4. Lucy said, “I wonder about volcanoes.”

Theme #2: Motors and Cars
1. Joe said, “I wonder how motors work.”
2. Earl said, “I wonder about race cars.”
3. Mark said, “I wonder why race cars are made different.”</td></tr>
</table>

Research Cycles: Example of Lesson Plan		
Step 1-2	After you have a theme, you use the students' ideas to start teaching the process of the research cycle. You create a new anchor chart with students' questions about the theme. For the theme of Rocks and Minerals, students designed the question, "How are rocks formed?" Ask all of the students to write the question with their name on a sticky note. Ask students to underline the key word "rocks." Ask the students to place the sticky note under "Step 1" on the Choice Board. The question guides the next step: "Step 2". Create a text set on Rocks. Students move their post-it note to "Step 3." Check out all of the books on Rocks from the library. Ask the students, "How should I sort these books?" Before you sort the books, introduce the terms primary and secondary resources. Write the terms on large sentence strips. Place the sentence strips on the rug. Intentionally, teach the students the definitions of primary and secondary resources. Tell students that primary resources are resources that are created by a Geologist or created at the time of learning about the information. Examples of primary resources include artifacts, documents, diaries, and autobiographies. Secondary resources are resources that were created by someone who did not learn the information first hand. The information was created by someone else. Have a stack of primary and secondary resources, and ask your students to sort them. The next day, have different stacks of primary and secondary resources with sentence strips that read primary and secondary resources. Place your students in small groups. Ask the small groups to sort the primary and secondary resources. After all groups finish sorting resources, ask your class to walk the room and discuss what they learned about primary and secondary resources.	**Example of Anchor chart Title: Primary versus Secondary Resource**
Step 3	Sort the Rock books and information into primary and secondary resources. Ask the students to choose three resources for the next step. Write the titles of the three resources on chart paper.	**Example of Anchor Chart Title: Rock Resources** **1.** **2.** **3.**

Research Cycles: Example of Lesson Plan		
Step 4	After the students choose the resources, the teacher may read the books with the students. At this point, the teacher models how to write facts from the text. This is "Step 4." Make sure all of the students move their post-it note to "Step 4." The teacher models how to give the author of the resource credit for their ideas. The teacher also discusses how to write quotes from the text. The teacher models how to copy the exact words from the texts and place quotation marks around the text. The teacher and students work through three books.	
Step 5	The students move their post-it notes to "Step 5." The teacher types the facts for the students. The students "choral" read the facts. This means the students read the facts together. Then, the teacher asks the students if there is an expert. The teacher guides the students to consider a jeweler. Before this lesson, the teacher has already called the local jewelry store, and they have sent a jeweler to teach the students about rocks and minerals, and they bring rocks and minerals. This step is Research Cycle magic. The students are not expecting an expert to visit, and voila, an expert visits. The students listen and ask questions. After the jeweler leaves, the teacher asks the students to write what they learned in their journal. The teacher encourages the students to draw pictures of their learning. At the end of this special time, the teacher invites the students to share their learning in the Author's Chair.	
Step 6	The teacher shows the students Google Slides. The teacher models how to write one fact per slide. The teacher asks the students about what else they could put on the slide. A picture of the jeweler? Yes! Pictures of the Rocks and Minerals? Yes! Listen to the students and allow them to guide the creation of the presentation. Then, ask for a brave volunteer to present the information. After this step, post the presentation on Seesaw and allow the students to add additional information that they learned.	

Research Cycle Indpendent Work Begins		
Step 1-6	This day is an exciting day. On this day, students will write questions in their journals. Provide 5 minutes of "Free Write" time. At the end of this time, invite students to share their questions. Ask students to choose 1 question. Ask students to underline the keywords in their question. Circle the question in the journal, and write a new sticky note with their question and name. The students place their sticky note under "Step 1." After the question is chosen, students are encouraged to research, "Step 2.". The students may use books in the classroom, use their computer, or request to go to the library. The students are encouraged to find three resources and read about their topic. In addition, students move their post-it to "Step 3." Once the students finish reading, the students write 5-10 facts about what they learned and move to "Step 4." Keep in mind that each student will arrive at this place at a different time. Next, students are encouraged to find an expert, "Step 5." Before students make contact with experts, the teacher approves the expert and the interview questions. I encourage students to have a list of ten questions to ask the expert. Once the questions are designed, the student calls the expert and writes notes. Last, "Step 6" involves sharing what the student learned. The student may share information in-person in the Author's Chair or on Seesaw. Other students may ask questions in-person or on Seesaw which sometimes leads to further research. Once the student finishes all of the steps of the Research Cycle, the student is encouraged to return to their journal and review their questions. Students choose a new question and start the Research Cycle again. All students will be at different places in the Research Cycle throughout the year.	**Example Prompts for Questions in Journals:** 1. What are you wondering about? List questions of topics you are wondering about. 2. What are you wondering about rocks? 3. What are you wondering about vehicles? 4. What are you wondering about Space? 5. What are you wondering about animals? 6. What are you wondering about electricity? 7. What are you wondering about earthquakes? **Tip: Read your state standards. Design questions based on your standards.**

Table 2
Examples of Independent Student Work

Example Artifact(s)
*Learned how to code and coded a dance party.
*Researched information about Spain, traveled to Spain, and maintained a blog while in Spain.
*Visited a Ruby Bridges museum exhibit and studied Ruby Bridges. This student wrote, "When Ruby Bridges was in Kindergarten, she taught black and white people they could live together."
*Researchers were curious about slime and invented different kinds of slimes and wrote about it. In the book, the researchers included a Table of Contents.
*Research partners wondered, "Are pine cones male or female?" This answer could not be found in books and the partners found a pine cone expert at United States Forest and learned the answer to the question as well as tree experts who are called silviculturists.
*Persuaded the principal and cafeteria staff to play jazz music during lunch after research.
*Researchers read about crystals, grew crystals independently at home, and shared them with the class via microscope.
*Researched pandas and interviewed a panda expert at the Atlanta Zoo.
*Researchers investigated force and motion with beyblades and wrote about the discoveries after observation.
*Researchers learned about CPR and invited Bolt for the Heart to the classroom, so other students could learn. The research project was inspired when a family member suddenly died in his arms. Researchers created informational posters on CPR and displayed the posters around the school.

How did I facilitate research cycles?

Choice Board! In order to know where all students were in the process and for students to have ownership of their learning, I posted a choice board like Figure 1. On the choice board, I
posted the six steps of the research cycle. I provided post-it notes. Students wrote their name and question on the post-it note and moved it across the stages. With a quick glance, I knew everyone's research question and where they were in the Research Cycle.

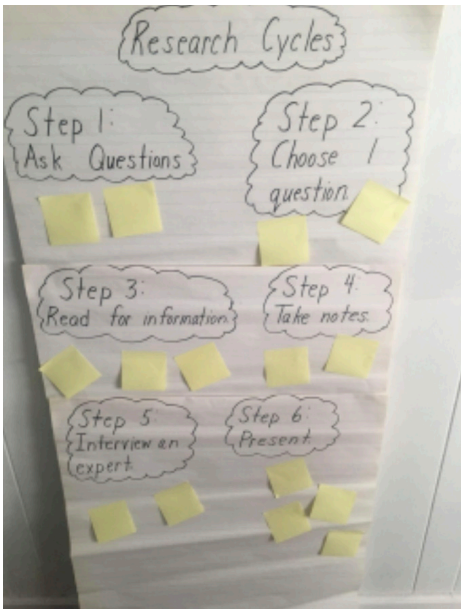

Figure 2. Example of Research Cycles Choice Board

Reflection

Research Cycles changed how my students engaged in meaningful work. After a successful year of my students implementing the research cycle, I noted the range of learning that occurred in my classroom. Some students created research questions from curiosity, and some students used informational texts. After the students selected their questions, some students found answers in books or media, and some students called experts because they could not find the answers in books or media. Some students presented work in-person, and some students opted to create video presentations. Research Cycles provided opportunities for students to grow as learners because students directed the learning. Even though all of my students were engaged in self-led independent work, all of the independent work varied in content. This means that the content for each project was different. For example, some students studied pine cones while other students learned about otters. The only similarity was that all work was completed through the same process, Research Cycles. Each day, I was challenged to upcycle my practice based on student interests and needs. For example, we had the library policy changed because students needed to go to the library more than once a week. I also allowed students to use my phone to call experts. As authentic learning opportunities ignited, the Research Cycles continued.

To get started with these authentic literacy opportunities in your classroom, create a research cycle anchor chart, a wonder anchor chart, and ask families to provide a black and white, marble, wide-ruled journal. Remember to encourage students to find the answers to their questions.

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The Next Step in Professional Development

By Jennifer A. Snow

If you walked into a session of professional learning for a group of Reading Recovery teachers, you would see one teacher with one student, teaching a lesson behind a one-way-glass. On the other side of the glass would be a group of 5-10 Reading Recovery teachers, watching the lesson, making comments, and asking questions. A Teacher Leader would be facilitating the discussion, asking questions about what is being observed in the lesson. The other teachers would be making comments related to what they know about early reading and writing behaviors. There may be some discussion about what has been read in *Literacy Lessons* (Clay, 2016) and what Marie Clay found in her early childhood literacy research. Observation, reflection, and discussion tied to research and pedagogy are all cornerstones of Reading Recovery, a one-on-one, intense reading and writing intervention for first grade students originally developed by Marie Clay (Clay, 2016). Teachers learning by teaching alongside other teachers is the foundation of what has made Reading Recovery a highly successful intervention.

With all my years of teaching experience, I have come to understand the importance of growth in my teaching knowledge. It has become clear to me that my students' success in my classroom is a direct reflection of my teaching. I need to take control of my professional growth to meet the changing needs of my students. I have been a teacher for twenty years, spending most of my time in the primary grades in kindergarten, first grade, and second grade. After nine years of being in the classroom, I trained as a Reading Recovery teacher and taught Reading Recovery and small intervention reading and writing groups. When I first began my teaching career my school district provided staff in-service days to allow teachers to learn from experts brought into our school. In many school districts, school-led professional development has become a thing of the past. Districts are no longer committing money and time away from students to bring experts in the field of literacy to the teachers for growth. We have to seek it out ourselves. Because of this, I have found myself thinking more and more about the last nine years of professional learning experiences I have had through Reading Recovery. The first year of training for a Reading Recovery teacher is learning how to observe students' reading and writing to determine areas of strengths and weaknesses, and teach and respond to students during in-the-moment teaching. Reading Recovery teachers strive to gain expertise in enabling the literacy learning of the highest-needs students in first grade. What makes Reading Recovery training stand out from other professional learning is the amount of support Reading Recovery teachers receive not only during their first year of training but also during each following year as a Reading Recovery teacher. There is a strong belief in observation, collaboration, and reflection within a community of other teacher learners. These experiences have helped me to realize the importance of teachers relying on the same tools used in Reading Recovery to enable our own learning: observation, collaboration, and reflection. We may have to start this initiative on our own.

In this article, I argue teachers need to initiate our own professional learning journey that is centered on personal goals and includes peer observation, mentor text, mentor scaffolding, and authentic reflection. The importance of collaboration and focusing on practice are also noted in the professional development research literature. I will also offer five tips on how teachers can identify an area of growth in their own teaching and work with peers and mentors to improve in that area of literacy. Additionally, I will share how I have implemented these tips into my own classroom and teaching.

What We Know About Professional Development

Fountas and Pinnell (2020) argue that there has been a major shift in school improvement towards individual schools taking on a model of continuous professional development, rather than quick fixes. They believe that having this type of model within individual schools creates trust among teachers because there is strong collaboration and talking about what teachers are learning and thinking. They also believe that when teachers participate in professional development, they use responsive teaching practices which places students at the center of their teaching. According to Darling-Hammond & Richardson,

(2009), professional development should be collaborative among teachers and should help teachers learn new knowledge, apply it to their classrooms, and reflect on their experiences with other teachers. Research has shown that when teachers from the same grade or school participate together in professional development, there is improved teacher knowledge and changes are made in classroom practice (Garet, Porter, Desimone, Birman, & Yoon, 2001).

Five Tips to Start Your Own Professional Development

1. Personal Goals

The first step in starting your own study is to reflect on your teaching and areas that you feel you need to know more about. Ask yourself, "What area in my literacy teaching could benefit from extended study?" Because focusing on all areas at the same time can be overwhelming, picking one area for your professional growth is important. Choosing one area allows teachers to become experts in that area and begin to view student learning through a different lens (see figure 1).

Figure 1: Examples of areas/goals for literacy professional development

- Improving student writing in other disciplines.
- Teaching students to be more fluent readers.
- Improving high frequency word knowledge.
- Classroom management for literacy centers.
- Learning about running records and how to use them in your decision making.
- Motivating students to read.
- Organizing your classroom library.

As a classroom teacher, *it takes time to be great at teaching all subjects*. teaching all subjects, each year I would put pressure on myself to be better at teaching everything. I realized that achieving this goal was often overwhelming and not attainable all at once. The summer before the start of the school year, when I was to teach first grade, I was excited yet overwhelmed. I knew that there were areas in my literacy teaching where I needed to grow and learn best practices. I decided to tackle one area the summer before my fourth year of teaching: guided reading. I wanted to learn more about how to assess students, place them in instructional groups, choose books and lessons, and how to manage the other students in my classroom when I was meeting with groups. This seemed like a manageable goal for me that school year.

2. Peer Observation

Once you have identified an area of professional growth in your teaching, talk with other teachers and see if you can get a group together to do some study and professional reading together. This will be your cohort of peers to plan, bounce ideas off of, study, and observe each other. Your group can consist of one other colleague, 3-4 colleagues, or the whole building. I suggest that if you have over four members in your group, choose someone in that group to act as facilitator to keep the group on track. Teachers learn best from other teachers. Here's how you can make that happen:

- Speak with your building principal and ask him/her to announce this new venture during a staff meeting or in the staff newsletter.
- Send out an email to your colleagues letting them know that you want to start a study group asking them to join you.
- Put a survey in colleagues' mailboxes, asking them if they are interested in a study group and what area(s) they are interested in studying.
- Talk with your colleagues after school or during lunch time.

With the goal in mind to improve in my knowledge and teaching in guided reading groups, I approached other first-grade teachers in the building. I talked with them about my idea to do a book study and collaborate to improve guided reading in my classroom. They were both on board with my idea and wanted to form a group. As others learned about what we were doing, three kindergarten and two second grade teachers also joined. The two Reading Recovery teachers agreed to join to facilitate our book discussions.

3. Mentor Text

It is important to seek out articles or a book to do a book study with your cohort. Experts in the field of literacy have written many books and articles for teachers to use in the classroom. Some authors that have inspired me are Jan Richardson,

Gay Su Pinnell and Irene Fountas, Debbie Miller, Lucy Caulkins, Linda Darling-Hammond, and Peter Johnston. Articles in journals *The Reading Teacher, The Phi Delta Kappan,* and *Educational Leadership*, are easily accessible through the internet and written in a practical way to help teachers learn the latest research and best practices for teaching literacy. (see figure 2 for other articles) These resources, and many others, provide teachers with techniques that can be implemented immediately in the classroom. Decide on dates to meet and what you will read each time. Plan out methods teachers will try before the next meeting.

Now that we had a peer group and a goal to learn more about guided reading groups, the next step was to look for a mentor text to guide us in our inquiry. We decided to read, *The Next Step in Guided Reading* (Richardson, 2016). A colleague of mine had recommended this book because it was easy for busy classroom teachers to use, with each chapter laid out nicely by reading levels. Once each teacher had obtained the book, we decided to read the introduction and chapter 1, which focused on how guided reading is set up and how to get our students ready to work in groups. We also made a schedule to meet once a month.

Figure 2: Articles for further reading in Professional Development

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4. Mentor Scaffolding

Seek out those teachers you feel would contribute to your groups' learning, and they can become your mentors. Some of the best experts in teaching literacy can be found right in your own school building. Because of their experiences and knowledge of teaching, our veteran teachers can be valuable resources from which to observe, reflect, and learn. Some teachers have had extended training in specialized areas of teaching and can be valuable members to your group.

As the year went on, we knew that other teachers in the building could offer guidance in learning how to implement guided reading groups. We especially needed mentors from whom we could observe and learn. The Reading Recovery teachers became our mentors in our building. We learned how to be observers of our students' reading and writing. With the help of their scaffolding, we learned how to watch our students and make notes to reflect after each lesson. We learned what to look for at each reading level and how to adjust our teaching in the moment. Each time we met, we talked about an area where students needed more or different instruction. Many times, the teachers needed guidance in how to provide that instruction. In these situations, we referenced our book, read additional articles, and collaborated with our Reading Recovery teachers. They would show us how to group students and plan lessons. Oftentimes they would demonstrate guided reading lessons to show us how to follow the plan and implement in-the-moment teaching.

5. Authentic Reflection

Teachers need to use authentic student work to determine if one's teaching is effective. Simple worksheets and multiple-choice tests do not give teachers the data and information to make teaching moves that will improve student learning. We must be observers of how our students are learning. To authentically reflect:

1. First discuss what you see your students doing well and what they are struggling with. Choose a place to start your study. Authentic class writing, running records, notes and observations of student and teacher conversations are all examples of resources that should be used in discussions with colleagues.
2. Then once you and your teaching group have determined a place to start evaluating, think of classwork that students are already doing, and/or that you would like to see and choose one or two pieces to collect and bring to the next group meeting.
3. Next, plan together some data you will look at together pre and post. Brainstorm students' samples you can use and documents to bring together as a group to look through. Make a chart of the data you will collect before you start your study and after you have finished. Use this chart to determine if students made growth in the areas where you have improved and determine if that growth was due to your new knowledge and expert teaching.

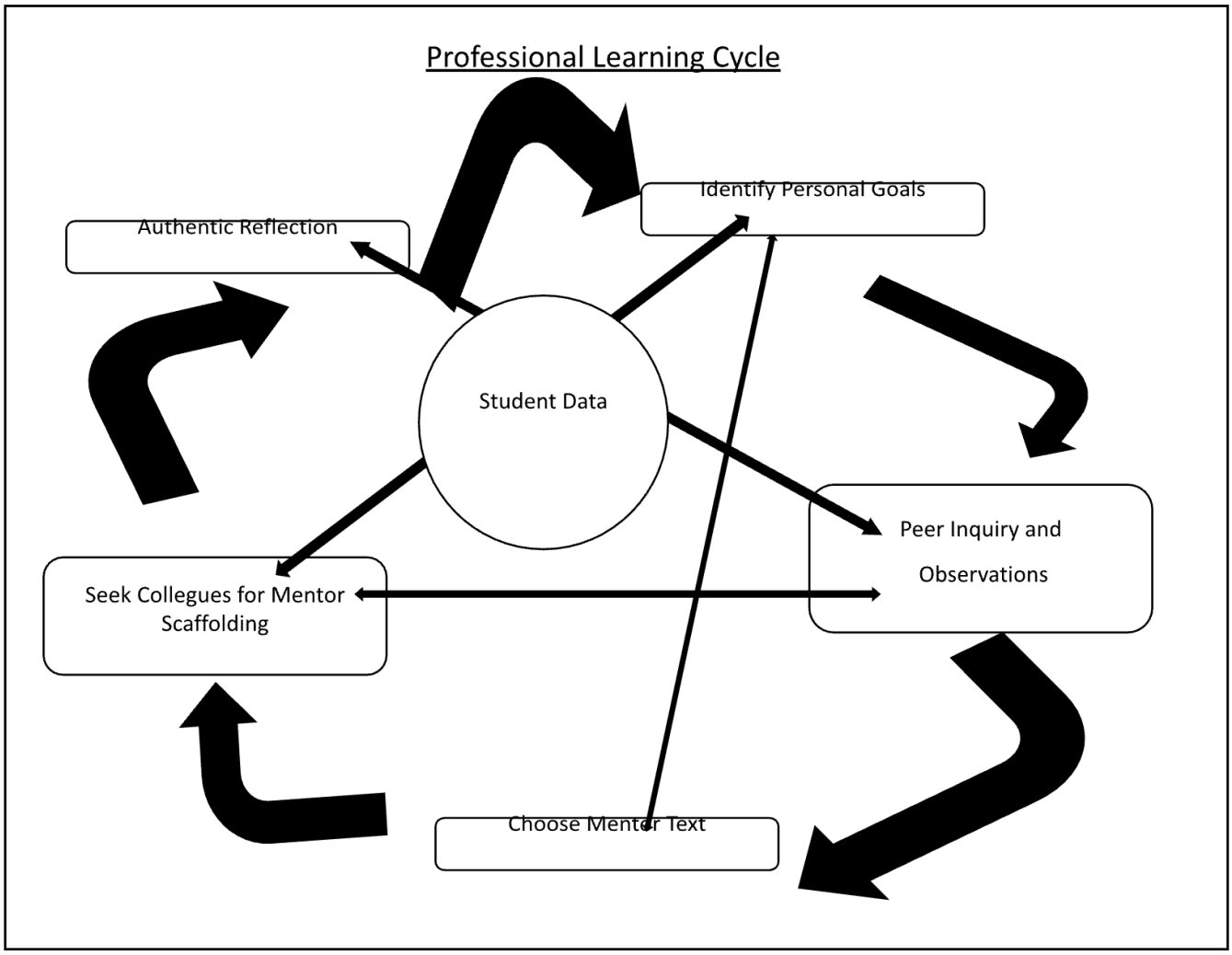
After weeks of inquiry using mentor text, peer observation, and mentor scaffolding, we determined it was time to use authentic data to begin reflecting and planning next steps. The Reading Recovery teachers taught us how to correctly administer and score a running record. We decided to make it a goal to do 3-4 running records each week so that by the end of the month we would have a running record on every student in our class. These running records were also used in our study and discussions. As the year went on, we used student writing samples, running records, and notations from lessons to discuss students' progress. We created a student data chart to record data and used these charts to reflect and discuss our students' progress. During each month meeting, we talked about our goals, what was saw in peer observations, referred to the mentor text and our teaching mentors, and reflected on what students were learning.

Conclusion

Teaching is a profession of life-long learning. According to Fountas and Pinnell, "The effectiveness of literacy education within the classroom is dependent on the expertise of the teacher" (2020, p.223). I am responsible for my students' learning and with that comes the responsibility to grow in my own knowledge of literacy best practices. Twenty years of teaching in the classroom and Reading Recovery has taught me the importance of initiating the same tools used in Reading Recovery to enable my own learning: observation, collaboration, and reflection.

In this article, I argued that teachers need to initiate our own professional learning journey. Starting with identifying personal goals, then practicing peer observation, studying mentor text, using mentor scaffolding, and participating in authentic reflection are all important steps in this learning journey. All of these steps become a cycle that is centered on student data (see figure 3). When we see students who aren't progressing in the classroom, we must look in the mirror and change our literacy teaching. Self- initiated peer learning is the step forward in making these changes.

Figure 3: Professional Learning Cycle



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Taking the First Steps with Science of Reading

By Stefany Bragg

Becoming a teacher was never a question for me. I was made to be a teacher. As a little girl I had an entire classroom set up in my parent's basement and spent my weekends begging my mom to take me to the teacher store to buy materials for my classroom. There was no question that becoming a teacher was my true calling. My dream of becoming an elementary teacher came true after graduating from a small college in Illinois. I landed my first teaching job at a rural school in Illinois teaching kindergarten, and I was so confident in my pedagogy abilities and passion for teaching that I had no reason to believe it would be anything less than remarkable.

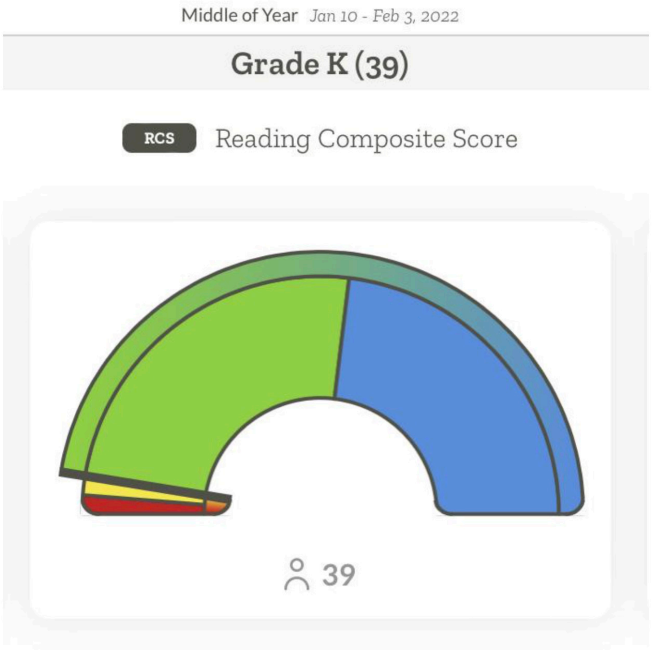
Still to this very day, I remember the exact feeling I felt standing in my classroom about two months into school thinking to myself that I had no idea how to teach these sweet eyes looking back at me how to read. I immediately began asking for help from colleagues and tried to figure out exactly what skills I should be teaching and the best approach to teaching the foundational skills, but the reality was none of the teachers I was surrounded by knew how to teach children how to read. I didn't know that then, but I do now. The hard truth was all my colleagues, who graduated from different colleges and universities, had received the same minimal, theory based instruction in regards to teaching reading from our preservice training. There was little to no instruction on teaching phonological awareness, phonics and or most importantly why these skills are crucial for developing readers. We were not taught about the makeup of our language so we could explain the "whys" behind the spellings of certain words to our students. We were only left with the explanation many teachers have to fall back on such as "English is just a crazy language and you just have to learn it". I can only speak directly from my own experience but most of the courses spent the majority of the time highlighting rich literature, which by all means is important, but not the only key students need to open the door to literacy.

Fast forward 11 years into my teaching career, and let's pause and think about the amount of students I had instructed over those 11 years. I happened upon the knight and shining armor that was going to save my students from walking out of my classroom not knowing how to read. I was introduced to the Science of Reading. It just so happened that a conference I signed up to attend was virtual due to the new pandemic our country was fighting, and while I was watching the sessions, Deanna Jump kept referring to the Science of Reading. She voiced the importance of phonological awareness, explicit phonics instruction, student grouping, decodable readers, and teaching high frequency words using letter/sound knowledge rather than memorization. All the research she was sharing made complete sense to me, but I was left with so many more questions. I had to know more so I began searching for articles and books that discussed the reading brain and research about what scientific based instruction looked like in the classroom. This knight and shining armor showed up and saved me from continuing to make the same mistakes I had been making for the past 11 years and in return has set up ALL my students for reading success when they walk out of my classroom.

The next school year, which was the year we returned from our country's shutdown, my partner teacher and I made huge changes to our reading instruction in kindergarten. We already knew it was going to be a hard year so we had to give it a chance, because the instruction we were giving before the pandemic wasn't moving mountains either. We implemented a phonological awareness program with an appropriate scope and sequence, we quit using leveled readers and cueing strategies such as look at the picture and say the first sound, and instead gave our students the code to unlock the words we were asking them to read through explicit phonics instruction. We now only use decodable readers that reinforced the phonics skill we were working on that week. I began learning so much about our language that explained why words like have and edge are spelled the way they are. I no longer had to say that English is crazy and too hard to understand. I could explain the reason why and my students understood. Parents were tracking me down to tell me how their child was coming home explaining rules such as no English words end in an i, u, v, or j. They were as shocked as I was that these rules existed, often questioning their child and looking it up for

themselves. One parent told me she couldn't wait to pick up their child each day to see if they learned a new rule, because she was so intrigued by this knowledge of our language, too. When other educators ask me how I found out this information, I suggest to them the text *Logic of English* (2012) by Densie Eide or *Speech to Print* (2020) by Louisa C. Moats. These are both engaging texts that present the logic behind the language.

Two years later, and now pursuing my master's degree in the Science of Reading, I have witnessed what these changes can do for students. I no longer dread assessing my students, because I know they have the skills they need to be successful. My Acadience benchmark scores in kindergarten look much different than they did before making these shifts previously mentioned. I see a sea of blue and green and a sprinkle of yellow or red. The difference now is I know what to do if I have a student in red or yellow. We can fix it before they leave my classroom with the right intervention and support. Teaching kindergarten, I feel as though I have a huge impact on my students' future reading success. Research suggests that if a student leaves first grade not meeting the foundational benchmarks on specific skills, they have an extremely low chance of ever catching up to grade level. The gap actually begins to get bigger each year. I now have the mindset that I must continue my learning with fruitful resources and affiliations such as the *The Reading League Journal,* attending Plain Talk About Literacy and Learning Conference in New Orleans sponsored by The Center of Literacy and Learning this past year, connecting with other teachers who are shifting to the Science of Reading through Facebook and Twitter, and attending countless webinars for my students. Along with my own journey, I have grabbed many colleagues and our school principal along for the ride as well. During the Plain Talk About Literacy and Learning Conference, one of the presenters challenged educators by explaining that it isn't good enough to just know better, you must share the knowledge and bring others along with you. One thing my coworkers and I constantly do is share articles or webinars with each other on topics we have recently learned new information about and discuss the material. When educators work together, it can be so powerful for our students. As a country, we can not count on teachers incidentally happening upon the science and research of the reading brain. When a person bravely takes on the responsibility to teach children, educators have the right to receive this information and so do the students that will enter the educator's pathway.



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First Steps Toward Developing a Teacher's Self-Extending System

By Deborah A. Corpus & Ann E. Giddings

Learning a complex process is — well, complex. Think about learning to drive a car. First, a person has to want to drive a car or have a need to use one to get places. The student driver has to have access to a car and time to practice driving. A learner usually has an experienced teacher who coaches her first in driving around a parking lot, then driving on infrequently traveled streets, and finally on busy streets and highways. The student driver is learning to orchestrate steering, accelerating, and braking all while adjusting to the route and the circumstances. With sufficient practice, the student driver has the knowledge and skills to take the driver's test and can then begin driving on her own. The learning isn't complete though. The driver must handle unexpected mechanical problems. The new driver now must learn how to navigate routes based on her purpose: finding the fastest route between two points using a phone app, planning a leisurely exploration of an area using a road atlas, or negotiating unexpected traffic conditions using her own sense of direction. This additional learning takes time as the new driver gains experiences with different planning methods. She learns from both successful experiences and from her mistakes as a driver and navigator. She builds a self-extending system encompassing her basic driving skills and her growing navigational skills. The more she drives in new situations and settings, the more she learns. The more she has learned, the easier she learns how to negotiate even more complex driving challenges. The driver learns *how* to learn, building a self-extending system allowing her to increase her skills and strategies as a driver without the help of direct instruction. Learning to read and learning to teach are also complex processes. Both developing readers and developing teachers learn *how* to learn, building self-extending systems to become better readers and more effective teachers.

Building a Self-Extending System as a Reader

Marie Clay (2001) explains the internal system a reader develops as he orchestrates all he has learned about print, fluency, constructing meaning, and solving any problems he encounters as he reads: "Supported at first by social contacts the literacy learner gradually has less need of the scaffolded support of the expert, and the reader begins to perform alone *but improves his or her reading and writing processing as those activities are pursued, learning more on his or her own*" (pg. 102, italics original). The child learns more about reading, independent of instruction, every time he reads. More current brain research sheds light on the process. As Clay (2016) states, "I think it is most helpful to think of the learner who is successfully solving reading problems as building a neural network for working on written language *and that network learns to extend itself*" (pg. 128, italics original). This self-extending system allows the reader to become progressively and independently more proficient with each successful encounter with continuous text.

Building a Self-Extending System as a Teacher

In a similar way to the development of a self-extending system for children, teachers can develop a self-extending system throughout all stages of their career. Preservice teachers gain access to the knowledge of subject matter and teaching methodologies through college course work. The preservice teacher experiences teaching in short-term, controlled practicum settings under the eye of methods course professors and then eases into a classroom with the support and coaching of a cooperating teacher and a university supervisor. If all goes well, the preservice teacher passes the state licensing exams and student teaching experience. The learning has just begun though. The new teacher must handle unexpected student behaviors while planning for a classroom full of children who depend on her to teach reading, language arts, math, social studies, science, and possibly art. She must find ways to sequence and teach all the skills, strategies and knowledge for her grade level in about 185 days. She is responsible for her students' achievement as shown on test scores and other measures. She needs to learn to use planning tools to help her sequence instruction and select materials and methods based on her purposes.

This new teacher learns from her professional resources and from both her positive and challenging teaching experiences as she increases her teaching effectiveness.

We propose that effective teachers at all stages in their career continue to build a self-extending system. They learn from professional resources and collaborations, yes, but they also learn from their students as they analyze what methods and materials helped or hindered their students' growth as readers.

We next list actions that occur simultaneously and are fundamental to building a teacher's self-extending system. Just as readers use all they have learned and are learning as they negotiate increasingly more complex text, so teachers use all they have learned and are learning as they teach their developing readers.

Action: Understand the "Science of Reading" for Beginning Readers Is Not Settled Science. Teachers in 2022 are inundated with conflicting messages about reading. The popular press declares there is one best way to teach reading, and beginning teachers are not taught that "best way" (MacPhee, Handsfield, Paugh, 2021). The International Dyslexia Association (IDA), The International Literacy Association (ILA), and Reading Recovery Council of North America (RRCNA) have published differing definitions of reading and conflicting approaches to beginning reading, especially for students exhibiting reading difficulties (IDL, 2016; ILA, 2016; RRCNA, 2017). The National Council of Teachers of English (NCTE) has weighed in with its position statement (NCTE, 2019). Simply reading through these conflicting reports can confuse preservice and novice teachers because they lack the experience working with many different students to provide context for the claims and counterclaims. New Zealander Clay (2001) explains the origin of many of these controversies:

The authors of instructional programmes select the things they want children to attend to; the best of those programmes are driven by a particular theory and each programme emphasizes and neglects different aspects of literacy processes. These are their selling points. Once children have learned the practical tricks of "the selected method" on "the selected texts," progress is thought to be assured. Children who are active, constructive thinkers do learn from different approaches. It is the constructive children who make most programmes work. An alternative approach, designed especially for children who have pronounced difficulty learning, assumes that a watchful teacher must assist the learner to develop and integrate a complex set of neural processes from the beginning (pg. 105).

The current controversies focus on instruction for beginning readers and is wrapped in the authoritative term, "the science of reading" (Suskind, 2020). The "science of reading" term was first used in the 1830s and has usually been reserved for decoding (Shanahan, 2020). The term has had an increase in popularity since 2018 due to coverage of policy initiatives from the International Dyslexia Association and Hanford's work in the popular press (Shanahan, 2020).

Let us examine the current decoding focus for the term "science of reading." How does a person read? Ask almost any reader who is not a teacher, and you'll hear a common-sense description popularized by Rudolf Flesch's 1955 best seller *Why Johnny Can't Read:* "Reading means getting meaning from certain combinations of letters. Teach the child what each letter stands for and he can read" (Flesch, 1955, p. 1). It sounds so simple. This popular understanding mistakes letters for graphemes, the written representation of phonemes. Sounding out each individual letter of the word "town" (t-o-w-n), for example, provides a very different pronunciation than sounding its graphemes (t-ow-n). Frank Mays identifies five distinct approaches to teaching systematic phonics in his *Unraveling the Seven Myths of Reading* (2000): 1) sounding letter by letter, described by Mays as a "primitive" approach used by those who do not understand how words work (p.48); 2) a synthetic method matching graphemes to phonemes and then blending those phonemes; 3) an analytic method using known words to teach grapheme/phoneme correspondences; 4) a phonogram method using onsets and rimes in single syllable words as the base for decoding multisyllabic words; and 5) a vowel pattern approach. Mays provides the advantages and disadvantages of each approach, but the "common-sense" approach of the first method, sounding letter by letter, is the least effective of any of the methods.

The model proposed by Gough and Tunmer (1986), known popularly as the "Simple View of Reading," can be mistaken as just a reiteration of Rudolf Flesch's 1955 screed against public education. The "Simple View of Reading" (SVR) is presented as a math formula: fluent word reading X language comprehension = reading comprehension where comprehension is the multiplicative product of decoding and language proficiency. No reading comprehension will occur without direct instruction in decoding. Language comprehension is defined as oral language comprehension, something a child brings with him to school. If reading is as simple as putting sounds and letters together, and if teachers need only teach decoding for children to become readers, the public must come to the conclusion that public school educators and teacher preparation programs are the cause of reading problems.

The reading process is not so simplistic, however. The National Reading Panel (NRP) (2000) dissected reading instruction into five components or pillars: phonemic awareness, phonics, fluency, vocabulary, and comprehension in order to examine the research behind each component. Because the phonics section of the NRP report is often cited as the base for the "science of reading" claims (Hanford, 2018; Shanahan, 2020), this discussion focuses primarily on the pillar of phonics instruction. For the phonics component, the NRP compared different forms of systematic phonics instruction to "alternative forms of instruction not focusing at all or only incidentally on the alphabetic system" (NRP, 2000, p. 2-137). Unsurprisingly, students in programs that focused on phonics instruction fared better on phonics assessments than those who were in programs that did not focus on phonics. The NRP grouped phonics programs into three categories: synthetic phonics programs, larger-unit phonics programs emphasizing analysis and blending of phonograms and phonemes, and a miscellaneous category that still provided systematic instruction but could not be categorized. The effect sizes for the three categories of programs were compared. "All were significantly greater than zero and did not differ statistically from each other" (2-132). None of these approaches was the primitive letter-by-letter approach. All of the approaches require an understanding of how words work and how phonics can be integrated into effective reading instruction.

The NRP cautions:

Finally, it is important to emphasize that systematic phonics instruction should be integrated with other reading instruction to create a balanced reading program. Phonics instruction is never a total reading program. In first grade, teachers can provide controlled vocabulary texts that allow students to practice decoding, and they can also read quality literature to students to build a sense of story and to develop vocabulary and comprehension. Phonics should not become the dominant component in a reading program, neither in the amount of time devoted to it nor in the significance attached. It is important to evaluate children's reading competence in many ways, not only by their phonics skills but also by their interest in books and their ability to understand information that is read to them (2-136).

The National Reading Panel report provides directions for further research, an acknowledgement that their findings are not "settled science," especially in the "active ingredients" of systematic phonics programs. The report writers note, "Systematic phonics programs–even those of the same type, such as synthetic phonics programs–vary in many aspects" (2-136). Contrary to popular press reports, the NRP did not identify the best method of teaching phonics or portray phonics as the only component in beginning reading instruction. The report calls for further research "to objectively determine the ways in which systematic phonics instruction can be optimally incorporated and integrated in complete and balanced programs of reading instruction" (2-137). Part of that work, concludes the phonics instruction section, "should be directed at preservice and inservice education to provide teachers with decision making frameworks to guide their selection, integration, and implementation of phonics instruction within a complete reading program" (2-138).

Summary. The "Science of Reading" focusing on phonics instruction is not settled science. An important action toward developing a self-extending system as a teacher of reading is to understand developmental patterns of children as they develop phonological awareness, phonemic awareness, and phonic understandings. A teacher needs to know systematic approaches to teaching phonics and have "decision making frameworks to guide their selection, integration, and implementation of phonics instruction within a complete reading program" (NRP, 2000, 2-138).

Action: Develop a More Complete View of Reading Informed and Changed by New Understandings of the Sciences of Reading and Reading Instruction. The "simple view of reading" depicted in the formula by Gough and Tunmer (1986) does not account for all the aspects of reading identified by the National Reading Panel's "five pillars" (phonemic awareness, phonics, fluency, vocabulary, comprehension). The writers of the NRP report recognized that the science of reading was not settled in 2000, and outlined areas of needed research in each of the pillars. A recent article by Duke and Cartwright (2021) updates and expands the Simple View of Reading. The resulting model is not the simplistic mathematical formula promoted by those advocating a static view of the Science of Reading. The updated model accounts for more recent research including the impact a reader's active self-regulation has on reading. The following chart, based on the work of Duke and Cartwright (2021), outlines key areas of difference affecting the information presented to both preservice and practicing teachers. Each "side" has its valid research base, but the sides differ in underlying beliefs about how children learn and how teachers should organize and deliver instruction.

Simple View of Reading: SVR (Gough & Tunmer, 1986; Hoover & Gough, 1990) as the basis for the "Science of Reading"	**Active View of Reading** Updated "Science of Reading" (Duke and Cartwright, 2021)
In the original "simple view of reading" formula (Decoding x listening comprehension = reading comprehension), all reading difficulties stem from either word recognition or language comprehension issues. Readers with decoding issues are dyslexic, those with difficulty in listening comprehension are hyperlexic, and those with difficulties in both processes have a general reading disability (Gough and Tunmer, 1986; Hoover and Tunmer, 2020). The original model (Decoding x listening comprehension = reading comprehension) implies the two multiplicands are separate, non-overlapping entities. This model has been translated into classroom practice by some as teaching phonics first, then comprehension (Houck & Ross, 2012). The simple view of reading (SVR) model does not address the active role of the reader in the process.	The SVR terms are updated to word recognition and language comprehension. Current research has clearly shown there are readers with grade-appropriate decoding and listening comprehension who have difficulty with reading comprehension. Updated research shows other factors that may cause reading difficulties, e.g, a mismatch between a reader's cultural and content knowledge, including concepts and experiences, and the reading material. Important processes bridge word recognition and language comprehension include vocabulary, reading fluency (accuracy, speed, prosody), and morphological awareness, especially with written texts where the spelling of morphemically related words can be seen. The updated research on reading points to the importance of active self-regulation in reading. *Executive function skills* (EF) allow proficient readers to direct their attention as needed, use working memory, attend, and plan, as well as inhibit distracting information. Duke and Cartwright (2021) summarize the research for domain-general executive function skills (those mentioned above) and reading specific executive function skills, e.g., the ability to consider either or both the letter-sound and meaning features of printed words as needed. In addition to EF skills, current research highlights the role of motivation and engagement in successful readers and their deliberate use of strategies to decode words and construct meaning.

The "simple view of reading" and the "active view of reading" models are just two of many models of reading used to explain a complex process: reading. A compilation of reading theories (Alvermann, Unrau, and Ruddell, 2013) highlights eleven different types of reading models categorized as cognitive-processing models, a dual coding model, a transactional model, integrated reading and writing models, and a sociocognitive model. These models provide different insights into the reading process based on both the author's and the user's perspectives, assumptions, and purposes. The models attempt to explain aspects of reading based on the current research in related disciplines (e.g., neuroscience, linguistics, comprehension), but they cannot be translated into effective instructional practices without further research. Shanahan (2020) distinguishes between "the science of reading" as basic research and "the science of reading instruction" as applied research. He compares these types of research to the basic research in medicine where discoveries are later tested for safety and efficacy in applied research. He notes,

"Education is necessarily an applied science, not a basic one." He continues, "In the end, the only way to know if any instructional approach is effective is to try it out in classrooms and to measure its impact on student learning" (Shanahan, 2020, p.8). The National Reading Panel report is based on a science of reading instruction. It provides directions for further research at the conclusion of each of its sections. No one model of reading and no single study on the effectiveness of an instructional method holds the secrets to *the* best way to teach reading in all its complexity. Professional organizations focusing on various learning disabilities will have different perspectives than those focusing on instruction for all students. One cannot assume that the techniques offered for disabled readers are warranted or even effective for readers who are developing normally without evidence from the "science of reading instruction."

Summary. To develop their own self-extending system, teachers read professional literature and participate in professional gatherings to understand the broad dimensions of reading and new findings from the sciences related to reading and learning. They use a critical lens when studying claims for particular approaches to reading instruction to determine if the recommended instructional procedures are based on extrapolations from basic research or are the results of tested effectiveness with readers.

Action: Teach Readers, Not Simply Skills or Strategies. Many current standardized programs do not take into account the updates to the science of reading outlined by Duke and Cartwright (2021) including the importance of a reader's own cultural and content knowledge, reading processes bridging word recognition and language comprehension, and the importance of a reader's own executive functioning skills. Programs focused on skills or strategies may not reach children traumatized by multiple years of pandemic restrictions or community tragedies or their own family's hardships. Teachers who engage in professional development focusing on discrete aspects of reading may see a mismatch between these demonstrations and their students' strengths and needs.

To complicate matters, teachers are accountable to many stakeholders: the adopted program, their grade-level team, the teachers at the next grade level, the district's prescriptions, and the parents' expectations. This accountability is often assessed through checklists and test scores and teacher evaluations. Teachers may assume that following the teacher's manual or the assigned script will be the safest way to proceed to please all the groups. Stakeholders often not considered in all these levels of accountability, however, are the students themselves as readers and learners. Knowledgeable teachers recognize no one scripted or standardized program addresses all aspects of reading for all learners (Clay, 2001). Effective teachers flexibly adapt their methods and materials to their unique group of students.

Shanahan (2020) points out we do have basic research in reading acquisition, but the subsequent applied research is lacking. There are relatively few studies examining the effect of elementary teachers' knowledge of the science of reading on the effectiveness of their instruction as measured by their students' reading growth or desire to read (Hudson, A., More, K., Han, B., et al, 2021; Shanahan, 2020). Teachers may not see how to effectively translate the recommended teaching methods to a classroom of 25 with varying strengths and needs. What teachers can do is use a variety of assessment tools to note the effectiveness of particular teaching methods on their students and the conditions under which those methods are used. Classroom based assessment tools (Serravallo K-2, 2014: Serravallo 3-6, 2014) provide a starting point to test the effectiveness of instructional methods and materials for individual students and groups. A classroom teacher can learn from this data collection if readers are accelerating or falling behind and make adjustments to fit the readers.

A teacher's purpose is to ensure students, not programs, succeed. Sharing and analyzing data with colleagues and instructional coaches is one way to find what is or isn't working and make needed adjustments in materials or approaches to help students become readers. Teachers' reluctance to engage in instructional practices advocated from a particular viewpoint could stem from many factors: a healthy skepticism about the scientific underpinnings of the approach demonstrated, a mismatch between the skill instruction offered and the teacher's knowledge of her own class, or a distrust of how prescribed approaches can be translated into actual classroom practice.

Summary. To develop their own self-extending systems, teachers need to thoughtfully engage in learning new information about the science of reading. Knowing that assessment informs instruction, teachers need to critically engage as researchers within their own classrooms to track the effect of specific instructional practices on their students' growth as readers, writers, and thinkers. As part of their own applied research, teachers must test their assumptions, observations, and conclusions in collaboration with other knowledgeable teachers and coaches. Through all this, teachers plan ways to develop competent, avid readers.

Action: Foster Intrinsic Motivation. There is a vast amount of research correlating the amount of time students spend reading continuous text of their choice and their greater proficiency as readers (NRP, 2000; Guthrie, J., Wigfield, A., Metsala, J, et. al, 1999; Allington, R. & Mcgill-Franzen, A., 2021). Do proficient readers read more because they are already proficient, or do they become proficient by avidly reading self-selected texts? The answer does not matter. Successful reading teachers know their goal is to teach children who not only can read but who DO read. Teacher practices are key to increasing students' enthusiasm and engagement in reading (Brandt, Sharp, & Gardner, 2021). Smith and Wilhelm (2006) capitalize on Csikszentmihalyi's theory of flow (1990) to identify five main principles supporting highly engaged adolescent readers: experiences provide a sense of control and competence, a challenge that requires an appropriate level of skill, clear goals and feedback, a focus on enjoyment of the immediate experience, and social relationships.

The avid readers in Smith and Wilhelm's study (2006) control what they read and feel competent in their reading. Because the reading is self-selected, the readers aren't bored by the content. The goals may vary with readers from reading every book by a particular author to reading every book the adolescent could find on a particular topic. The readers expressed an enjoyment in their reading, often describing themselves as frequently "lost in their book." Sharing reading with others, the social experience, makes reading even more enjoyable.

We propose the same principles can be applied to teachers' motivation to continue teaching. 1) Teachers who are actively improving their knowledge of the new discoveries in the science of reading are increasing their competence. They have a sense of control if they can adjust their teaching based on the needs of their students, particularly in light of students' cultural and content knowledge needs. 2) Successful teaching of reading continuously presents challenges as teachers assess what their students are able to do and what they need to know next to accelerate their progress. 3) Clear goals and feedback can be tricky for teachers. There are goals set by state, district, and grade-level evaluations. There are goals set by adopted instructional programs. Successful reading teachers understand the complexity of reading instruction and consistently assess and track students on what they are able to do in the components of reading as they become more self-directed and strategic. 4) Effective teachers find joy in their teaching. They celebrate the "aha!" moments as students learn. They notice students' new understandings and abilities. They recognize their own growth as teachers as they apply new understandings about reading to their teaching and to their own reading. 5) Finally, teachers enjoy the social experience of working with the students and with their colleagues. Professional collaborations extend beyond the classroom and grade-level team to colleagues who are members of reading groups and professional organizations. Attending to the factors that support teachers' engagement in teaching and learning is especially important as the years of pandemic teaching and the continued retirement of seasoned teachers cause a shortage of classroom teachers.

Summary. Csikszentmihalyi's theory of flow may give us insight into our growth as teachers as we build new understandings about the science of reading; engage as teacher researchers to test the effectiveness of our instructional practices; have agency to help all students in our classes become avid readers, critically questioning the professional literature and commercial programs offered to us; incorporate students' cultural and content knowledge in our work with students; and find joy in the work that we do with students and colleagues.

Working Together to Build a Self-Extending System

A self-extending system develops over time and adapts to new challenges for teachers, e.g., changing to new grade levels, welcoming new students with varying language backgrounds, incorporating the ever-changing cultural and content knowledge needed by students.

A professional is one who has specialized knowledge and who keeps that professional knowledge updated. Throughout one's teaching career, a teacher extends her understanding and knowledge through professional reading, participation in professional development and educational conferences, and analyzing how her students are learning. She acts as a professional by increasing her competence, gaining new knowledge, and critically reflecting on her knowledge and actions. A professional is one who belongs to a recognized group of professionals, and this group shares in the development of a teacher's self-extending system. The following are major contributors to the development of a teacher's self-extending system.

Schools of Education and Teacher Training Programs

These provide basic information about how children learn, how children develop as language users, and how children make meaning. Teacher preparation courses include current understandings of phonological and phonemic awareness, phonics, fluency, vocabulary, and comprehension. They provide the guidance and coaching as the aspiring teacher gains experience and begins to build a framework for decision making and continued learning.

School-Based Support Systems

More experienced teachers and literacy coaches support novice teachers by sharing planning and materials and by providing other perspectives on student responses to instruction. A novice teacher continues to build and refine her framework for decision making with the support of school-based colleagues and her experiences with alternative approaches to reading instruction as she works with her more challenging learners.

Professional Organizations

Collaborating with colleagues, continuing professional development, and reading professional journals representing different perspectives on reading instruction help practicing teachers deepen their knowledge, test their assumptions, and share what works to nurture avid readers.

Conclusion

We began this discussion by talking about teaching as a complex process analogous in many ways to learning to drive a car and navigate routes for different purposes and through many challenges. A driver education class prepares a new driver with the patient help of adults who spend hours coaching the neophyte driver. In a similar manner, teacher preparation programs provide the basic information on how to teach while methods class instructors, cooperating teachers, and university supervisors provide the side-by-side coaching aspiring teachers need as they learn to coordinate the complex tasks involved in teaching. After a preservice teacher passes her licensing exams and her student teaching, this new teacher will have curriculum guides and pacing charts to help her get her students from point A to point B in grade level expectations. She may initially have structured programs to help her juggle the planning for multiple subject areas at the elementary level. She will be crippled, however, if she does not develop the framework for decision making advocated in the National Reading Panel report.

Just as there is no one navigation tool that is best in all driving situations, there is no research from the science of reading identifying the best phonics program or the best comprehensive reading program for all children.

Effective teachers build a self-extending system as they learn from their students. They develop a decision-making framework based on knowledge and on experience. Our goal as successful reading teachers is to teach, guide, and support students as they become competent, purposeful, and even avid readers. Our goal as professionals is to continuously improve our effectiveness in teaching readers. First steps toward our goal of developing our own self-extending system is to learn the current science of reading and reading instruction in all facets of reading, to value the measurable and immeasurable markers of effective reading, and to use the research on intrinsic motivation to be our best selves as teachers whether this is our first year of teaching or our 50th.

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Boomerangs from Ms. Argus' Kindergarten Class

Marissa Argus' kindergarten students are studying Aboriginal storytelling as part of their greater world cultures unit this winter. In preparation, students learned about some of the unique animals in Australia, heard traditional aboriginal stories, and studied artifacts with Aboriginal artwork. Students depicted stories on their boomerang featuring an Australian animal and authentic Aboriginal symbols. This activity highlights an initiative by Argus to highlight indigenous peoples in each country studied.

Sycamore School is a school with a mission for gifted students preschool through eighth grade in Indianapolis.