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Alyssa Whitford

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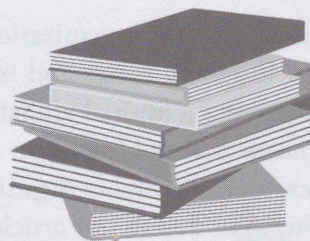
# The Three I's of Motivation: Using Instruction, Integration, and Interaction to Support Reading Comprehension

by Alyssa Whitford

I recently spent an afternoon volunteering at a local elementary school. As I sat in the back of the room, quietly cutting out bulletin board decorations, I could not help but notice that the classroom was friendly and colorful, and that the teacher had worked hard to make learning engaging. And yet, when the teacher announced that it was reading time, a mixed chorus of moans and cheers bellowed through the room. Some students opened their books quickly; others as slowly as possible. Several students slumped their chins into their hands; others whispered page numbers to their neighbor in excited anticipation.

It is apparent upon walking into any classroom that students tend to be at different levels of engagement throughout their day, and that some students seem more motivated to read than others. As I continued to observe on this day, it became clear that the lesson objective was reading comprehension, with students engaging in activities meant to help them understand the texts they were reading. In that moment, the many different responses to the lesson begged the question: How can teachers simultaneously support both reading comprehension and reading motivation in their classroom? In this piece, I will briefly explore the relationship between reading comprehension and student motivation, then describe how to use instruction, integration, and interaction to improve reading comprehension and student reading motivation in your classroom.

In this article, I define instruction as coupling the teaching of reading comprehension strategies with motivational supports. In other words, instruction is *how* teachers conduct reading comprehension lessons. I suggest that while it is important to give students the cognitive tools they need to understand texts, it



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is vital to do so in a way that helps students want to read (Guthrie, Wigfield, & VonSecker, 2000). I define integration as teaching reading comprehension within content instruction in another subject, such as science or social studies, to engage students' interests and motivate them to read (Drake, 1993; Guthrie, McRae, & Klauda, 2007; Swan, 2003). Lastly, I describe interaction as the ways students use classroom resources and collaborate with teachers, peers, and materials (Kao, Tsai, Liu, & Yang, 2016; Law, 2008; Taylor, Pearson, Peterson, & Rodriguez, 2003). I will begin by explaining why it is vital to support reading comprehension and reading motivation in classrooms, then describe research and examples pertaining to each of the three "I's of motivation.

## Reading Comprehension and Motivation in the Classroom

To begin, it is necessary to discuss the importance of reading comprehension, which can be loosely defined as constructing or creating meaning from a text (Duke & Carlisle, 2011). As a former elementary teacher, I understand that finding time to support reading comprehension is not always easy. However, there is little doubt that children must be able to understand what



they read to become successful readers (Rapp, van den Broek, McMaster, Kendeou, & Espin, 2007; Snow, 2002). Students can also see the importance of reading comprehension. A second grader recently explained, "You have to understand what you read because you need information. What if a sign said 'danger,' but you went in anyway because you didn't get it and it really was dangerous? And, if you read a lot you can even learn more about animals and things that are interesting" (W. Whitford, personal communication, December 18, 2017). Comprehension is also a component of the Common Core State Standards (Council of Chief State School Officers and the National Governors Association, 2010), which are widely used and include standards about understanding fiction and nonfiction texts. Overall, reading comprehension instruction is becoming an increasingly significant part of daily classroom teaching (Taboada, Tonks, Wigfield, & Guthrie, 2009).

As teachers tackle the task of reading comprehension instruction, it is important to think about how to do this while also building students' motivation to read. Studies show that motivation is extremely important to reading comprehension (Taboada et al., 2009). Children who are motivated to read will read more, which in turn supports their reading ability (Schaffner, Schiefele, & Ulferts, 2013; Wigfield & Guthrie, 1997), and predicts higher levels of comprehension over time (Guthrie et al., 2007).

For these reasons, it is important to understand instructional methods that can help motivate readers. To foster motivation in students while supporting their reading comprehension, a teacher must remember the three "I"s of motivation: instruction, integration, and interaction. In the next sections I will discuss these three concepts individually and offer suggestions for incorporating them into your classroom.

## Instruction

There are several comprehension strategies students can use while reading to help them better understand a text, and teaching students to use these strategies is an important part of classroom instruction (Almasi &

Fullerton, 2012). By teaching students to use comprehension strategies such as questioning, predicting, clarifying, summarizing, and activating background knowledge, teachers give students access to helpful tools they can use when they are stuck while reading (Duke, Pearson, Strachan, & Billman, 2011). (See Table 1 for strategy descriptions.) However, how these strategies are taught matters. Research indicates that building children's comprehension strategy knowledge may not create motivation to read if the students do not find the reading activities to be engaging (Andreassen & Braten, 2011; Braten, Johansen, & Strømsø, 2017; Strommen & Mates, 2004). Studies in this area have measured reading comprehension and motivation before and after comprehension strategies were taught to students. Researchers discovered that reading comprehension did improve, but motivation was not affected when students were not adequately engaged (Andreassen & Braten, 2011; Braten et al., 2017). However, when studies included purposeful, motivational teaching methods, both comprehension and motivation increased (Guthrie et al., 2007; Kao et al., 2016; Law, 2008). In other words, students may understand texts better without being compelled to continue reading or read more often. It is important to incorporate motivational supports, or teaching practices shown to increase students' desire to read, into instruction.

To address the need for increasing reading motivation, studies have been conducted to evaluate motivational supports that can be easily woven into classroom practices. Several supports continuously stand out as being effective, including: cooperative learning groups, choice, and success (Guthrie et al., 2007; Law, 2008) (Table 2).

To incorporate motivational supports into your instruction, consider the comprehension strategy you are teaching and how it can be paired with motivational supports. For example, activation of background knowledge is a commonly used comprehension strategy which involves allowing students to consider what they already know before reading about a certain topic (Kostons & van der Werf, 2015). This allows them to add new knowledge to their previously existing knowl-



Table 1

*Comprehension Strategies*

Comprehension Strategy	Description	Let's Listen In: What You Might Hear During Strategy Instruction
Questioning	Creating and answering questions about the text	I wonder why...
Predicting	Making an informed guess about upcoming parts of the text	Next, I think _____ will happen because...
Clarifying	Designing explanations to help interpret content	I think _____ because...
Summarizing	Stating the "gist," or main idea, of a text	The main ideas of this book were...
Activating Background Knowledge	Accessing prior understanding about a topic in order to help build new learning	I already know _____ about this topic.

edge as they read (Kintsch, 2013). While this can be done in many ways, discussion is a simple and popular approach (Braten et al., 2017). A discussion aimed at activating background knowledge might sound like this:

Teacher: Before we read *Animal Adaptations*, let's see what we already know about how animals survive. Choose an animal and turn to tell your neighbor one thing that animal has that helps it live in nature. Think about how it defends itself, how it stays warm or cool, how it eats...

Students: (Discuss with each other.)

Teacher: Okay, so I heard a lot of you say, "sharp teeth," and I heard someone say "camouflage." (Records words on a whiteboard). Who here has ever seen an animal with sharp teeth? What did they use their teeth for?

This discussion allowed students to activate their own prior knowledge and begin to build new knowledge

from the other students. However, discussion alone may not be enough to motivate students to read *Animal Adaptations* (Braten et al., 2017). In addition to facilitating a discussion, a teacher can create a sense of excitement about reading this text by using motivational supports while helping students activate their background knowledge. While this could be done in several ways, depending on the teacher preferences, one way to do so is described below.

Preceding the introduction of a non-fiction text about animal adaptations in my second-grade classroom, I used the following steps to add each of the motivational supports described above to our background knowledge activation activities:

1. Place students into cooperative learning groups. It is important that the students are in small groups of no more than three to five children and have a shared goal that they are working together to achieve (Siegel, 2005). All students must



Table 2  
*Motivational Supports*

Support	Description	Examples from a Nonfiction Unit: All About Animal Adaptations
Cooperative Learning Groups	Learning structures that allow students to discuss texts and problem solve comprehension issues together (Law, 2008).	Students work together to read and share about different animal adaptations, using dialogue to draw connections and make inferences as a group.
Choice	Allowing students to choose texts and activities within lessons (Guthrie, 2007).	Teacher brings in a wide variety of engaging books about different animals and how they adapt to their environments. Students are given opportunities to explore the texts and choose ones they find exciting.
Success	Guiding students to set attainable goals and giving positive feedback when they meet these goals (Guthrie, 2007).	Meeting with students to set goals as they research their animals (such as being able to describe problems their animals face in nature), providing feedback and as they read to investigate and discover.

participate, so it can be helpful to assign a role to each group member. In our Animal Adaptations groups, the students were given varied materials, including books, scientific magazines, and appropriate websites, to research animal adaptations. Their goal was to create and present a new species using the physical adaptations of at least three other animals (Figures 1 and 2). This allowed each student to activate their prior knowledge, share their knowledge with their classmates, and gain exposure to new concepts in an engaging way. Having a shared goal also promotes a feeling of purpose, motivating students to learn by giving them an authentic, exciting reason to read.

2. Allow students to choose materials and concepts that interest them. While activating their background knowledge with their cooperative learning group, students were encouraged to use whatever

materials captured their interest, with some choosing books or magazines while others gravitating toward online resources. They were also given the opportunity to choose which animals to examine. Several students were drawn towards sea creatures, while others preferred jungle animals or even household pets, depending on their interests and prior knowledge regarding each animal. Giving the students choices allowed them to follow their natural interests, which made them excited to learn more.

3. Celebrate their success! Working towards a shared goal, one of the core elements of cooperative learning groups, provides students with opportunities for success. In our animal adaptation activity, for example, our class displayed their “new species” and conducted a gallery walk, or a walk around the classroom, to examine each group’s final product.



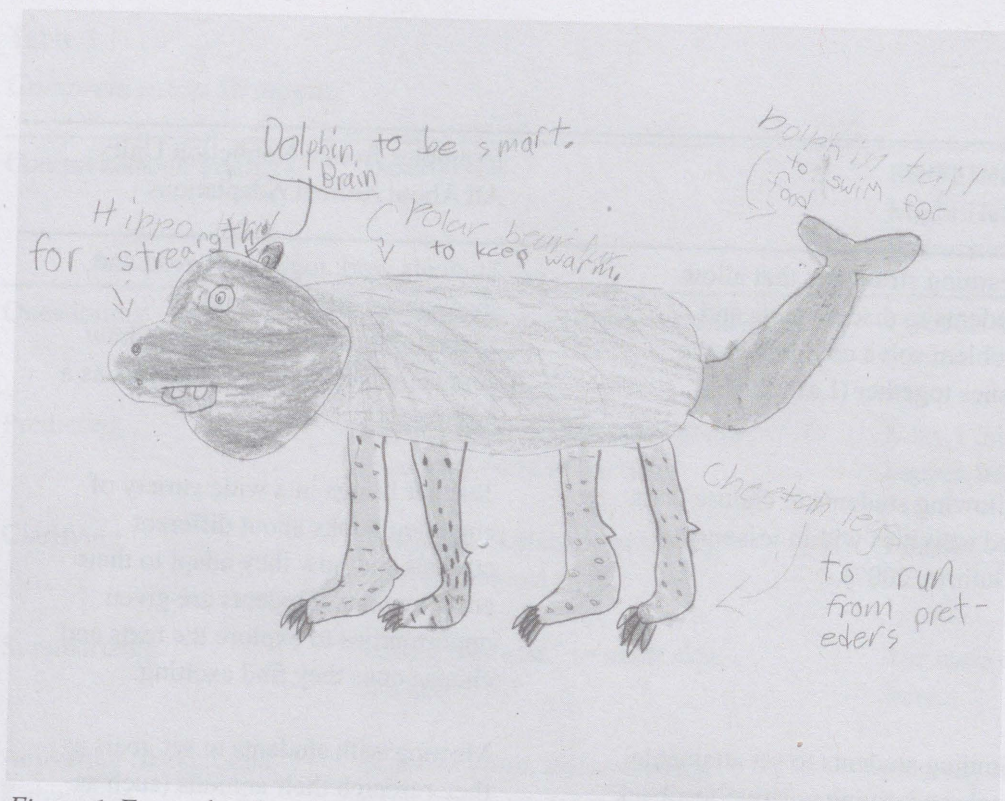


Figure 1. Example of student work created in cooperative learning groups to activate background knowledge about animal adaptations.

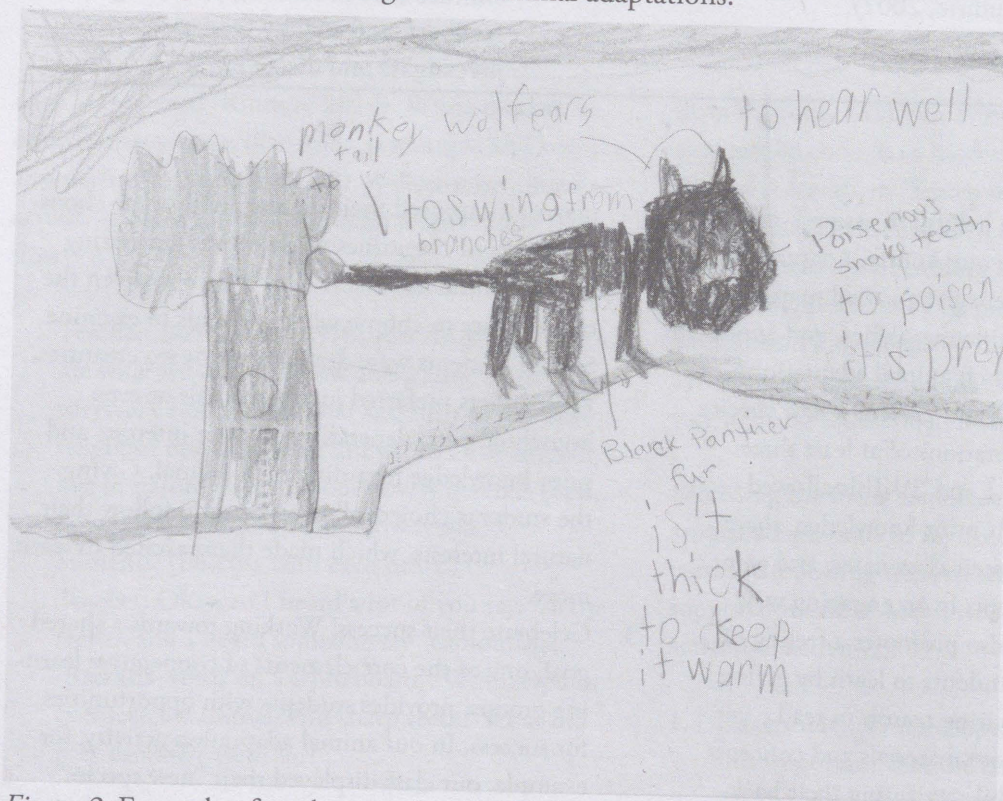


Figure 2. Example of student work created in cooperative learning groups to activate background knowledge about animal adaptations.



As every group walked around the classroom, they looked at each species and placed positive comments and questions on the different presentations (Figures 3-5). They were then able to read their

own feedback and questions. The students' feeling of success created an excitement to continue to achieve by diving into the first text of our unit.



Figure 3. Students celebrate their classmate's success while activating background knowledge during a gallery-walk activity.

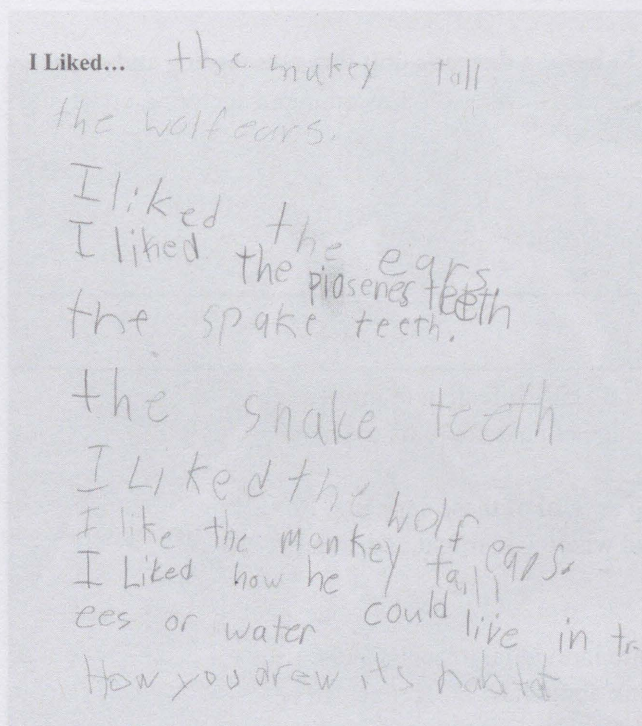


Figure 4. Example of students' positive comments sheet post-gallery walk.

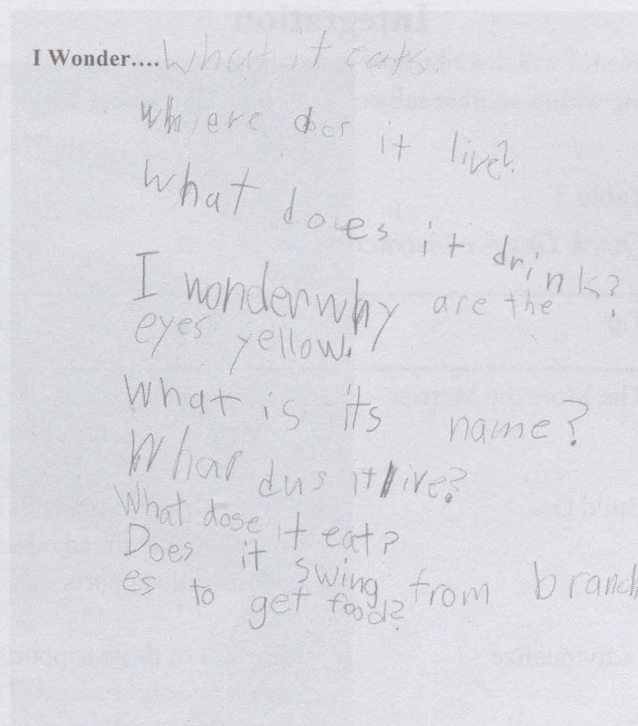


Figure 5. Example of students' question sheet post-gallery walk.



You'll notice that these steps include each of the motivational supports from Table 2. While it is not necessary to incorporate each support into every lesson, the reasoning for using more than one support at once is sound: they work well together (Guthrie et al., 2007). In other words, implementing a combination of these supports into classroom reading instruction has the potential to transform comprehension instruction into an engaging and motivational practice. When planning, consider starting with one motivational support that fits well with your instruction, and then see if there are any easy ways to add in other supports. In my example, I started with cooperative learning groups, and then realized that by adding a variety of materials I could add an element of choice into the activity. Working toward their shared goal made the experience feel relevant and gave each child a feeling of success upon which to build. While it is not necessary to use every motivational support every time, you may find that the supports work well together! Table 3 shows a few quick tips for implementing motivational comprehension instruction.

## Integration

Next, I will describe how integration, or teaching reading within another subject, can boost motivation. I will

begin by describing how motivation can be improved by incorporating comprehension instruction into science lessons.

Teaching reading within science activities is a proven way to build engagement and enthusiasm for many students, and students have even reported a greater desire to read (Guthrie et al., 2007; Swan, 2003). One effective way to integrate reading and science is by creating a thematic unit (Guthrie et al., 2007). In thematic units, learning is tied together by the concepts students are investigating and reading comprehension becomes important to them as a tool for investigation. This approach is an effective way to incorporate literacy into engaging, relevant experiences. The importance of gaining knowledge through experience and allowing students to take an active role in their own learning has long been espoused by such education giants as Lev Vygotsky, Jean Piaget, and John Dewey (Dewey, 1902; Piaget, 1973; Powell & Kalina, 2009). Importantly, integration is especially timely right now as well, as the Next Generation Science Standards (NGSS Lead States, 2013) are meant to be aligned with the Common Core Literacy Standards and include a focus on reading.

To begin a thematic unit that uses reading and science content integration, I recommend analyzing upcoming

Table 3

### *Quick Tips for Instruction*

Tip	Description
The More the Merrier	Using combinations of supports are effective in motivating students. Look for opportunities to use supports together.
Build On	You're likely already using several of these supports. Reflect on what you already do and where you might add some additional supports.
Individualize	Several of these supports are individual to each student, such as choice and success. Think about how class time can be structured to allow students to take ownership of reading comprehension in their own ways.



science units and looking for places to add reading opportunities. It is not necessary, as a busy teacher, to create a new unit. Instead, consider where students could read to investigate the important concepts that are already part of the curriculum. Below, I provide some steps to take to integrate reading with science, using examples from our Animal Adaptation lesson and our larger biodiversity unit.

1. Begin by making literacy-based resources available to your students. These resources could include books, magazines, online resources, printables, etcetera. I suggest putting the resources together in a designated area and allowing students time in the day to read and investigate their own questions. This can even be an option for students as they finish other work, or as a center activity. During our biodiversity unit, for example, I created book boxes for each important topic (e.g., adaptations, environments, and life cycles). I also bookmarked appropriate websites on our class tablets. I placed these boxes and devices on our class created "Science Table" along with some hands-on materials I hoped the students would find interesting. The
2. ability to link reading with interesting investigations seemed to build an excitement to read. Add reading into hands-on activities or experiments. Research is a great way to do this. While you are examining your upcoming science units, ask yourself where students could read to inform their hypothesis, or to explain their observations and conclusions. One of my students' favorite activities, which prompted a flurry of reading about life cycles, was to observe tadpoles while using books to determine where the tadpoles were in their life cycle and what was happening to them during that stage. They compared information from their books to what they noticed about their tadpole, investigating their own questions such as, "If the tadpole has front and back legs, but he still has a tail, can he breathe air yet?" They also used their research to make predictions about what would happen next to the tadpole. In this way, reading comprehension became a tool to better understand the world around them (Figure 6).

While less research can be found about integrating reading into other subjects, it is possible that similar



*Figure 6.* During an integrated science and literacy unit, this student observes a tadpole using texts to draw conclusions and make predictions about the tadpole's life cycle.



Table 4

*Quick Tips for Integration*

Tip	Description
Use What You Have	Consider where literacy-based activities might fit into your upcoming science or social studies units.
Use Trade Books	Give your students time to engage with interesting reading materials during science and social studies. Materials such as trade books, articles, or primary resources should be related to the subject content and should allow your students to investigate answers to their inquiries.
Don't Limit Yourself	Think about ways you can use reading in social studies, math, etcetera. Although most of the research on integration has been focused on science, the integration of reading with any subject certainly offers chances to make reading exciting for students!

results could be achieved by integrating reading comprehension with other content areas, such as social studies. (See Table 4 for a few quick tips to increase integration in your lessons.) Initial studies seem to show that integrating reading and social studies can be beneficial (Duke, Halvorsen, & Strachan, 2016; Littlefield, 2011; Vaughn et al., 2013). One such study completed with middle school students found that implementing reading instruction during social studies lessons improved both reading comprehension and the knowledge of social studies (Vaughn et al., 2013). Another study found that literacy and social studies integration increased motivation when coupled with student choice (Littlefield, 2011). Researchers also suggest that integrating social studies and literacy through project-based lessons is an effective and engaging way to improve motivation and literacy (Duke et al., 2016). While there may not yet be a complete picture of how teaching reading comprehension within a social studies unit might affect motivation in elementary students, these findings provoke some interesting questions for the future.

### Interaction

The last "I" of motivation is arguably the most complex. This is because interaction, a broad term for how

students interact with the people and materials in their classrooms, can take on many forms. Research, however, indicates three kinds of interaction that are helpful in increasing reading motivation: student-student, student-resource, and student-teacher (Kao et al., 2016; Law, 2008; Taylor et al., 2003). Below, I will discuss each in detail.

Student-student interaction refers to how students discuss and work together through concepts in a text (Siegel, 2005). Student-student interaction in the form of cooperative groups has been discussed as a motivational support. While cooperative learning groups can be structured in different ways for different learning goals, they have the essential core of small student groups working toward a shared goal (Siegel, 2005). According to a recent study, students who worked in cooperative learning groups not only improved their comprehension, they also reported higher levels of interest and enjoyment in regard to learning about reading comprehension (Law, 2008).

Student-resource interaction is defined for this article as when students are actively using a resource to deepen their reading comprehension skill or conceptual knowledge. Studies illustrate two ways that this can



be effective. First, student-resource interaction seems to motivate students when the resource is stimulating. In other words, interesting, appealing texts can motivate students to read (Kao et al., 2016), as can exciting hands-on activities meant to activate or build knowledge (Guthrie et al., 2006). An example from one study includes students dissecting owl pellets, building new content knowledge about what owls eat, and creating a fun sense of discovery. Students were then provided brightly colored and exciting texts to read, using strategies when needed to quench their scientific curiosity (Guthrie et al., 2006). Second, resources seem to motivate students when they provide feedback. For this, we turn to technology. One recent study measured students' engagement as they read eBooks. Students whose eBooks were programmed to give them feedback were not only more engaged, in interviews they declared themselves more interested in future reading (Kao et al., 2016).

Lastly is student-teacher interaction, which takes place throughout the school day as students engage in learning with their teacher. According to research, what makes student-teacher interaction a motivator is not an actual teaching method or lesson style, but whether students have to actively respond to their teacher (Taylor et al., 2003). When students are able to provide a quick yes or no answer, or no answer at all, they show less engagement and motivation. However, when students are required to use higher-order thinking skills in order to answer questions or discuss concepts about a text with their teacher, they appear to become both interested and ready to learn more.

These interactions can all take place in many ways. Below are some suggestions for prioritizing interaction, but don't limit yourself! Building interaction is a great opportunity to use creativity and your own teaching style.

1. Prioritize interaction opportunities by creating times during each lesson for the students to discuss their ideas with each other and with you. Cooperative learning groups are a great way to do this, but I also recommend conferencing with each group.

By conferencing with one group per lesson, you should be able to meet with all of your students fairly frequently. During conferences, ask the students open-ended questions about what they are reading, and use follow up questions to help them clarify their thinking, rather than focusing on correct or incorrect answers. During our thematic units, I used conferencing time to discuss how their reading helped them form their hypotheses, predictions, and conclusions.

2. Bring in hands-on resources that compliment your readings. I encourage you to supply as many as possible and make them accessible to students. Although my students enjoyed the tadpole observations and certainly seemed motivated to read, not every resource has to be quite so work-intensive. Simply sending students to the playground to bring in rocks to examine while reading about geology can give the students a sense of ownership and develop an interest in reading to learn more. This can be done for fiction reading as well. For example, my students enjoyed examining seashells and sand while reading a story about a child's trip to the beach. By piquing student interest in the subject matter through hand-on resources, a teacher can support engagement in that text.
3. Consider interacting through technology. Look for websites that will provide colorful, interesting, interactive experiences for your students while still requiring them to read and understand. Several websites, such as Scholastic ([www.scholastic.com](http://www.scholastic.com)), integrate reading with science content, making this a great way to incorporate integration and interaction. You may also consider using technology to support interaction between class members. Students can build reading interest, for example, by using teacher-supervised blogs to discuss classroom texts or promote books they are reading individually. (See Table 5 for tips regarding motivational interaction.)

## Some Concluding Thoughts

As students learn to strengthen their reading comprehension skills, motivation is a vital component. Although comprehension instruction and motivation



Table 5

### Quick Tips for Interaction

Tip	Description
Rethink Small Groups	Examine your small group instruction. Are students working together to achieve a shared goal? If needed, think about how to add cooperative learning elements such as group discussion and problem solving (Law, 2008).
Check Out Your Resources	Take a look at the resources your students will use while reading this week. Ask which ones will provide them stimulation and or feedback and look for patterns. If needed, be creative and enjoy hunting for some exciting, supportive resources related to your readings.
Be Active	Use a mix of whole group, partner-based, and individual sharing structures to help your students become more active participants in classroom dialogue, especially when discussing texts.

will ideally work together, research shows that this may not happen without a guided effort by teachers to bolster motivation during reading instruction. When I implemented the methods described in this article, my students gained an excitement about reading, an eagerness to engage in new texts, and exhibited a general increase in literacy skill. By providing students with motivation-based instruction, concept-based integration, and supportive, active interaction, teachers can create not only the ability, but also the desire to read and comprehend.

## References

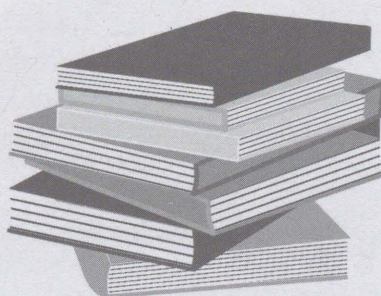
- Almasi, J. F., & Fullerton, S. K. (2012). *Teaching strategic processes in reading* (2nd ed., pp. 1-25). New York, NY: Guilford Press.
- Andreassen, R., & Braten, I. (2011). Implementation and effects of explicit reading comprehension instruction in fifth-grade classrooms. *Learning and Instruction*, 21(4), 520-537. Retrieved from <https://search-proquest-com.proxy1.cl.msu.edu/docview/881457908?accountid=12598>
- Braten, I., Johansen, R. P., & Strømsø, H. I. (2017). Effects of different ways of introducing a reading task on intrinsic motivation and comprehension. *Journal of Research in Reading*, 40, 17-36. doi: 10.1111/1467-9817.12053
- Council of Chief State School Officers and the National Governors Association. (2010). *Common core state standards for English language arts & literacy in history/social studies, science, and technical subjects*. Washington, D.C.: Authors.
- Dewey, J. (1902). *The child and the curriculum*. Chicago, IL: University of Chicago Press.
- Drake, S. M. (1993). *Planning integrated curriculum: The call to adventure*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Duke, N. K., & Carlisle, J. (2011). The development of comprehension. In M. L. Kamil, D. Pearson, E. B. Moje, & P. P. Afflerbach (Eds.), *Handbook of reading research* (Vol. 4, pp. 199-228). New York, NY: Routledge.
- Duke, N., Pearson, D., Strachan, S., & Billman, A. (2011). Essential elements of fostering and teaching reading comprehension. In S. J. Samuels & A. E. Farstrup (Eds.), *What research has to say about reading instruction* (4th ed., pp. 51-93). Newark, DE: International Reading Association.
- Duke, N. K., Halvorsen, A., & Strachan, S. L. (2016). Project-based learning not just for STEM anymore: The research is clear that social studies and literacy are fertile ground for robust project-based learning units. *Phi Delta Kappan*, 98(1), 14.
- Guthrie, J. T., Hoa, A. L. W., Wigfield, A., Tonks, S. M., Humenick, N. M., & Littles, E. (2007). Reading motivation and reading comprehension growth in the later elementary years. *Contemporary Educational Psychology*, 32(3), 282-313. doi:10.1016/j.cedpsych.2006.05.004
- Guthrie, J. T., McRae, A., & Klauda, S. L. (2007). Contributions of concept-oriented reading instruction to knowledge about interventions for motivations in reading. *Educational Psychologist*, 42, 237-250.
- Guthrie, J. T., Wigfield, A., Humenick, N. M., Perencevich, K. C., Taboada, A., & Barbosa, P. (2006). Influences of stimulating tasks on reading motivation and comprehension. *The Journal of Educational Research*, 99(4), 232-245. doi:10.3200/JOER.99.4.232-246
- Guthrie, J. T., Wigfield, A., & VonSecker, C. (2000). Effects of integrated instruction on motivation and strategy use in reading. *Journal of Educational Psychology*, 92(2), 331-341. doi:<http://dx.doi.org.proxy2.cl.msu.edu/10.1037/0022-0663.92.2.331>



- Kao, G. Y., Tsai, C., Liu, C., & Yang, C. (2016). The effects of high/low interactive electronic storybooks on elementary school students' reading motivation, story comprehension and chromatics concepts. *Computers & Education*, 100, 56-70. doi:10.1016/j.compedu.2016.04.013
- Kintsch, W. (2013). Revisiting the construction-integration model of text comprehension and its implications for instruction. In D. E. Alvermann, N. J. Unrau, & R. B. Ruddell (Eds.), *Theoretical models and process of reading* (6th ed., pp. 807-839). Newark, DE: International Reading Association.
- Kostons, D., & van der Werf, M. (2015). The effects of activating prior topic and metacognitive knowledge on text comprehension scores. *British Journal of Educational Psychology*, 85(3), 264-275. doi:10.1111/bjep.12069
- Law, Y. (2008). Effects of cooperative learning on second graders' learning from text. *Educational Psychology*, 28(5), 567-582. doi:10.1080/0144341070188015
- Littlefield, A. R. (2011). *The relations among summarizing instruction, support for student choice, reading engagement and expository text comprehension*. Available from ERIC. (1140142601; ED535752). Retrieved from <http://ezproxy.msu.edu.proxy2.cl.msu.edu/login?url=https://search-proquest-com.proxy2.cl.msu.edu/docview/1140142601?accountid=12598>
- NGSS Lead States. (2013). Next Generation Science Standards: For States, By States. Retrieved from <http://www.nextgenscience.org/>
- Piaget, J. (1973). *To understand is to invent: The future of education*. New York, NY: Grossman Publishers.
- Powell, K. C., & Kalina, C. J. (2009). Cognitive and social constructivism: Developing tools for an effective classroom. *Education*, 130(2), 241-250.
- Rapp, D. N., van den Broek, P., McMaster, K. L., Kendeou, P., & Espin, C. A. (2007). Higher-order comprehension processes in struggling readers: A perspective for research and intervention. *Scientific Studies of Reading*, 11(4), 289-312. doi:10.1080/10888430701530417
- Schaffner, E., Schiefele, U., & Ulferts, H. (2013). Reading amount as a mediator of the effects of intrinsic and extrinsic reading motivation on reading comprehension. *Reading Research Quarterly*, 48(4), 369-385. doi:10.1002/rrq.52
- Siegel, C. (2005). Implementing a research-based model of cooperative learning. *Journal of Educational Research*, 98(6), 339-349.
- Snow, C. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. Rand Corporation.
- Strommen, L., & Mates, B. (2004). Learning to love reading: Interviews with older children and teens. *Journal of Adolescent & Adult Literacy*, 48(3), 188-200. doi:10.1598/JAAL.48.3.1
- Swan, E. A. (2003). *Concept-oriented reading instruction: Engaging classrooms, lifelong learners*. New York, NY: Guilford Press.
- Taboada, A., Tonks, S. M., Wigfield, A., & Guthrie, J. T. (2009). Effects of motivational and cognitive variables on reading comprehension. *Reading and Writing*, 22(1), 85-106.
- Taylor, B. M., Pearson, P. D., Peterson, D. S., & Rodriguez, M. C. (2003). Reading growth in high-poverty classrooms: The influence of teacher practices that encourage cognitive engagement in literacy learning. *The Elementary School Journal*, 104(1), 3-28.
- Vaughn, S., Swanson, E. A., Roberts, G., Wanzek, J., Stillman-Spisak, S., Solis, M., & Simmons, D. (2013). Improving reading comprehension and social studies knowledge in middle school. *Reading Research Quarterly*, 48(1), 77-93.
- Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology*, 89, 420-432.

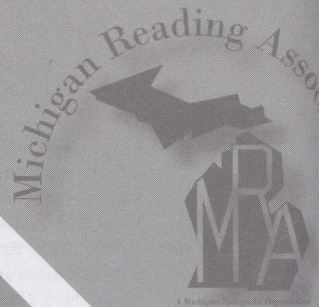
## Author Biography

**Alyssa Whitford** is a former elementary teacher and a current doctoral student at Michigan State University. Her research interests include motivation and subject integration, especially in the areas of literacy and social studies. She can be reached at [whitfo32@msu.edu](mailto:whitfo32@msu.edu).





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