

DISTINGUISHED SCHOLAR SERIES

Why a Teacher's Beliefs Matter: Using A Theory of Learning to Explore Instructional Decisions

Debra Crouch, San Diego, CA

Brian Cambourne, University of Wollongong, Australia

About the authors

Debra Crouch is an independent literacy consultant. She collaborates with school districts and schools to support teachers in professional learning experiences. On her website, teachingdecisions.com, Debra shares her video and webinar series of Shared and Guided Reading.



Brian Cambourne is a Principal Fellow at the University of Wollongong. He has been researching how children learn using naturalistic inquiry, observing in classrooms for five decades. Brian is a member of the Reading Hall of Fame.



“Show us what to do with the low kids.”

This request from a group of first-grade teachers came during a lesson study demonstration, putting words to an uncertainty and a self-doubt of how to best support children for whom literacy isn't developing according to schedule. There must be something, some “magic teacher move,” that will teach these students to read, right? The six first-grade students they were about to observe in a guided reading lesson—many of whom spoke a language other than English at home—were deemed the “low group,” reading in a Level D text near the end of their first-grade year.

The lesson began with the students and Debra, a literacy consultant, seated in a circle on the floor. Since Debra was meeting the students for the first time, in order to build community, each child shared their name and how they write it. Debra wrote each child's name and seating position on her clipboard, asking each child to check that she'd written the student's name correctly. She shared that the students would be reading, thinking, and talking about a book together so the teachers observing the lesson could think about teaching but not do the teaching today. Debra said that the students might see the teachers writing on their notebooks during the lesson, as they were to notice what she and the students were doing and saying. Debra then gave each student a copy of the text they would be reading.

Earlier in the day, the teachers and Debra coplanned the lesson and had anticipated comments the students might share about the topic of this report. During the introduction to the text, many of the expected comments arose. The students confidently and eagerly shared facts about the topic of the book, *Spiders* (Feely, 2009), spurred on by the vivid photographs in this nonfiction text (see Figure 1). “They have eight legs.” “Spiders make webs to catch bugs.” “Sometimes they're big or really little.” “Spiders are scary.” Joseph, however, surprised everyone with the background knowledge he shared: “They eat insects. Well, they don't really eat them. They suck their blood.” The other first graders and Debra gasped in mock-horror and then began to laugh at this

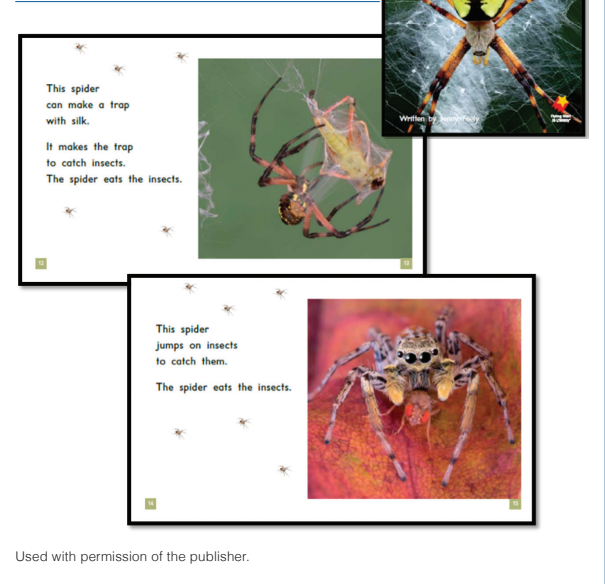
unexpected and first-grade-yucky detail (as Joseph most likely intended, judging by his utter delight in the responses).

As the introduction progressed, Debra encouraged students to locate particular words, phrases, and sentences in the running text as they discussed the photographs. This would support the readers to use both print and photographs later when they read the text for themselves. (During the coplanning, she and the teachers had identified particular language and vocabulary the students might need support to understand.) The readers located and discussed the words and sentences confidently: “Some spiders...”; “All spiders...”; “This spider is as big as your hand”; “This spider is as little as the top of this pin.”

At the end of the introduction, the students turned back to the beginning of the text and began to read, think, and talk more about the text. On each page, they decoded words accurately, checked their print processing against meanings derived from the photographs and previous discussion, and reread as necessary to make the text sound right (the sentences with “as big as” and “as little as” took several attempts). However, as they began to talk about the pages they’d read, “a distinctive change seemed to occur in the group’s dynamic. For some reason, rather than continuing to share easily and excitedly, the readers now settled for rote recall of factual information read in the book” (Crouch & Cambourne, 2020, p. 114). The content information found on the pages was substituted for the ideas the students shared during the introduction; those ideas seemed irrelevant to the students now. The confident thinkers and meaning-makers from just a few minutes prior had transformed into word-callers who believed that what the book literally said were the only important ideas to talk about.

As Debra recognized the students were thinking “within the text,” she made decisions about how to best support the learners to think “beyond and about the text” (Fountas & Pinnell, 2017, p. 4). Debra believed the students were quite capable of more complex thinking, given the engagement during the introduction. While the text itself isn’t considered complex, given its level, the thinking the learners construct as a result of reading the text should be more than just within the text responses. So Debra decided to offer Joseph an opportunity to demonstrate for his classmates what it looks and sounds like when a learner thinks beyond and about a text.

Figure 1. Cover and Pages 12–15 from *Spiders* by Jenny Feely (*Flying Start to Literacy* Levelled Text Collection, Level D)



After students read pages about various ways spiders catch insects to eat, Debra reminded the students about Joseph’s idea shared in the initial discussion.

Debra: Joseph, you shared earlier you thought that spiders don’t actually eat the insect, they just suck the blood. Did you find out about that idea in this book?

Joseph: No, it just says they eat the insects.

Debra: Hmm ... why do you think the author didn’t include your idea?

Joseph: (after pondering the question for a few seconds)
The author didn’t say ‘suck the blood’ ’cause this book is for little kids. That might be too scary.

Exploring a Belief System

No teacher wakes up in the morning and thinks “I’m going to be an unsuccessful teacher today.” No teacher intends to teach in ineffective ways. However, “when we teach, our beliefs about knowledge, language, and literacy influence our interactions with our students” (Johnston, 1997, p. 95). Within any instructional moment, including in the lesson above, teachers’ beliefs and understandings about learners and learning impact their decision making. And those decisions have dramatic effects on children’s views of what it means to be literate.

Teachers face many challenges when teaching children to be literate, and the literature about teaching that is supposed to help deal with those challenges is plentiful. Indeed, teachers are bombarded with the most current research, tips, ideas, and photos that reveal what teachers can do to make everything work smoothly while also meeting every standard in the process! How does a teacher parse all the instructional ideas—and the mixed philosophies and messages behind all those ideas—about what and how a teacher should teach? And what do each of those ways of teaching communicate to children what literacy is? This is where being clear on belief systems matters tremendously.

A *belief system* is a synonym for a theory, in this case, a theory of learning and teaching. One's beliefs, or theories, guide what is observed, valued, and interpreted. Theories, or beliefs, about how learning occurs influence those interpretations and the subsequent decisions about what is taught to whom and when.

Some educators believe learning is the result of an effort (teaching) that is applied to a learner. In this belief system, often referred to as a *transmission model of teaching*, an adult teacher passes on ideas and information to a less experienced student. The learner is treated as a passive recipient of these ideas and information until later, when, as proof of learning, students are asked to restate, either verbally or written or both, the ideas and information the teacher presented. In a transmission model of learning, the assumption is that teachers must cover every comprehension strategy and individual reading skill so that children can succeed; without that instruction, students won't be successful readers. Teachers who believe in this way of learning withhold texts until children know all their letters and sounds, except for texts written with specific letter/sound patterns and words that have been previously taught by the teacher. Within this system, teachers at all grades assess children to find out what they don't know and what they didn't absorb from instruction, from letter/sound knowledge to fluency and comprehension. The resulting teaching experiences are an ongoing effort to fill in the gaps. Small groups are formed because the students need to learn a particular skill or strategy. The message communicated to students is that the teacher is the source of understanding and will determine if and when to give this knowledge to students. Students who experience this kind of teaching develop a belief that knowing and understanding sits outside their control; for example, read-

ing is about saying the words right, and writing is about spelling the words right. Teachers who hold this belief system consider the active teaching stance first. A primary question a teacher with this belief system asks is: "What do I do to teach the learner to read?"

In this article, we explore a different belief system in which learning is "the process of continually constructing, deconstructing, and reconstructing meanings while interacting and communicating with others (and with oneself) ...using a range of symbols and symbol systems" (Cambourne, 2013, n.p.). This belief system is known as *constructivism*. In classrooms using constructivist pedagogy, a teacher deliberately creates opportunities for learners to experience, explore, and create meaningful literate events, connected to all aspects of literacy or numeracy or science or history. For example, during shared reading experiences to demonstrate the strategic actions of cross-checking, a teacher who holds a constructivist belief system understands the importance of choosing well-known, meaningful texts for these demonstrations. As teachers draw the students' attention to particular lines of known print, they model how to reread to crosscheck for themselves that they've read the words accurately to ensure they are making sense of the text. Because the learners have constructed meanings in the text previously, their brains are more likely to attend to what the teacher is highlighting in the demonstration (deconstructing and reconstructing understandings). These teachers hold true to Marie Clay's axiom: "Comprehension lies in what learners say, what is read to them, and what they read and write; learners should know that all literacy acts involve comprehension" (1998, p. 217). The message is quite clear that in every reading experience, comprehending the text *is* the purpose of reading.

Teachers in constructivist classrooms embrace collaborative interactions among students, recognizing that "children's ability to use language as a tool for thinking on their own has its origins in thinking together" (Johnston, 2012, p. 94). Students are expected to construct, clarify, interpret, adjust, and expand their thinking in the company of other learners — a powerful message about how one goes about learning. Through these learning experiences, students develop a distinctly different sense of what it means to learn. Lessons "float on a sea of talk" (Britton, 1970, p. 164) that is "purposeful" in nature (Nichols, 2019, xii). These deliberately crafted physical, social, emotional, and intellectual environments honor

the constructive intent of the group members, with the recognition that “thinking well together leads to thinking well alone” (Johnston, 2012, p. 96). A teacher’s belief system “affects just about everything a teacher does, from how time, space, and resources are bought, organized, and used to the behaviors and routines accepted or rejected for operating the classrooms” (Crouch & Cambourne, 2020, p. 7).

Constructivist pedagogy should not be considered code for “discover everything on your own” nor is it a directive to ignore skill instruction (Crouch & Cambourne, 2020, p. 17). Constructivist pedagogy is responsive to learners based on a teacher’s observations. And each of these responsive experiences occurs within a meaningful context. Marie Clay (1998, p. 70) describes these quality interactions as such:

Teachers notice things the reader is attending to, they catch the child in action. They notice which foothold in print is being used and support it. They interact with the child using it, stretching out the opportunity so that the child can give it more attention. Sometimes they interact to enhance what can be attended to, expanding the teachable moment and the child’s opportunity to notice something novel.

Teachers in constructivist classrooms become keen observers of what learners bring to literacy interactions, not just noting a student’s content knowledge, but also recognizing each learner’s abilities with language, adeptness in collaboration, and how they use their understandings of how books work (Mooney, 2004). Interpreting those observations, teachers make teaching decisions to support each learner, building on what they have under control. In a constructivist classroom, the questions the teacher asks are: “What does this learner know already? How can I support this learner to learn more?”

The Role of Conceptual Metaphors in Affecting One’s Belief System

Embedded within one’s beliefs are *conceptual metaphors*, or mental representations. By metaphors, we don’t mean the kinds of figurative language often used to enhance writing, such as “strong as an ox” or “love is a battlefield.” Metaphor in these instances is a flourish used to enliven our sentences and make our imagery more vivid.

Conceptual metaphors are deeply embedded in our thinking, language, and behaviors. These conceptual metaphors, as defined by cognitive scientists, subconsciously guide how people think about the world and determine their language and behaviors. For example, George Lakoff (2004) coined the term *Moral Accounting Metaphors*, to illustrate the accounting metaphors used in everyday life to describe our interactions with others, such as “You *saved* my life! How could I ever *repay* you?” and “You *owe* me an apology.” The indebtedness implied through this accounting language can affect not only one’s personal relationships, responsibilities, and interactions, but one’s world view and deeper cultural assumptions. In each of these situations, consequences arise from the metaphors held that direct our thinking, consciously or not.

In *The Idea of the Brain* (2020), neuroscientist and author Matthew Cobb cites the limitations of the conceptual metaphor in his field of brain research. He argues that holding tightly to metaphors—and the academic research, language, and other discourse that arises from their presence—imposes boundaries and can end up limiting what and how we can think (Cambourne & Crouch, 2020). He and other brain researchers (Buzsaki, 2019; Frégnac, 2017) believe the commonly held metaphor of the brain as a computer influences how brain researchers design their studies, leading to an overemphasis on the components of stimuli and the regions of the brain that control particular functions. They believe a brain-as-computer metaphor prevents some researchers from fully understanding the brain’s processing capabilities and how the brain makes meaning of the stimuli it receives as it forms cognitive networks.

Literacy research is also rife with conceptual metaphors (Cambourne & Crouch, 2021) which may limit what and how educators think about learning. How educational researchers define reading in their studies is critical to the questions asked and how the research is designed. If a researcher believes reading is just about how the brain receives stimuli, the design of the study might focus primarily on the visual input of individual letters and words into a particular part of the brain, without any notion of how the brain is processing that stimuli to make meaning. However, if a researcher believes reading is about how the brain *processes* letters and words in continuous texts to make meaning of what is being read, the research will be designed to consider quite different questions. So the

conceptual metaphors researchers hold about the purpose of reading matters tremendously.

The influence of conceptual metaphors is also true for practitioners who interact with children on a daily basis. The conceptual metaphors they subconsciously hold influence how they define, think, and talk about such concepts as effective reading and effective learning (Cambourne & Crouch, 2021). This, in turn, affects the language they use and the ways they behave, sending intended, or unintended, messages to learners about what reading and writing and other learning is about. For example, when teachers use the word “work” to describe the activities that occur when students interact with a text, it subtly sends the message that reading is a chore to be done, regardless of the teacher’s intention. Another example of a conceptual metaphor, which may be consciously or subconsciously held, is when teachers view children as vessels to be filled with knowledge; it then becomes the teacher’s responsibility to ‘fill the vessel’ (i.e., the child) with knowledge.

Becoming aware of the conceptual metaphors we hold offers us opportunities to intentionally shape and influence our language and actions in a classroom. Perhaps the profession needs conceptual metaphors which reflect processing rather than a product. These processing metaphors honor each learner’s construction, deconstruction, and reconstruction of meaning. They reflect that everyone—young children, classroom teachers, leaders of schools, parents, and beyond—is learning together in a collaborative exercise (Cambourne & Crouch, 2021). One conceptual metaphor we have begun exploring is that of quilting. Quilting, a verb that invokes “a purposeful process of selecting and creatively reshaping existing pieces of fabric in new and interesting ways, reflects the creativity and innovation that describes the reality of most classrooms” (Cambourne & Crouch, 2021, p. 20). For example, many teachers have taken a known practice, reading aloud to students, and intentionally redesigned and reshaped the practice through their diverse text selections. Through these intentional text selections, teachers offer learners “mirrors, windows, and sliding glass doors” (Bishop, 1990, p. ix) as well as “maps” (Myers, 2014) as the learning community engages in meaningful conversations about equitable and inclusive ways of being together in the classroom and in the world. This is an example of intentionally using our language and actions to honor the construction, deconstruction, and reconstruction of collaborative meaning making.

How Belief Systems and Conceptual Metaphors Influence Instructional Decisions

“Whatever metaphor is held and used, it is crucial for educators to become consciously aware of how these metaphors influence their instructional language and behaviors” (Cambourne & Crouch, 2021, p. 20).

Understanding belief systems and conceptual metaphors is important because, quite simply, they are never neutral (Schaffner, 2021). They lead educators to adopt non-neutral stances, language, and instructional practices in a classroom. Differing expectations of what different readers are capable of accomplishing influence the teaching and learning opportunities they are offered. Dr. Yvette Jackson (2016), CEO of the National Urban Alliance for Effective Education, outlined the kinds of transformational instructional pedagogy that allows students, especially students of color, to flourish. That pedagogy, she writes, begins with a teacher’s beliefs in and expectations for students’ abilities, which, in turn, drives the direction, instructional choices, and opportunities that are made available. This aligns with the research from Mary Ellen Vogt (1989, 2000), who found that teachers’ perceptions of learners led to qualitatively different experiences of language within discussions, interactions, and other opportunities for learners labeled as “lower.”

In *What Really Matters for Struggling Readers: Designing Research-Based Programs* (2011), Richard Allington summarized the differences in instruction provided to learners deemed “struggling” and “better” readers. Teachers of struggling readers are more likely to interrupt a reader when the reader miscalls a word and suggest the reader sound out a word when the reader is interrupted. Better readers are more likely to be expected to self-monitor and self-correct so are only interrupted after a wait period or at the end of a sentence. Better readers are more likely to be asked to reread or to crosscheck when interrupted.

In *Opening Minds: Using Language to Change Lives* (2012), Peter Johnston discussed at length the influence a teacher’s language has to change the learning narrative for students. Shifting typical classroom feedback that begins with “I like...” to “Look at how you...” repositions the learner as agentive in the learning narrative. Changing our verb from “is” which implies certainty to “could be” which implies possibilities promotes flexibility and creativity during classroom discussions. These language differences are subtle but they have striking effects on how learners view themselves *as learners*.

These stark differences in a teacher's expectations and language, named by these esteemed educators and others, and the ensuing instruction lead to stark differences in learning. Simply put, a teacher's beliefs and the conceptual metaphors they hold about learning and learners powerfully influence their language and actions. Based on their expectations and beliefs, teachers ultimately decide "*what* to be explicit about for *which* students, and *when* to be explicit about it" (Johnston, 2004, p. 8).

Examining the Effects of Teacher Decision Making on the Conditions of Learning

In his study of how learning occurs, Brian Cambourne (1988) chose to explore a kind of complex learning that is universal: how children learn to talk. All children learn the language in which they are immersed, barring abuse or physical disabilities, making it one of the most prevalent forms of learning in the world. Cognitive scientists and linguists "regard learning to talk as the most complex learning task humans ever face—and because it occurs so regularly and so successfully—we often take the process for granted" (Crouch & Cambourne, 2020, p. 25). Marie Clay (1998, p. 208) says "learning to talk is harder than learning to read or write, and it is achieved earlier!" While some might debate whether children are "wired" to learn to read and write and that there are differences in learning to talk and learning to read and write, all children have the potential to learn. They are, quite literally, made for learning. Yes, what is to be learned is different. However, the conditions that support that learning are not different. As Peter Johnston (1997, p. 140) says, "children can be thought of as always ready to learn more if placed in an environment that will support their participation." This belief is essential to creating a learning environment that is equitable and just for all learners.

To date, Cambourne has identified eight Conditions of Learning and four Processes That Empower Learning (see Figure 2). His initial research identified eight patterns of factors and principles that seemed to support children learning to talk. He then asked teachers to deliberately design purposeful literacy learning settings that were supported by these factors and principles, these conditions, in their classrooms. Over decades of observation, the processes emerged as the kinds of interactions that result from applying the conditions, which in turn, strengthen the overall impact of the conditions. The

processes increase the depth and durability of the learning and simultaneously honor and encourage approximations as a valid and powerful strategy when learning new ways of knowing and being (Crouch & Cambourne, 2020). While each condition and process can be described separately, it is essential to understand that they function synergistically and holistically in practice. When a teacher makes a decision that affects one condition or process, that decision affects them all.

There is no specific order in which to discuss the conditions and the processes, however, there is a logic to the order below. First is Engagement, a central condition necessary for any learning to occur. Next is Immersion and Demonstration, two conditions that support learners to know how to go about applying what is being learned. Then, there are five conditions that give rise to an enigmatic, yet pervasive, tone and atmosphere of the learning setting, increasing the probability of engagement: Expectation, Responsibility, Employment, Approximation, and Response. When discussing the processes, first is Transformation, which is a process of making what is learned one's own. Next is Discussion/Reflection, followed by Application, and Evaluation. These four processes are inherent in any classrooms where teachers intentionally focus on bringing the Conditions of Learning to life. (See Figure 3 for short definitions of Conditions and Processes.)

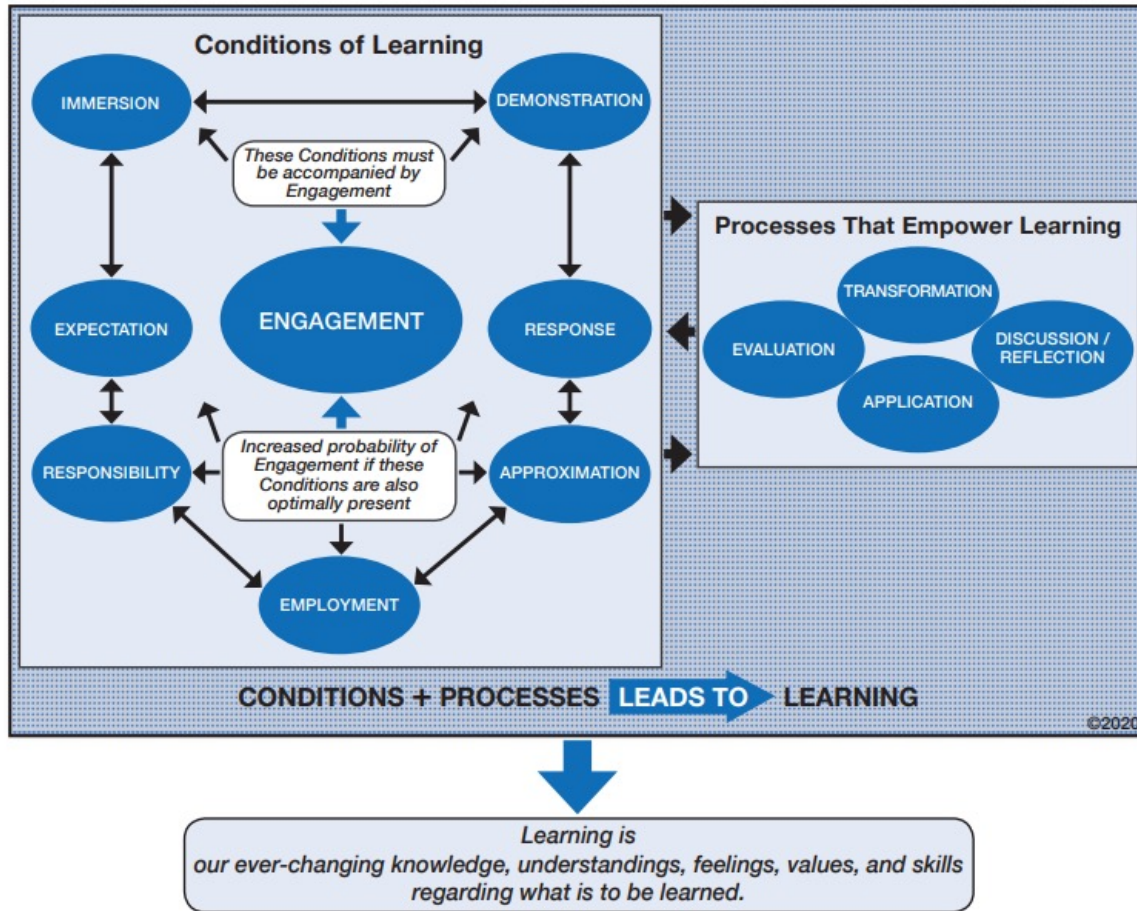
The Conditions of Learning

Engagement

In the visual that illustrates the Conditions of Learning, engagement is purposely placed in the center. It is *the* fundamental condition for learning to occur. Engagement is a complex phenomenon with overtones of attention and attending. Before one can learn from a demonstration, one must first engage with it. The depth of attention, and what a learner might actually attend to is, in turn, affected by a range of emotional, social, and ecological factors that need to be met, including a desire to learn what is being actively observed.

The learners in the lesson described at the beginning of this article were initially hesitant as they sat down for the lesson in an unfamiliar space with multiple adults peering at them. However, very quickly, they began to engage in the thinking at hand. Debra shared why they were gathered together and what the students' and the observ-

Figure 2. Cambourne's Model of Learning



Made for Learning: How the Conditions of Learning Guide Teaching Decisions, © Crouch and Cambourne, 2020, Richard C. Owen Publishers. Used with permission of the authors and publisher.

ing teachers' roles were. As each student shared their name and their individual spelling, they were placed in the role of more knowledgeable one. They held their own book, a text with vividly colored, close-up photographs. All their ideas were accepted. And they laughed together. So how do each of those elements support student engagement?

Four principles emerged from Brian's years of observational research. All four principles must be present and all work together if engagement is to occur. Each of these principles apply equally to the classroom setting. The centrality of engagement to all learning can't be overstated.

- Learners must see themselves as doers of the behavior in which they are immersed, see them-

selves as readers, writers, mathematicians, scientists, historians, engineers (or believe they are capable of becoming any of these). This belief in oneself is part of becoming agentive (Johnston, 2004). If for any reason a learner has doubts about their capabilities with what is being demonstrated, the depth of engagement will be shallow. In the guided reading lesson, the students took ownership in the meaning making of the text immediately, confidently sharing their thinking with an accepting teacher. Having students in control of their own texts to freely explore pages and comment without raising hands puts learners in the role of doer.

Figure 3. Definitions of Conditions of Learning and Processes That Empower Learning

Conditions of Learning

Conditions of Learning	
Immersion	Immersion is when someone is surrounded by demonstrations (i.e. actions and artifacts) which serve as a platform for potential learning and meaning-making. Learners witness a holistic, visual and/or aural experience of this prospective learning, with all the physical, social, emotional, and intellectual aspects present.
Demonstration	Demonstrations are artifacts and/or actions that provide multiple, holistic opportunities to recognize and appreciate, know and understand, and act and apply certain skills, behaviors, and “know-how” in the world.
Engagement	Engagement is a participatory stance taken by a learner about what is being demonstrated. Engagement is more likely to occur if: 1.) learners see themselves as “doers” of the behavior in which they are immersed; 2.) they understand how these demonstrations are important to their lives; 3.) they believe they aren’t risking physical or psychological harm by attempting the behavior; and 4.) they like, trust, respect, and want to emulate the person demonstrating.
Expectation	Expectations involve beliefs about a learner’s capabilities, both how learners view themselves and how they are viewed by significant others. Often, this belief, or sense of self, is signaled through the messages and language significant others use when communicating with learners.
Responsibility	Independent learners are learners who know how make decisions, about what, when, and how they will learn. Only truly independent learners can be responsible for what and when they take from demonstrations.
Employment	Learners require time and opportunity to practice their evolving abilities with what is being learned. This practice occurs with others and on one’s own.
Approximation	Learners approximate, or make attempts, when learning. There is no expectation for approximations to be perfect or permanent.
Response	Learners receive feedback from a more knowledgeable other on what is being learned. To be effective, responses should be honest, positive, timely, relevant, and have no hidden agenda.

Processes That Empower Learning

Processes That Empower Learning	
Transformation	Learners transform what was demonstrated into something that is uniquely theirs. Transformation isn’t simply copying the person demonstrating or memorizing by rote what is being taught but is individually constructed by the learner.
Discussion/ Reflection	Talk with others (or, as is the case with reflection, talk with ourselves) about our thinking allows us to construct, clarify, interpret, adjust, and expand our understandings.
Application	Learners need opportunities to apply what they’ve engaged with in demonstrations. Whereas with the Condition of Employment, the learner decides what to practice, with Application, the teacher determines what is practiced.
Evaluation	Self-evaluation of our own learning (what we learned) and learning process (how we learned) is important for learners.

Made for Learning: How the Conditions of Learning Guide Teaching Decisions, © Crouch and Cambourne, 2020, Richard C. Owen Publishers. Used with permission of the authors and publisher.

- Learners must understand how demonstrations are important to their lives. A huge part of engagement is understanding the purpose of what is being learned and how it is relevant and beneficial to your own life. These demonstrations are not just interesting or entertaining, they are purpose-driven and significant. The students in the lesson understood what was expected of them and, equally important, why it was occurring. Taking time to explain *why* behaviors and actions occur, not just what and when they occur, matters.
- Learners must believe they aren't risking physical or psychological harm by attempting what is being learned. A learner has to feel a sense of freedom to make approximations of what is being learned. We wouldn't try anything if it had to be perfect right away and certainly not if we risk being demeaned or physically hurt because our approximations weren't perfect. As students shared their ideas, Debra acknowledged their thinking, often asking the students to share more about an idea. And laughing together about Joseph's "horrifying" information, rather than disparaging or dismissing the idea, sent a clear message that all thinking was valued.
- The fourth principle concerns the relationships between the learner, the teacher, and the community. The student must see the teacher, whether that teacher is an adult or another student, as someone trustworthy and someone to emulate. This relationship is not built on compliance, obedience, or being accountable because the teacher says so. While Debra had just met the students, sitting together in a circle, explaining the purpose of why they were together and taking time to learn their names were all teaching behaviors that launched a trusting relationship.

Immersion

Being surrounded by and witnessing what is being learned is the part of the learning experience known as immersion. These experiences support a learner to understand the full effects of what is being learned, with all the physical, social, emotional, and intellectual aspect fully present. Immersive experiences which are holistic—full and rich and complete—are most effective. This is why reading whole texts that are crafted first with student

interest in mind is critical. The leveled text in the lesson Debra taught had a captivating topic and offered words and photos to prompt discussion. While the words and sentences were controlled for accessibility, the close-up photographs were particularly striking and the design and conception of this text prompted many additional ideas.

Within immersive experiences, a learner is able to witness and identify how different aspects of what is being learned, both the visible and nonvisible and conscious and unconscious aspects, might be connected, related, and categorized. These multiple, contextualized experiences which occur over time can be teacher-controlled, learner-controlled, or even incidental (however, if students engage, what was incidental may become purposeful). If immersions are significant—in other words, if engagement is occurring—students attend to what is happening in the immersion (and any demonstrations). Otherwise, the intended learning from the immersion (and any demonstrations) simply washes over them, without learning occurring.

Demonstration

All learning begins when one engages with a demonstration of some kind. A demonstration involves the actions or artifacts that help a learner make sense of what they're immersed in and help a learner begin to discern how to go about learning whatever is to be learned. The goal of demonstrations is for learners to witness and engage in the process of what is being learned and to work out how to apply the skills and knowledge that are embedded in the demonstration. Within the lesson with Joseph and his classmates, Debra positioned Joseph to demonstrate what complex meaning making sounds like. Revisiting and probing his thinking to extend beyond ideas "within the text" (Fountas & Pinnell, 2017, p. 4) gave him the opportunity to illustrate how one thinks critically about a text, comparing one's ideas to those presented in the text ("No, it just says they eat the insects.") and considering an author's intentions and decision making about how the text was written ("The author didn't say 'suck the blood' cause this book is for little kids. That might be too scary."). Johnston (2012) reminds us to "take seriously the fact that the adult is not the only teacher in the room" (p. 123).

Some key ideas about demonstrations:

- Just like with immersive experiences, the most powerful demonstrations begin with holistic

encounters and events of what is being learned. These experiences are enhanced when they occur in the company of significant others.

- The demonstration must be an actual experience of what is being learned, not what David N. Perkins, in *Making Learning Whole: How Seven Principles of Teaching Can Transform Education* (2009, p. 4), refers to as “elementitis,” a focus on parts before wholes.
- The holistic experience of what is being learned is critical before parts are explicitly unpacked, examined, and refined. Explicit, holistic demonstrations support a learner to orchestrate parts into a whole. Any discussion of parts must connect back to meaning, which is only possible if meaning has actually occurred to begin with.
- Multiple, explicit, contextualized demonstrations occur over time and in multiple modes because learners will often engage with different features or characteristics of a demonstration, regardless of the teacher’s explicit focus.

Expectation

While all the conditions are about beliefs in a learner’s capabilities, these beliefs are especially important to the condition of expectation. These beliefs must be unconditional to be most effective, with consistency and genuineness (Johnston, 2004). Learners are more likely to engage with significant others who hold high expectations for them (Rosenthal & Jacobson, 1968; Smith, 1983, 1987). Beliefs about a learner’s capabilities are communicated to a learner from what others say and do. This language enables a learner to bond with the significant other (i.e., the teacher) and trust them as a person who genuinely has their best interests at heart. In a classroom, this language and these actions send powerful messages and become invitations for learners to explore the “frontier of their intelligence; their innate capital” (Jackson, 2016, p. 80). As Debra explained the purpose of coming to the group was to read, think, and talk together, she communicated a belief in their abilities. As each student controlled the book for themselves during the book introduction, they were doers of the experience. As their ideas were validated and accepted, not as right answers but as genuine meaning making, the learners were situated to believe in their own abilities.

Because, as crucial as others believing in them, learners must believe in themselves. They must see themselves as doers of what it is they are learning, through “practices, strategies, and opportunities designed to identify and cultivate each student’s unique strengths, gifts, and talents” (Jackson, 2016, p. 80). It is through experiences that position learners as capable that they develop a sense of self as dynamic and agentive.

Responsibility

When someone is learning, they must make decisions on why, when, how, and what to learn and apply in any learning experience. Empowerment to make these decisions is necessary for any learning to occur. The most effective teachers recognize a student’s attempts at meaning making, honor those developing abilities, and mark the moment with “emphasis, or prolonged attention, sharing the experience” (Clay, 1998, p. 70). During the book introduction, Debra asked students to locate print which supported their discussion or which aligned or extended the thinking occurring in the initial walk through of the text. She paused and offered students time to search for themselves and use their fellow readers as support when needed, rather than pointing words out in a book herself. Later, as students read the text fully for themselves, she again used silence as a teaching strategy, waiting for the students to decode words, read on in the sentence, and monitor and self-correct their own word solving and meaning making (Crouch & Cambourne, 2020; Allington, 2011; Johnston, 2004).

Teaching of this sort respects the learner, acknowledging them as responsible and capable, which increases engagement. It offers invitations (as well as guidance) on “how to apply the discoveries they make about their intelligence so they can better determine what they want to pursue to feel self-actualized and to experience agency and investment in society” (Jackson, 2016, p. 80).

Employment

Learners need time and opportunity to practice and use of what is being learned. As we take on responsibility and employ what is being learned, our abilities evolve and develop through our practice and approximations. The most effective practice and use is authentic, purposeful, and meaning driven. This use and practice occurs by oneself and in the company of others. The most effective employment is reflective of immersion and demonstration

experiences and is void of two experiences called out by Perkins (2009, p. 4–5): “elementitis,” as we described earlier, and “aboutitis,” where teachers spend a lot of time talking about what the learners are going to do but not actually doing it. Educator Richard Allington (2011) echoes this thinking, calling for students to be engaged in real reading and writing experiences, not doing “stuff,” those reading-related tasks designed to keep children busy regurgitating parts and pieces but not making decisions to orchestrate the parts and pieces within an authentic literacy event.

The guided reading lesson offered Joseph and his group an opportunity to use their ever-developing skills and strategies to think in more complex ways. The students will need many more opportunities to think in these ways in whole-group lessons, small-group lessons, in partnerships, and independently. Marie Clay (2015) defines reading as... “a message-getting, problem-solving activity, which increases in power and flexibility the more it is practiced” (p. 6).

This practice means learners will need many opportunities to apply their ever-developing skills and strategies in more complex texts. Levels cannot be used to pigeonhole learners into particular kinds of texts. In selecting texts, Margaret Mooney (2004) suggests we ask ourselves two questions: “How will this book help these students know more about how words work, how language works, how texts work, and how reading works? What amount and kind of support will I need to provide to ensure the students are successful at gaining and using the information and ideas *for* and *by* (emphasis added) themselves?” (p. 16).

Approximation

In all the employment just discussed, a learner must feel free to approximate what is being learned. The condition of approximation honors a learner’s attempts as evidence of learning. The most effective teachers observe a student’s approximations and “look at the things they can do, and how these are achieved, and then build on that foundation” (Clay, 1998, p. 103). There is no expectation of perfection in any attempt, even after multiple tries. In addition, teachers understand that a learner’s imperfect attempts are temporary. Their attempts in the future won’t be the same as their attempts today. A belief that all children bring some kind of meaning to every learning event is what lies at the heart of Clay’s encouragements

to observe and recognize children “enter school having learned different things in different ways in different cultures and communities” (1998, p. 1).

Within the lesson with Joseph and his classmates, Debra accepted each learner’s approximations as evidence of thinking. While acknowledging the contributions and ideas of each learner, she was careful not to label any thinking as right or wrong. She also didn’t demand complete sentences from the students, recognizing learners often use tentative or fragmented language as they are exploring what they think (Barnes, 2008). In the lesson, if an idea wasn’t clear or the learners indicated they had more to share, Debra probed thinking to support the learners to say more: “Tell us more about that idea.” It is through additional discussion experiences that a learner’s language becomes more presentational in nature. Over multiple discussions, a learner considers what they want to say and how they want to say it, depending on their audience, with their language becoming more complex in vocabulary use and syntax over time (Barnes, 2008). Engagement increases when a learner realizes that the teacher honors and accepts their approximations, in whatever language form it is offered.

Response

And last, but certainly not least, is the condition of response. Responses from a significant, more-knowledgeable other are honest, timely, and relevant, with no hidden agenda or strings attached (e.g., “If you do this, you’ll get a good grade”). The “other” in this case can be an adult or another student, reinforcing the need for a strong classroom community, which “in itself is more important to learning than any method or technique” (Peterson, 1992, p. 2). This condition is closely tied to a teacher’s language and their actions, where they “make the most of those opportunities children offer us” (Johnston, 2012, p. 4). A teacher’s language and actions, and those of the other students, sends powerful messages and has the potential to promote or deny learning.

During the lesson, Debra observed the kinds of thinking the students shared and noted what in the text prompted their thinking. These observations supported her decisions throughout the lesson: when to probe comments immediately (“Eight legs? How can you tell?”) and which to probe later (Joseph’s comment about sucking the blood). In addition, the planning Debra and the teachers had done prior to the lesson was crucial. The students’ regular

teacher noted the reading behaviors under control and those being approximated. Together, the team examined the text closely, considering where the supports and challenges were as considered through the lens of these learners and what they have under control. This planning helped Debra be responsive during this lesson. However, it is her foundational belief in each learner's capabilities that allows her to be a responsive teacher in every lesson. And these responses are what support student engagement.

Processes That Empower Learning

Transformation

When one truly knows and understands something, they are said to have “made it their own.” Transformation is the process of taking what has been demonstrated and applying the meanings made in a unique and individual way. Perhaps a learner paraphrases words to discuss a text they have read. They might also apply skills in similar contexts but in quite unique ways, such as when they apply skills and strategies in more complex text or adjust a golf swing from what a coach demonstrated (e.g., Tiger Woods).

Learners may also transform what was learned into different forms or configurations. A striking example of this is Lin-Manuel Miranda's award-winning musical, *Hamilton*. From reading a written text (a biography of Alexander Hamilton) combined with his background in musical theatre and his collaborative team of “trailblazing creators,” *Hamilton* became a “transformative work that defies category” (Aviles, 2018).

The active process of transformation reflects a belief that, with true and deep learning, simple rote-memorization and regurgitation of what was demonstrated can never be considered a true measure of learning, in the classroom or in life. When learners transform what is learned, they are required to go “beyond the information given” (Bruner, 1973). Such learning encounters, and the teaching that supports them, “alter the trajectory” for our learners (Howard, 2012).

While the process of transformation doesn't occur in a single lesson, it is through multiple opportunities of the kinds of learning and teaching experiences Joseph and his classmates encountered that the transformation process becomes possible. “This instructional give-and-take offers both implicit and explicit moments for teachers to lift up the thinking of students. We not only notice the ideas being generated but also help students notice how they arrived at understandings” (Crouch & Cambourne, 2020,

p. 129). It is through this give-and-take that learners learn to use language as a tool for meaning making. M. A. K. Halliday (2004) encouraged educators to see the construction of learning how to make meaning as a complex process in which children learn language, learn through language, and learn about language simultaneously. From the learner's point of view, these aspects of language, and, hence, meaning making, don't occur separately but are aspects of a single complex happening. It is through this simultaneous focus on learning language as a process and means of communication, learning to use language to construct our knowledge of the world, and learning how language itself works, that students transform their worlds. In these simultaneous, complex experiences, students generate, construct, and shape new semantic and syntactic meanings. “Language is the essential condition of knowing, the process by which experience becomes knowledge” (Halliday, 1993, p. 94).

Discussion/Reflection

Talking with others (or with ourselves as is the case with reflection) about our thinking is crucial for us to construct, clarify, interpret, adjust, and expand our understandings. Brain research shows that interactions are crucial to develop connections in the brain; those connections are what the phrase ‘grow your brain’ actually means (Buzsaki, 2019; Cobb, 2020; Hirsch-Pasek et al., 2018; Piazza et al., 2020; Romeo, Leonard, et al., 2018; Romeo, Segaran et al., 2018). This talk must be purposeful, honor constructive intent, harness the power of varied perspectives, and engage participants over expanded space and time (Nichols, 2019). This kind of purposeful talk supports learners to understand the constructive potential of collaborating with others as they talk their way to meaning.

Guided reading is, by definition, “an approach which enables a teacher and a group of children to talk, read, and think their way purposefully through a text” (New Zealand Ministry of Education, 1985, p. 69). Within this lesson, Joseph and his classmates were engaging in the kinds of experiences found in classrooms that intentionally use the process of discussion, experiencing the power of talking to construct, clarify, adjust, and expand thinking. Each student showed responsibility by staying on topic and being willing to listen to the other ideas being shared. Over multiple experiences such as this, these students will come to understand that reading is not just what the words in the book say but also includes the ideas built with others, including the author.

Application

There is a great deal of overlap between the condition of employment and the process of application. They both have students making approximations of what was demonstrated as they practice. With employment, the learner determines what to attend to, integrate, and practice based on what they personally need for their learning to progress. With the process of application, an emphasis is on learners trying out specific parts of what a teacher intended as determined by the teacher. There are times when, after extended periods of immersions, demonstrations, and responses, a teacher recognizes a learner isn't focusing on what was intended and offers the learner a more explicit and direct response. This "upping the ante" (Crouch & Cambourne, 2020, p. 100) occurs only after multiple demonstrations have occurred and ample time has passed. This shift in response requires an attentive and knowledgeable teacher, nurturing relationships, and a strong classroom community.

During the planning before the lesson, the students' teacher shared an observation about the students: They tended to just repeat what the text said when asked what they learned. The students didn't use their background knowledge to understand the text or think critically. The teachers were curious how to support the students to think at higher levels. This is an example of application, where teachers know they have taught something, but they aren't seeing students apply it. Their teacher had a regular read-aloud practice in her classroom, using turn and talks to support student understanding, however, she reflected that these students sometimes didn't share with partners or in the whole-group discussions. Debra encouraged the teachers to notice student comments during the lesson for opportunities when she might ask a student to expand on their thinking. Being prepared to be attentive for these moments supported Debra to be responsive to Joseph's ideas.

Evaluation

The process of evaluation is about self-evaluation. Potential learners are constantly evaluating their own performances as they engage, discuss, transform, and apply what is being learned (Crouch & Cambourne, 2020). This process is not driven by competitive environments nor our judgments of a learner's abilities. To gauge their own abilities and successes, learners compare and adjust their approximations to the immersions and demonstrations of whatever version of the "whole" was

presented (another reason why experiences of learning wholes are important). In this process, the learner is reflecting on their own question of 'how am I doing?' in a nonjudgmental way. The most effective learning environments provide whole-group, small-group, and individual opportunities, with and without the teacher, for continuous cycles of apply-discuss-transform-evaluate.

By Debra responding to Joseph and his classmates in an authentic and genuine way—through using probing questions and laughing at comments—the students are able to determine how they are doing with the meaning making being constructed. This, along with multiple other examples of what it means to think deeply about a text, are how we support students to become their own evaluator, which increases responsibility and engagement in their own learning.

Using the Conditions and Processes to Guide Decision Making

To paraphrase futurist Alvin Toffler (1970), it helps to keep the big things in mind so all the little things go in the right direction. This is what using a theory of learning is all about — using our theory, our belief system, to provide a vision of possibilities to guide the day-to-day decisions in classrooms.

As stated earlier, teachers are bombarded with the latest, greatest teaching ideas, whether these come from favorite websites, conferences, books, or other professional learning experiences. It is through reflective collaboration with colleagues (Fountas & Pinnell, 2021) and examining one's own beliefs, theories, values, and conceptual metaphors that teachers move beyond unproductive patterns of instruction and interactions. The Conditions of Learning offer a theoretical lens, or framework, for examining our existing belief system about learning and the practices we use in our classrooms. However, just as there isn't a right way for the conditions and the processes to influence or guide instruction, the point of using them as a lens isn't about figuring out the right way to do a lesson or activity. The goal is to strengthen any learning setting by bringing intentionality to decisions that make learning more likely to occur. One way to use the conditions and processes to examine instruction is found in Figure 4. Here, we use a template to examine some of the decisions Debra made in her lesson and how they affect the Conditions of Learning and the Processes That Empower Learning.

Figure 4. Using the Conditions and Processes to Strengthen the Learning Setting

Teaching Decisions Examined through the Conditions of Learning Guided Reading from Chapter 7, Language: The Bridge between Learning and Teaching Text: First Reading of <i>Spiders</i> (Feely, 2009) Teacher: <i>Debra Crouch</i>		
Lesson	Teaching Decisions	How the Conditions and Processes are Affected by these Teaching Decisions (Specific Conditions and Processes are in bold)
<p>The students independently looked through the book <i>Spiders</i> (Feely, 2009), unreservedly sharing things they already knew about this topic as prompted by the vivid photographs. Several children strengthened their claims by drawing the group's attention to specific photographic details that linked to their declarations. The discussion moved quickly and enthusiastically.</p> <p><i>They have eight legs. See, I can count them, one, two, three, four ...</i></p> <p><i>Spiders make webs to catch bugs. I saw a spider web like that at my house.</i></p> <p><i>Sometimes they're furry—ewww!— and different colors, too.</i></p> <p><i>Sometimes they're big or really little. Spiders are scary.</i></p> <p>At this point, Joseph, who had been nodding along as each of these ideas emerged, added, <i>They eat insects. Well, they don't really eat them. They suck their blood.</i></p> <p>The other first graders were appropriately horror-struck and amused by this idea, which delighted Joseph.</p>	<p>Debra asked the students to introduce the book to themselves rather than having them follow her page by page through the book.</p> <p>She was quiet while the students shared ideas, neither confirming nor denying the validity of their ideas.</p> <p>She laughed along with the children, including Joseph, at the "horror" of his idea.</p>	<p>When teachers support learners to take responsibility for their own learning, they nurture the students' belief in themselves as learners This supports student engagement.</p> <p>By accepting all their ideas as equally valid, Debra encourages approximation and communicates an expectation of them as capable learners.</p> <p>By engaging with the group's meaning-making (the group's "horror" at Joseph's idea), Debra's response expresses her acceptance of all ideas. This encourages students to participate without judgment or harm, a key factor in engagement. This also supports the Process of Evaluation, through which students determine how they're doing with the meaning-making being constructed.</p>

Made for Learning: How the Conditions of Learning Guide Teaching Decisions, © Crouch and Cambourne, 2020, Richard C. Owen Publishers. Used with permission of the authors and publisher.

Figure 4. Using the Conditions and Processes to Strengthen the Learning Setting CONTINUED

<p>As the lesson moved on, the group returned to the beginning of the book to read, think, and talk more about author's ideas shared on each of the book's pages. A distinctive change seemed to occur in the group's dynamic. For some reason, rather than continuing to share easily and excitedly, the readers now settled for rote recall of factual information read in the book. In other words, the ideas from the book became the focus for their discussion. They rarely link what they already knew and had shared to what they were learning from the author. Debra believed they were capable of more complex thinking.</p>	<p>Debra attended to the change in the group's discussion and confidence.</p>	<p>Recognizing the unspoken lack of confidence about their abilities to make sense of a text is important for responses to the learners. As the children shared, Debra continued to accept all approximations from the learners.</p> <p>Her observations about how their thinking changed influenced subsequent demonstrations for the class.</p>
<p>Later in the lesson, after students read about various ways spiders catch insects to eat, Debra decided to remind Joseph and the other students of an idea shared in the initial discussion.</p> <p>Debra: <i>Joseph, you shared earlier you thought that spiders don't actually eat the insect, they just suck the blood. Did you find out about that idea in this book?</i></p> <p>Joseph: <i>No, it just says they eat the insects.</i></p> <p>Debra: <i>Hmm ... why do you think the author didn't include your idea?</i></p> <p>Joseph, after pondering the question for a few seconds, sagely replied, <i>The author didn't say 'suck the blood' 'cause this book is for little kids. That might be too scary.</i></p>	<p>Debra recalled Joseph's idea about spiders from the earlier discussion and brought the idea back for deeper consideration.</p> <p>She phrased her question to elevate Joseph's idea to those in the book: <i>Did you find out about that idea in this book?</i></p> <p>She probed to offer Joseph the opportunity to consider why the author had made a decision about how the book was written.</p>	<p>Lifting up a student's ideas in this way validates their approximations and encourages responsibility for thinking.</p> <p>Phrasing her question in a way that elevates the students' thinking to that of the book's author communicates a belief in the learner to make sense of a topic and text. This kind of response to a learner increases engagement and responsibility. Engagement increases as readers see themselves as capable.</p>
<p>What decisions might you make next time? How will this affect each of the Conditions?</p> <p>Read aloud and shared reading lessons that emphasize the ideas found in a text are not the "right" answers or the only ideas to value. Shared and independent writing will also be important for thinking about topics from varying perspectives.</p> <p>Demonstrations in both reading and writing will support engagement for learners. Thinking critically about what is not included in a book will be an important focus while reading and writing texts. This will help students form their own expectations of and beliefs in themselves as capable of making sense of a text. This will also help students recognize that just because a text differs from their thinking doesn't invalidate that thinking.</p>		

Made for Learning: How the Conditions of Learning Guide Teaching Decisions, © Crouch and Cambourne, 2020, Richard C. Owen Publishers. Used with permission of the authors and publisher.

Another way to use the conditions and processes to examine and guide decision making is when planning instruction. Below are some questions to ask when planning for teaching from a constructivist belief system. These questions can be applied to any learning experience, not just literacy.

- How do decisions about the instruction being planned affect the Conditions of Learning?
- Does the instruction encourage true engagement or is it based on compliance? How does it support the principles of engagement? How do you know?
- How does the employment offered provide opportunities to approximate and take responsibility for decisions leading to meaning making? What opportunities does the employment provide for transformation to occur?
- How do the demonstrations encourage and build on the learner's experiences of meaningful 'wholes'?
- What responses might a teacher consider using and/or encourage from other students in the upcoming interactions with learners? Will a teacher ask for application during the interactions? How will that look and sound?
- How will discussion be used by learners to construct, deconstruct, and reconstruct ideas? Where will a teacher use reflective moments to support learners?
- When and where will teachers support learners to self-evaluate?

Conclusion

The reality of education is that children do not all have similar opportunities (Clay, 1998). Having a reflective and responsive teacher is critical if we are to support a wide range of learners. It requires that teachers have a belief system that puts student engagement at the center, where they create classroom conditions that increase the probability of engagement and provide for powerful immersive experiences and explicit demonstrations.

If we are ever to support this range of learners to be successful, we must acknowledge that if learning isn't occurring as we intend for our students, it is rarely because our students aren't built for complex learning. If learning isn't

happening, we must ask ourselves if our learning settings and interactions are built and structured for such complex learning to occur. If learning is occurring and continuing for the children in our care, it's likely because our beliefs, and the teaching that unfolds, affirm our students are made for learning.

References

- Allington, R. L. (2011). *What really matters for struggling readers: Designing research-based programs* (3rd ed.). Pearson.
- Aviles, G. (2018, December 3). *Lin-Manuel Miranda, Hamilton creators awarded first-of-its-kind Kennedy Center honor*. <https://www.nbcnews.com/news/latino/lin-manuel-miranda-hamilton-creators-awarded-first-its-kind-kennedy-n943171>
- Barnes, D. (2008). Exploratory talk for learning. In M. Mercer & S. Hodgkinson (Eds.), *Exploring talk in school: Inspired by the work of Douglas Barnes* (pp. 1–12). Sage Publications.
- Bishop, R. S. (1990). Mirrors, windows, and sliding glass doors. *Perspectives: Choosing and using books for the classroom*, 6(3), ix–xi.
- Britton, J. (1970). Their language and our teaching. *English in Education*, 4(2), 5–13.
- Bruner, J. S. (1973). *Beyond the information given: Studies in the psychology of knowing*. W.W. Norton.
- Buzsaki, G. (2019). *The brain from the inside out*. Oxford University Press.
- Cambourne, B. L. (1988). *The whole story: Natural learning and the acquisition of literacy in the classroom*. Scholastic.
- Cambourne, B. L. (2013, April 20). *Doin' what comes naturally: Using nature's best biological ideas to inform classroom practice* [Conference presentation]. International Reading Association 58th Annual Convention, San Antonio, TX, United States.
- Cambourne, B. L., & Crouch, D. (2021). Metaphors matter: Changing the reading metaphor. *The Missouri Reader*, 43(3), 18–21.
- Clay, M. M. (1998). *By different paths to common outcomes*. Stenhouse.
- Clay, M. M. (2015). *Becoming literate: The construction of inner control*. Global Education Systems (GES) Ltd.
- Cobb, M. (2020). *The idea of the brain*. Basic Books.
- Crouch, D., & Cambourne, B. (2020). *Made for learning: How the conditions of learning guide teaching decisions*. Richard C. Owen Publishers.
- Feely, J. (2009). *Spiders*. Okapi Educational Publishing.
- Fountas, I., & Pinnell, G. S. (2017). *The Fountas and Pinnell literacy continuum: A tool for assessment, planning, and teaching, expanded edition*. Heinemann.

- Fountas, I., & Pinnell, G. S. (2021). Expanding your expertise in responsive literacy coaching. *The Journal of Reading Recovery*, 21(1), 5–9.
- Frégnac, Y. (2017). Big data and the industrialization of neuroscience: A safe roadmap for understanding the brain? *Science*, 358(6362), 470–477.
- Halliday, M. A. K. (1993). Towards a language-based theory of learning. *Linguistics and Education*, 5, 93–116.
- Halliday, M. A. K. (2004). Three aspects of children's language development: Learning language, learning through language, learning about language. In J. J. Webster (Ed.), *The language of early childhood: M.A.K. Halliday* (pp. 308–326). Continuum.
- Hirsh-Pasek, K., Alper, R. M., & Golinkoff, R. M. (2018). Living in Pasteur's quadrant: How conversational duets spark language at home and in the community. *Discourse Processes*, 55(4), 338–345.
- Howard, M. (2012). *Good to great teaching: Focusing on the literacy work that matters*. Heinemann.
- Jackson, Y. (2016). Transformational pedagogy: Cashing the promissory note of equity for marginalized students and all students. In *Equity-centered capacity building: Essential approaches for excellence & sustainable school system transformation* (pp. 9–23). National Urban Alliance for Effective Education.
- Jackson, Y. (2011). *Pedagogy of confidence*. Teachers College Press.
- Johnston, P. H. (1997). *Knowing literacy: Constructive literacy assessment*. Stenhouse.
- Johnston, P. H. (2004). *Choice words: How our language affects children's learning*. Stenhouse.
- Johnston, P. H. (2012). *Opening minds: Using language to change lives*. Stenhouse.
- Lakoff, G. (2004). *The all new don't think of an elephant! Know your values and frame the debate*. Chelsea Green Publishing.
- Mooney, M. E. (2004). *A book is a present: Selecting text for intentional teaching*. Richard C. Owen Publishers.
- Myers, C. (2014, March 15). The apartheid of children's literature. *The New York Times*. <https://www.nytimes.com/2014/03/16/opinion/sunday/the-apartheid-of-childrens-literature.html>
- New Zealand Ministry of Education (1985). *Reading in junior classes*. Learning Media.
- Nichols, M. (2019). *Building bigger ideas: A process for teaching purposeful talk*. Heinemann.
- Perkins, D. N. (2009). *Making learning whole: How seven principles of teaching can transform education*. Jossey-Bass.
- Peterson, R. (1992). *Life in a crowded place: Making a learning community*. Heinemann.
- Piazza, E. A., Hasenfratz, L., Hasson, U., & Lew-Williams, C. (2020). Infant and adult brains are coupled to the dynamics of natural communication. *Psychological Science*, 31(1), 6–17.
- Romeo, R. R., Leonard, J. A., Robinson, S. T., West, M. R., Mackey, A. P., Rowe, M. L., & Gabrieli, J. D. E. (2018b). Beyond the 30-million-word gap: Children's conversational exposure is associated with language-related brain function." *Psychological Science*, 29(5): 700–710.
- Romeo, R. R., Segaran, J., Leonard, J. A., Robinson, S. T., West, M. R., Mackey, A. P., Yendiki, A., Rowe, M. L., & Gabrieli, J. D. E. (2018a). Language exposure relates to structural neural connectivity in childhood. *Journal of Neuroscience*, 38(36), 7870–7877.
- Rosenthal, R., & L. Jacobsen (1968). *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development*. Holt, Rinehart and Winston.
- Schaffner, A. K. (2021, March 3). You're not a computer. You're a tiny stone in a beautiful mosaic. *Psyche Digital Magazine*. <https://bit.ly/3dVCxQk>
- Smith, F. (1983). *Essays into literacy: Selected papers and some afterthoughts*. Heinemann.
- Smith, F. (1987). *Joining the literacy club: Further essays into education*. Heinemann.
- Toffler, A. (1970) *Future shock*. Random House.
- Vogt, M. E. (1989). *The congruence between preservice teachers' and inservice teachers' attitudes and practices toward high and low achievers* [Unpublished doctoral dissertation]. University of California, Berkeley.
- Vogt, M. E. (2000). Content learning for students needing modifications: An issue of access. In M. McLaughlin, & M. E. Vogt (Eds.), *Creativity and innovations in the content areas: A resource for intermediate, middle, and high school teachers*. Christopher-Gordon Publishers.