Asking Questions Is Just the First Step: Using Upward and Downward Scaffolds

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Abstract

Theory and research have demonstrated the importance of teacher scaffolding to facilitate effective classroom conversations during shared book reading. When teachers scaffold conversations, young students can develop language skills more quickly. The authors describe a scaffolding framework and findings from research on how open-ended questions provide the first step in facilitating extended conversations that adjust scaffolding upward and downward to match student responses. The authors then outline suggestions for how teachers can scaffold conversations during shared book reading.

Teachers of young students at all levels can readily use this upward/downward scaffolding framework to help them answer open-ended questions about books read aloud.

PAUSE AND PONDER

- What challenges arise when you engage prekindergarten or kindergarten students in higher level conversations that require reasoning, describing problems/solutions, or making generalizations about narrative or informational texts that you read aloud?
- Consider what strategies you currently use to scaffold students' understanding of books read aloud. Do you feel like these strategies are helpful for all students, including those with limited language skills? Why or why not?
- If a student you call on to ask a question answers incorrectly, do you feel that it is appropriate to ask other students to provide the answer instead? Think about how this might affect the initial student who could not successfully answer a question during a shared book-reading session.

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Asking Questions Is Just the First Step: Using Upward and Downward Scaffolds

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Ms. Asher's Scaffolding

Ms. Asher (all names are pseudonyms) is reading an informational text to her kindergarten class about outdoor mice and sets a higher level purpose for reading with this open-ended question: "I wonder, What do mice need to survive outside our school? Let's read together and think about that." Although some of the students in her class struggle with communication delays, they are able to engage in higher level conversations about the survival needs of mice because Ms. Asher guides their thinking with scaffolds. Cognitive scaffolding strategies are explanations, hints, models, or questions teachers use to organize student thinking or to simplify a task to a level the student can perform successfully with some guidance (van de Pol, Volman, & Beishuizen, 2010).

After reading, Ms. Asher contingently scaffolds based on students' response; that is, she upward scaffolds to increase challenge for students who can answer this question correctly and downward scaffolds to provide support for students who respond incorrectly. Contingency in scaffolding means the adult matches the immediate scaffold to the level of understanding in the child's response because it signals the child's need (Landry et al., 2012). The following examples illustrate Ms. Asher's contingent scaffolds.

Upward Scaffold

When asked what mice need to survive in the school's outdoor habitat, Martin correctly responded, "We have lots of bugs here!" Ms. Asher replied, "Yes, we have lots of bugs here for food. What else did you learn that mice like to eat?" This contingent scaffold adds challenge by giving feedback and prompting Martin to talk about additional survival requirements. Importantly, Ms. Asher and Martin had a back-and-forth conversation that stemmed from one open-ended question.

Downward Scaffold

Moments later, Ms. Asher added support for another student, Sophia, who struggled with this question. Sophia simply did not respond after ample wait time, although her nonverbal signals showed she was engaged. Ms. Asher reduced choices by reframing the question for Sophia: "Martin said there are bugs here to eat. What else do mice need? Mice also need…." Ms. Asher reduced demand with this sentence frame, which Sophia can fill in with just one

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word. But Sophia still did not respond after wait time. Therefore, Ms. Asher modeled the answer: "Mice need water. Say, 'Mice need water.'" Sophia repeated this, and then Ms. Asher asked, "Do we have water here?" Sophia answered yes, and then Ms. Asher kept the conversation going to help Sophia articulate possible water sources: "Where might mice get water?"

In this article, we describe the upward/downward scaffolding framework: a step-by-step method for supporting young students' responses to questions with the goal of facilitating back-and-forth conversations. First, we explain the rationale for the framework. Second, we discuss how to implement the framework during shared book reading.

Features of Effective Scaffolding

Abundant theory and research have demonstrated the importance of guiding students' learning with scaffolding supports (see Grusec & Davidov, 2010; van de Pol et al., 2010). When adults scaffold students' language during back-and-forth conversations, they are able to expose students to advanced language models (Nicholas, Lightbown, & Spada, 2001). These models matter for young students' language development and subsequent reading success.

Indeed, conversational interactions can provide students with rich linguistic input that can accelerate their language learning (Weizman & Snow, 2001). The book-reading context offers teachers an opportunity for focused and strategic conversations that can improve students' early language skills (Wasik & Iannone-Campbell, 2012; Zucker, Cabell, Justice, Pentimonti, & Kaderavek, 2013). Three characteristics of effective upward/downward scaffolding during book reading are multiple-turn conversations, contingency, and minimizing dependency.

Multiple-Turn Conversations

A desired outcome of scaffolding is a conversational duet in which teacher questions and scaffolds create a "serve and return" to keep a conversation going with a student. To increase students' vocabulary, high-quality classroom conversations have a concentrated focus on eliciting and extending a topic rather than superficially addressing several topics (Cabell, Justice, McGinty, DeCoster, & Forston, 2015).

Figure 1 illustrates this type of conversation as including a minimum of five utterances—easily remembered as "strive for five." In this model, the teacher's goal is five turns in a conversation with *one* student, even if the student initially struggles to answer the question; rather than moving on to a more competent peer, the teacher continues conversing with the student until they achieve a successful response.

Contingency

When describing characteristics of scaffolding, many educators consider Vygotsky's (1978) zone of proximal development, which refers to the goal of targeting skills within students' actual and potential abilities; this is depicted on the left side of Figure 2. Fine-tuning to match the student's zone of proximal development requires contingent teacher supports that provide support or challenge matched to the student's immediate need.

Research has shown that teachers perceive they are contingently scaffolding more frequently than is actually observed during shared book reading, where there is often a mismatch between the student's response and the supportiveness of the teacher's scaffold (Pentimonti & Justice, 2010). This contingent scaffolding can be visualized as stepping up or down a ladder, constantly adjusting the conversation based on the student's need (see Figure 1).

Minimizing Dependency

Another key characteristic of scaffolding is the concept of minimizing dependency on teacher support, particularly when guiding the student to revise an inaccurate understanding of a question. The goal

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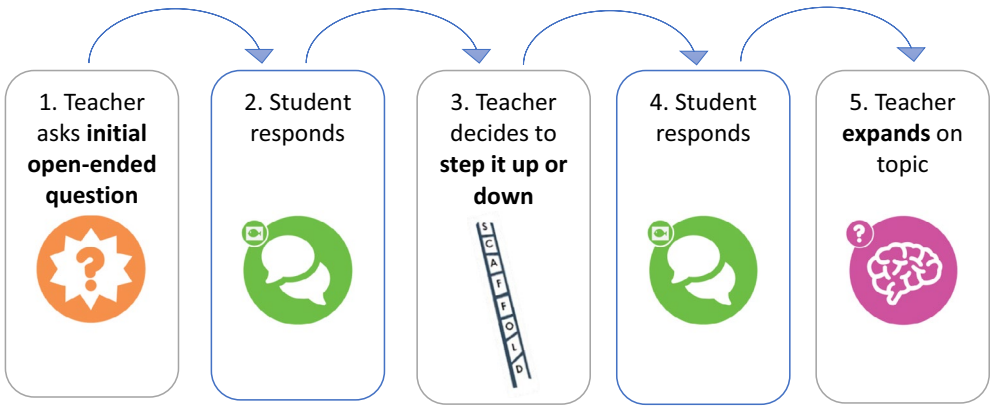
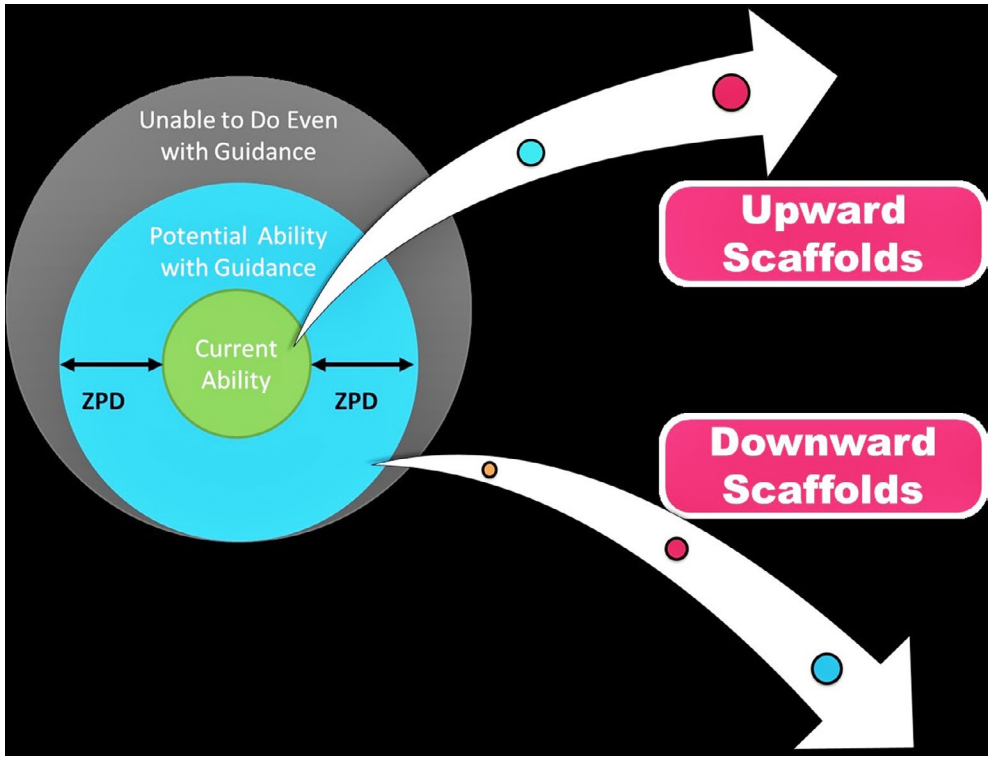
- Consider what strategies you currently use to scaffold students' understanding of books read aloud. Do you feel like these strategies are helpful for all students, including those with limited language skills? Why or why not?
- If a student you call on to ask a question answers incorrectly, do you feel that it is appropriate to ask other students to provide the answer instead? Think about how this might affect the initial student who could not successfully answer a question during a shared book-reading session.

Figure 1
"Strive for Five" Turns in a Conversation



Note. These five steps use the upward/downward scaffolding approach to keep a multiple-turn conversation going. The color figure can be viewed in the online version of this article at http://ila.onlinelibrary.wiley.com.

Figure 2
Zone of Proximal Development and Upward/Downward Scaffolds



Note. If a student answers correctly, the initial question was within their current ability. If a student answers incorrectly, the initial question may be in the student's zone of proximal development or may be too challenging for the student even with teacher scaffolding. The teacher scaffolding can step upward or downward to match the student's needs. The color figure can be viewed in the online version of this article at http://ila.onlinelibrary.wiley.com.

of a downward scaffold is to reduce stress for the student while not creating too much dependency on the teacher. Therefore, the downward scaffolds move on a continuum: minimal, moderate, and intense.

Likewise, when giving an upward scaffold, the goal is to push for higher level reasoning without stretching too far beyond the student's capacity. These concepts of contingent scaffolds that minimize dependency are illustrated on the right in Figure 2. Effective teachers use scaffolding strategies that provide just the right level of support for a student's current level of understanding (e.g., Cabell, Tortorelli, & Gerde, 2013).

A Scaffolding Framework to Elicit Conversations

We have developed and trained many teachers (Zucker, Cabell, et al., 2019; Zucker, Carlo, et al., 2019) to use this step-by-step scaffolding procedure by providing teachers with a sample script and plan for when and how they will guide students' learning while sharing a book with their class.

Step 1: Ask an Open-Ended Question

Open-ended questions are questions that cannot be adequately answered with a yes/no response or a single-word response. Open-ended questions are more likely to facilitate a rich conversation than closed-ended questions (Deshmukh et al., 2019). To ask an open-ended question, teachers can consider *wh-* questions that start with *what*, *where*, or *when*, or teachers can ask questions that may require higher level thinking and start with *why* or *how*. In our research, we have found that teachers ask mostly yes/no questions (51.8%) when reading (Deshmukh et al., 2019); therefore, it is important for teachers to consider whether they need to shift their questioning to more open-ended forms.

Step 2: Consider the Student's Response

The next step is to assess whether the student's response is correct or incorrect in terms of understanding the meaning of the question. Young students are capable of answering most open-ended *wh-* questions accurately but then need more downward support with *why* and *how* questions (Deshmukh et al., 2019). It may be difficult to gauge whether a response is partially correct (i.e., ambiguous answers), so we recommend that teachers err on the side of caution and use a downward scaffold in these instances. It is important to note that immature grammar and pronunciation are normal at this age (e.g., "Her winned the game") and do not require a downward scaffold but simply a recasting of the student's message in a correct form (e.g., "Yes, she won the game").

Step 3: Decide on Support or Challenge

Next, the teacher uses a scaffolding strategy that matches the level of the student's response. An upward scaffold increases the challenge for students who can answer the open-ended question correctly. A downward scaffold increases support for students who respond incorrectly or ambiguously. Table 1 details the goals of upward and downward scaffolds and provides examples of each type of scaffold using the well-known folktale of the Three Little Pigs. These scaffolding strategies were chosen because they always elicit a student verbal response beyond yes or no.

Step 4: Assess the Student's Response

Teachers immediately assess whether the student's response to their first scaffolding move is correct or incorrect/ambiguous. This signals the teacher whether to step up or down.

Step 5: Keep the Conversation Going

Effective teachers often give feedback or restate the student's answer in a complete form. This ensures the whole class hears the conversation. If time is short, the conversation may stop here. However, if time permits, a teacher can keep the conversation going with another question related to the topic. Even if a teacher used a downward scaffold at step 3, if the student is now answering correctly, the teacher can follow up with a new open-ended question or an upward scaffold. In this way, a single conversation can contain both a downward and upward scaffold.

Frequent Questions About the Upward/Downward Scaffolding Framework

In our experience, teachers have consistently reported that they view this scaffolding framework as effective in supporting students' text comprehension and language skills. The framework also helps many teachers feel more adept in contingently responding

Table 1
Examples of Teacher Scaffolding Goals and Question Starters That Keep Conversations Going

Level of response	Level on continuum	Goals for student	Examples of appropriate scaffolding strategies
Downward scaffolds			*Initial question:* How do the pigs' feelings change during the story?
Student responds incorrectly or ambiguously to initial question	Minimal	*Reduce choices:* Clarify the student's thinking by reducing the open-ended question to a closed, either/or question.	*Either/or question:* When the wolf runs away, do the pigs feel sad or happy?
	Moderate	*Reduce verbal demand:* Simplify demand with a cloze technique that only requires the student to fill in the final missing word.	*Fill-in-the-blank question:* When the wolf runs away, the pigs feel... (happy). *Fill-in-the-blank and give the first sound:* When the wolf runs away, the pigs feel h... (happy).
Student responds incorrectly to follow-up scaffolds	Intense	*Give a model:* Model a simple answer and ask the student to repeat that sentence.	*Model and repeat:* When the wolf runs away, the pigs feel happy. Say, "The pigs feel happy."
Upward scaffolds			
Student responds correctly to initial question	Moderate	*Explain their reasoning:* This includes probing for cause-and-effect relationships or considering evidence and details in the student's response.	Why...? Why do you think...? How did...? How do you know...? What does ___ mean?
	Intense	*Make a generalization:* This further probes for summaries of patterns/trends or may explore what might happen under different conditions.	How is ___ like ___? How does this remind you of...? Why is ___ important? What could happen if...? What else...?

to students. A teacher who used this approach for one school year explained, "I liked the way that it was set up, and I liked scaffolding questions. That really helped me out a lot to know when I had to scaffold up and down." Yet, as teachers enact this scaffolding approach, there are three common questions.

How Many Open-Ended Questions Should I Ask at Step 1?

Recognizing that young students have limited attention spans and that there is limited instructional time, many teachers wonder how many of these back-and-forth conversations are reasonable. Our first answer is to pay attention to students' signals so that, when students' attention is waning, teachers transition to a new topic or activity. Current research evidence cannot explain exactly how many open-ended questions young students need to improve language.

We wondered if we could glean an optimal amount of open-ended questions by reanalyzing data from an observational study of 234 pre-K and 52 kindergarten teachers who shared a narrative text with their students, many of whom were experiencing poverty (Pentimonti, Tambyraja, Zucker, Bowles, & Justice, 2018). We found no evidence of an optimal number of *wh-* and *how* questions in terms of relations with children's language growth at the end of the school year. However, for the most cognitively challenging *why* questions, we found that a relatively small number of *why* questions can greatly enhance students' vocabulary development.

Teachers' more frequent use of *why* questions predicted higher end-of-year student vocabulary. However, the vocabulary benefits that one additional *why* question brought were much higher for students in classrooms with a relatively smaller number of *why* questions (i.e., one to five) than those

in classrooms where more than five *why* questions were asked. This finding suggests that increasing use of *why* questions is most important for teachers who ask fewer than five such questions.

How Do I Decide Whether to Scaffold Up or Down?

Although this framework appears fairly straightforward during training or when reading an article such as this, many teachers have questions about which direction to scaffold once they start using this framework in their classrooms. In our research, some teachers reported forgetting to scaffold. Other teachers found it challenging to make a brisk decision about which direction to scaffold in the moment while managing a classroom.

We wondered if the most common challenge was to remember to scaffold or to contingently respond in the appropriate direction. We reviewed data from another recent study (Zucker, Cabell, et al., 2019) in which we asked 15 prekindergarten teachers to use

Figure 3
Sample After-Reading Talking Points for *The Moon*, an Informational Text

	Lesson 1	Lesson 2	Lesson 3
Answer Guiding Question	**What is the Moon like?** *Optional Turn & Talk.* Pick 2-3 students with equity sticks.	**How is the Moon different from Earth?** *Optional Turn & Talk.* Pick 2-3 students with equity sticks.	**Would you like to live on the Moon? Why or why not?** *Optional Turn & Talk.* Pick 2-3 students with equity sticks.
	Possible correct answers: • Its surface is rough/bumpy. • The sky is always black.	Possible correct answers: • The Moon has no air/water. • The Moon is smaller than Earth.	Possible correct answers: • No, it's always dark on the Moon. • Yes, I could study rocks there.
SCAFFOLD	*If **correct**, scaffold up:* **What else do you remember about the Moon?**	*If **correct**, scaffold up:* **How else is the Moon different from Earth?**	*If **correct**, scaffold up:* **What would you miss about Earth if you lived on the Moon?**
	*If **incorrect**, scaffold down:* **On the Moon, is the sky always black or is the sky always bright?** **On the Moon, the sky is always bl___ (black).** Give answer. Help student repeat.	*If **incorrect**, scaffold down:* **Is the Moon different from Earth because it's hot or because there is no air or water?** **The Moon is different from Earth because it has no air or w___ (water).** Give answer. Help student repeat.	*If **incorrect**, scaffold down:* **Would you like to live on the Moon or on Earth?** **I wouldn't like the dark Moon, so I want to live on Ear___(Earth).** Give answer. Help student repeat.
OPTIONAL	**Comprehension Skills** **You had to listen and remember** (L&R hand signal) **to answer the guiding question.** Show poster. **When you listen and remember, you pay special attention to important things the author says and try to remember them.**	**Comprehension Skills** **You had to use background knowledge** (BK hand signal) **to answer.** Show poster. **When you use your background knowledge, you use what you already know to understand a book.**	**Comprehension Skills** **You had to make a connection** (MC hand signal) **to answer the guiding question.** Show poster. **When something from a book reminds you of your own life, you make a connection.**

a supplemental book-reading curriculum that contained the upward/downward scaffolding framework. We analyzed several videos from each teacher to see how teachers scaffolded after reading. When teachers came to a suggested after-reading question and scaffolds, such as those in Figure 3, we analyzed what unfolded.

Teachers did not struggle with asking the open-ended questions or remembering to use a scaffold (74%–78% implemented). However, they did struggle with scaffolding in the appropriate upward/downward direction to match the student's response; just over half of the scaffolding moves (57%) were in the appropriate upward/downward direction. When coaches and teachers replayed segments of these videos together, teachers had an opportunity to revisit and reflect on their scaffolding moves during shared reading. This was a powerful way to slow down these brisk decision points so that teachers could decide whether the response necessitated upward or downward scaffolding.

Why Should I Continue the Conversation With a Student Who Answers Incorrectly?

When reflecting on videos, many teachers realized they missed opportunities to downward scaffold and elicit a successful verbal response from a student because they let another, more capable peer answer the question. Although some contexts, such as centers or hands-on manipulatives, allow a more capable peer to address misconceptions, shared book reading is typically a teacher-controlled activity (Zucker, Justice, Piasta, & Kaderavek, 2010).

Therefore, we suggest the teacher establish routines in which one student answers at a time so the teacher can intentionally guide the back-and-forth conversation. This is important because peers do not have the same skills as a teacher to provide just the right amount of support to minimize dependency (Malik, 2017).

Examples of Effective Upward/Downward Scaffolds

In this section, we provide examples of teachers using the scaffolding framework with different levels of student responses. These pre-K and kindergarten teachers were sharing an informational text that describes how seeds grow, travel, and are used.

Upward Scaffold Example

Ms. Rodriguez draws Carlos's name stick and starts a multiple-turn conversation using a prepared open-ended question:

Teacher: How do seeds travel?

Carlos: Wind.

Teacher: By wind. And how else can they travel? (upward scaffolding)

Carlos: Water.

Teacher: Yes, they can travel by wind and water. And what do you think happens when they get to another place? (upward scaffolding)

Carlos: I think, uh, they start to grow.

Teacher: Yes, then they'll start to grow. Amazing! (recasting)

Downward Scaffold Example

Mr. Locke calls on Isabella and uses a series of prompts to deepen students' thinking about what plants need to survive.

Teacher: Remember why plants need sunlight? Isabella, why do plants need the sun?

Isabella: 'Cause it's bright.

Teacher: Do plants need sun for energy or for water? (downward scaffolding)

Isabella: [no response]

Teacher: Remember, the sun is the main source of ener— (downward scaffolding)

Isabella: Energy.

Teacher: Right. The plant turns the sunlight into energy, almost like sugar.

Downward and Then Upward Scaffold Example

Not all conversations follow a linear upward or downward track. In this example, Ms. Hall contingently adjusts her scaffolding moves to help Jenay resolve her misconception about an illustration of seeds that produce a relatively uncommon vegetable.

Teacher: Which of these do you think will become an eggplant?

Jenay: [incorrectly points to a chicken egg rather than eggplant seeds]

Teacher: What is that? (clarifying question)

Jenay: An egg.

Teacher: Yes, an egg from a chicken. To grow an eggplant like this [points to cut eggplant image that shows seeds], do you think you should plant seeds or a chicken egg? (downward scaffolding)

Jenay: Plant the seeds.

Teacher: Right. You would plant the seeds. And what do you have to do next to help those seeds grow into an eggplant? (upward scaffolding)

In this example, the teacher uses a clarifying question and nonverbal hints by pointing to picture clues to downward scaffold at a page of an informational text that tends to elicit misconceptions by linking eggplants with an image of a phonologically similar word.

TAKE ACTION!

1. Select a high-quality text to read aloud that includes opportunities for higher level questioning. Consider narratives that address complex character feelings or problem/solution or informational texts that encourage reasoning.
2. Use sticky notes to plan open-ended questions you will ask before, during, and after reading. Start with an important guiding question to be previewed before reading that gives a purpose for listening. Place a sticky note at the back of the book to remember to have a back-and-forth conversation about the guiding question after reading. You might add a few open-ended questions during reading.
3. For discussing the guiding question after reading, place extra sticky notes at the back of the book to plan ways you might scaffold upward and downward.
   - Downward scaffolding: Imagine incorrect answers students might provide, and write downward scaffolding strategies that (a) change your open-ended question into a forced-choice/either-or question, or (b) if that did not work, give a fill-in-the-blank/cloze response, and (c) if needed, model the answer and ask the student to repeat it.
   - Upward scaffolding: Imagine how you can keep the conversation going if a student provides a correct answer. Consider the *Why…?* *What if…?* and upward question stems in Table 1.

Conclusion

Scaffolded conversations are important for young students' language development. These scaffolded multiple-turn interactions during shared book reading do not need to last very long to be powerful for learning. The five-step framework presented here can help teachers make decisions about how to best support students. Teachers can plan open-ended questions and "strive for five" conversational turns about a topic.

Students' responses serve as a guide to help the teacher decide whether to scaffold upward or downward. Regardless of the direction of a scaffold, the goal is to expand on what students say and keep the conversation going. Reflecting on videos of shared book-reading sessions can help teachers refine their use of contingent scaffolds that minimize dependency on the teacher while ensuring that students have opportunities for success.

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REFERENCES

Cabell, S.Q., Justice, L.M., McGinty, A.S., DeCoster, J., & Forston, L.D. (2015). Teacher–child conversations in preschool classrooms: Contributions to children's vocabulary development. *Early Childhood Research Quarterly*, *30*(1, Pt., A), 80–92. https://doi.org/10.1016/j.ecresq.2014.09.004.

Cabell, S.Q., Tortorelli, L.S., & Gerde, H.K. (2013). How do I write…? Scaffolding preschoolers' early writing skills. *The Reading Teacher*, *66*(8), 650–659. https://doi.org/10.1002/trtr.1173.

Deshmukh, R.S., Zucker, T.A., Tambyraja, S.R., Pentimonti, J.M., Bowles, R.P., & Justice, L.M. (2019). Teachers' use of questions during shared book reading: Relations to child responses. *Early Childhood Research Quarterly*, *49*(4), 59–68. https://doi.org/10.1016/j.ecresq.2019.05.006.

Grusec, J.E., & Davidov, M. (2010). Integrating different perspectives on socialization theory and research: A domain-specific approach. *Child Development*, *81*(3), 687–709.

Landry, S.H., Smith, K.E., Swank, P.R., Zucker, T., Crawford, A.D., & Solari, E.F. (2012). The effects of a responsive parenting intervention on parent–child interactions during shared book reading. *Developmental Psychology*, *48*(4), 969–986. https://doi.org/10.1037/a0026400.

Malik, S.A. (2017). Revisiting and re-representing scaffolding: The two gradient model. *Cogent Education*, *4*(1), 1331533. https://doi.org/10.1080/2331186X.2017.1331533.

Nicholas, H., Lightbown, P.M., & Spada, N. (2001). Recasts as feedback to language learners. *Language Learning*, *51*(4), 719–758. https://doi.org/10.1111/0023-8333.00172.

Pentimonti, J.M., & Justice, L.M. (2010). Teachers' use of scaffolding strategies during read alouds in the preschool classroom. *Early Childhood Education Journal*, *37*(4), 241–248. https://doi.org/10.1007/s10643-009-0348-6.

Pentimonti, J., Tambyraja, S., Zucker, T., Bowles, R., & Justice, L.M. (2018, July). *The impact of teachers' extratextual talk during shared reading on children's language/literacy skills*. Interactive poster presented at the 25th annual meeting of the Society for the Scientific Study of Reading, Brighton, UK.

van de Pol, J., Volman, M., & Beishuizen, J. (2010). Scaffolding in teacher–student interaction: A decade of research. *Educational Psychology Review*, *22*(3), 271–296. https://doi.org/10.1007/s10648-010-9127-6.

Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds. & Trans.). Cambridge, MA: Harvard University Press.

Wasik, B.A., & Iannone-Campbell, C. (2012). Developing vocabulary through purposeful, strategic conversations. *The Reading Teacher*, *66*(4), 321–332. https://doi.org/10.1002/TRTR.01095.

Weizman, Z.O., & Snow, C.E. (2001). Lexical input as related to children's vocabulary acquisition: Effects of sophisticated exposure and support for meaning. *Developmental Psychology*, *37*(2), 265–279. https://doi.org/10.1037/0012-1649.37.2.265.

Zucker, T.A., Cabell, S.Q., Justice, L.M., Pentimonti, J.M., & Kaderavek, J.N. (2013). The role of frequent, interactive prekindergarten shared reading in the longitudinal development of language and literacy skills. *Developmental Psychology*, *49*(8), 1425–1439. https://doi.org/10.1037/a0030347.

Zucker, T.A., Cabell, S.Q., Petscher, Y., Mui, H., Landry, S.H., & Tock, J. (2019, March). *Teaching together: Pilot study of a tiered language and literacy intervention with Head Start teachers and families*. Presentation at the biennial meeting of the Society for Research in Child Development, Baltimore, MD.

Zucker, T.A., Carlo, M.S., Landry, S.H., Masood-Saleem, S.S., Williams, J.M., & Bhavsar, V. (2019). Iterative design and pilot testing of the Developing Talkers tiered academic language curriculum for pre-kindergarten and kindergarten. *Journal of Research on Educational Effectiveness*, *12*(2), 274–306. https://doi.org/10.1080/19345747.2018.1519623.

Zucker, T.A., Justice, L.M., Piasta, S.B., & Kaderavek, J.N. (2010). Preschool teachers' literal and inferential questions and children's responses during whole-class shared reading. *Early Childhood Research Quarterly*, *25*(1), 65–83. https://doi.org/10.1016/j.ecresq.2009.07.001.

MORE TO EXPLORE

Readers interested in supplemental information on this topic may find these resources useful:

- CIRCLE Activity Collection: Pre-K/K Classroom: https://cliengage.org/public/tools/materials/cac-prek/ (This resource has hundreds of lesson plans that include the upward/downward scaffold approach; select lessons also include model videos of teachers enacting approach; select lessons also include model videos of teachers enacting the lesson.)
- Kosanovich, M., & Foorman, B. (2016). *Professional learning communities facilitator's guide for the What Works Clearinghouse practice guide: Foundational skills to support reading for understanding in kindergarten through 3rd grade* (REL 2016–227). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from https://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=REL2016227 (The first three sessions from this Institute of Education Sciences guide dig into how to support higher level conversations in classrooms.)
- Teacher Magazine (ACER). (2019, August 7). *The Research Files* episode 54: Questions during shared book reading in the early years [Podcast]. Retrieved from https://soundcloud.com/teacher-acer/the-research-files-episode-54-questions-during-shared-book-reading-in-the-early-years