

Building and activating students' background knowledge: It's what they already know that counts

Teachers must assess and build on the background knowledge students possess.

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Preparing middle grades students for eventual success in high school involves recognizing that they are transitioning from self-contained, child-centered, elementary classroom settings that are emotionally and academically supportive (Mizelle & Irvin, 2000; Wasserstein, 1995). Acting as adult advocates for students (National Middle School Association [NMSA], 2010), middle grades teachers guide the transition from elementary school by providing a delicate balance between supporting students' academic and developmental differences and encouraging independence and personal learning responsibility (Lounsbury, 2010). Effective teachers realize that young adolescents are greatly influenced by their peers, and they plan curricular experiences that are collaborative and supportive of social contact (McEwin, Dickinson, & Anfara, 2005). These experiences promote conversational opportunities for students to share their thinking and respond to the thinking of peers while developing the background knowledge they need to understand text-based concepts they meet for the first time. Kucan and Beck (2003) hypothesized that peer discussion that supports intellectual engagement with texts is a must if students are to develop higher-order thinking skills. We posit that such engagement also supports building the wide array of background knowledge that middle grades students need to succeed during a typical school day as they move from one content class and text to the next.

The middle level literature has long emphasized the relationship between background knowledge and learning (Beane & Brodhagen, 2001; Gatewood, 1973; Wolfe & Goldman, 2005). Instruction in many elementary school classrooms may lack depth of focus across content areas, with science and social studies often receiving less attention; so students often come to the middle grades with varying amounts of background knowledge. Sometimes that knowledge is inaccurate or has gaps, and sometimes it is complex and robust. Middle level teachers can build and activate appropriate background knowledge, thus enabling students to engage more fully in learning experiences. This ensures students will have access to the complex and interesting ideas that are the focus of their middle grades experience. In this article, we offer examples of instructional techniques that develop and activate students' background knowledge while supporting their ability to expand and share what they are learning.

What exactly is background knowledge?

The population of students in public schools today is more diverse than ever before (Beach, Hull, & O'Brien, 2011; Howard, 2007; National Center for Educational Statistics, 2010), and this diversity involves more than race, ethnicity, and language. Students today are increasingly diverse in terms of their background knowledge and experiences. Some students have had

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experience with snow and winter storms; others have not. Some students have seen governments collapse; others have not. Some students have been taught multiplication facts; others have not. Some students have been to every museum in the community; others have not. Some students have access at home to new media texts, while others must depend on schools and libraries for Internet access.

Continuous learning is about validating and extending one's background knowledge. An individual's background knowledge develops through interaction with people, places, experiences, Internet sources, texts, and content formally taught. As Marshall (1996) reminds us, "Learning is controlled as much by experiences students bring to the learning situation as it is by the way the information is presented" (p. 81); and this is as true today as it was in the last century (Prensky, 2008).

The example of Amal, a seventh grade immigrant student who had come from Afghanistan two years earlier, illustrates the importance and complex nature of background knowledge. When Amal's seventh grade teacher read aloud *The Breadwinner* (Ellis, 2000), about a young woman's life in Afghanistan under Taliban rule, Amal had a great deal to contribute because she had immigrated from the very country highlighted in the book. She participated in whole-class and small-group conversations, wrote reactions on a Moodle discussion board, and produced an outstanding essay filled with personal connections. However, when the teacher read aloud the book *Hattie Big Sky* (Larson, 2006), about a young woman's experience in rural Montana trying to make it on a farm, Amal was often confused. She asked questions of her peers (often while the teacher was reading) and did not participate in whole-class discussions. Fortunately for Amal, her teacher understood the profound impact that background knowledge has on understanding and provided Amal with a number of resources to build her background knowledge, including YouTube videos about life on farms and rural America and an e-pal from Montana, whom Amal e-mailed almost daily. These scaffolds supported her background knowledge, ensuring that Amal could participate in online discussion boards and produce another outstanding essay, this time filled with quotes from her Montana e-pal.

By starting with what students already know, teachers can be more precise in their teaching. They do not have to make guesses about areas of confusion or

gaps in understanding. In addition, quick assessments of background knowledge alert learners to their misunderstandings and may make the content a little more relevant. Attending to background knowledge is like getting inside students' minds, which is a great place for middle level teachers to be. Amal's teacher was providing instruction that made effective use of the appropriate knowledge the student had to support her new learning (Gatewood, 1973).

Determining core background knowledge

The first step in addressing background knowledge is to determine what core background knowledge (as opposed to incidental knowledge) students will need to understand the new information to be learned. Teachers can distinguish between core background knowledge and incidental knowledge by answering the following questions:

1. Representation: Is the information foundational or essential to understanding the main concept (core), or is it merely interesting but peripheral (incidental)?
2. Transmission: Does the information require multiple exposures and experiences (core), or can it be easily explained or defined using a label, fact, or detail (incidental)?
3. Transferability: Will the information be required to understand future concepts (core), or is the information specific to one topic and not likely to be used in the near future (incidental)?
4. Endurance: Will the information be remembered after the details are forgotten (core), or will it likely not be recalled in the future (incidental)?

In other words, all background knowledge is not equally relevant. For example, when his teacher announced that his group's book club would be reading *The Circuit* (Jimenez, 1999), one student shared an experience from a middle level science project on electrical circuits and went on and on about how they work. The story, however, was actually about a family of migrant farm workers. Yes, the student had extensive background knowledge, but it was not relevant to the content to be studied. More important, this student's activation of irrelevant background knowledge might actually have interfered with his understanding

(Alvermann, Smith, & Readence, 1985), at least for the first few chapters of this short story.

To illustrate the ways in which teachers develop and activate students' background knowledge, we share examples from many content areas, including one example about the study of Roman civilization. As noted earlier, the first step is to identify the core background knowledge necessary to understand the content. For example, a social studies teacher who is preparing to engage students in reading a textbook chapter about Roman civilization should identify the major ideas and the number of details the reading contains. The teacher should also understand that a significant amount of this core background information comes from previous chapters in the social studies textbook. Accordingly, the teacher would not need to build most of this informational base but, instead, activate it by showing students how to make text-to-text connections. This would model the importance of using one's existing knowledge to construct new understandings. If the analysis of the core background knowledge required for understanding the Roman civilization chapter instead revealed a need to develop significant background knowledge, the teacher would have to implement certain strategies, which might include wide reading, direct experiences, virtual experiences, anticipating misconceptions, and assessing background knowledge.

Wide reading

Reading is an excellent, indirect way to build background knowledge. Through books, readers meet people they otherwise would never have met, visit places and times that they would not have otherwise been able to visit, and interact with ideas that shape their understanding of the world. Of course, we are not just talking about paper-and-ink books, but the vast array of new media texts available for students that can be read on a Kindle, Sony Reader, iTouch, iPhone, iPad, or laptop. As a way to develop a base of knowledge about the Roman Empire, students

can explore easy-to-read books with many pictures or websites about ancient Rome.

The key to wide reading is simple: students must read books that they can read. It does not do much good in terms of building background knowledge (or a reader's confidence) to make the reading task too difficult. In other words, if all of the cognitive efforts are focused on decoding or vocabulary, there is little working memory left for comprehension and developing background knowledge.

Direct experiences

One of the most powerful ways to develop background knowledge is to plan experiences for students that take them to the topic of study. These include demonstrations by the teacher as well as field trips and guest speakers. Because students cannot actually visit the Roman Empire, teachers can approximate a direct experience with their students by watching and discussing videos (see Figure 1). Using the Annenberg foundation video series, groups of students could watch one target video and then share the information with classmates from the point of view of someone who had actually lived during this time period. Teachers can also use the YouTube videos listed in Figure 1 to build background knowledge. If your school prohibits classroom use of YouTube, you can follow a few simple steps to share the video with your class.

1. YouTube videos have a URL or address that is displayed at the top of the browser. You can copy that entire string of text then paste it into the designated field at the following website: <http://www.keepvid.com>.
2. Click the button next to that field, allowing you to download the file to your computer. You will be prompted to allow the website to use Java, so you need to agree.
3. You will be asked what format to use, and you should choose mp4. The file should download to your Downloads folder, or to your Desktop folder.
4. Once it completes downloading, you can play the file.

Figure 1 Ancient Rome web video resources

<i>Western Civilization</i> , Annenberg Foundation	http://www.learner.org/resources/series58.html
<i>The Roman Empire in the First Century</i> , PBS	http://www.pbs.org/empires
YouTube videos about ancient Rome	http://www.neok12.com/Ancient-Rome.htm

Virtual experiences

Since teachers cannot always take students to the place being studied, the Internet has provided a third way for teachers to develop students' background knowledge. While "everything" is on the Internet, the real power lies in knowing how to use it. Simply telling students to go visit the website of a virtual museum without a clear purpose, for example, is not likely to build their background knowledge. In addition to a clearer purpose, teachers must guide students in these virtual experiences to ensure that background knowledge is being built. Without this focus, looking at the collection of a virtual museum may be fun for students, but it is a waste of time in terms of enduring understanding. For example, an understanding of the Roman Empire could be established as the students and their teacher view and discuss DVDs or YouTube videos similar to those we identified earlier.

Anticipating misconceptions

The second step in the process of developing needed background knowledge involves anticipating misconceptions. Students often possess misconceptions that negatively influence their learning, and teachers must take note of these. Misconceptions are different from factual errors, which can be corrected easily enough when students are presented with new information. Misconceptions are fundamental errors in reasoning and have a cascading effect that influences subsequent learning. A multiplier effect occurs as the learner retrofits new concepts onto these misconceptions in an attempt to preserve incorrect background assumptions.

Misconceptions are central to understanding how people learn. Some misconceptions stem from the misuse of vocabulary within a discipline. Schmidt (1997) studied the misconceptions of 7,500 high school chemistry students. One misconception many held was about the use of the term *neutralization*. Many students clung to the idea that the term represented the interaction of an acid and a base, resulting in a net change in the pH value. Although accepted as a colloquial use of the term, it is not an accurate use in chemistry. Neutralization is properly understood as "a reaction between particles [involving] a proton transfer reaction producing water" (Schmidt, p. 130). Schmidt attributes such vocabulary-induced misconceptions as a product of everyday usage that is not sufficiently upended through conceptual

development, rather than just memorization of new definitions. Additionally, discipline-specific technical definitions of terms used in other contexts are particularly difficult to reteach. For example, a colleague of ours who teaches algebra struggles with getting her students to understand that *solution set* in mathematics (a set of possible values that a variable can take on to satisfy a given set of conditions) is not the same as the more common, everyday definition of solution as "an answer to a problem."

It is useful to anticipate the kinds of misconceptions students may hold so that they can be directly assessed and then retaught to change understanding.

The intractability of misconceptions makes them very difficult for teachers to correct. Therefore, it is useful to anticipate the kinds of misconceptions students may hold so that they can be directly assessed and then retaught to change understanding. One of the most useful websites is the MOSART Project, sponsored by the Massachusetts Institute of Technology (<http://www.cfa.harvard.edu/smgphp/mosart/index.html>). This project focuses on misconceptions in science and features videos and resources to help dispel them. Among the videos archived are those that feature Harvard graduates attempting to explain how a tree grows from a seed and MIT graduates failing to make a light bulb light using a wire and a battery. The videos contain convincing evidence of how ingrained misconceptions can be. We have listed other resources for misconceptions in science, technology, and mathematics in Figure 2.

Returning to the study of the Roman Empire, two common misconceptions are:

- History is static; when one civilization is spotlighted, students will mistakenly perceive that all other civilizations stood still. Drawing attention to the time lines that show what was occurring in other parts of the world helps dispel this notion.
- The Roman and Greek religions were the same. Although they were similar, the Roman and Greek

religions were different. Roman myths were not a direct part of the religion, as they were in the Greek religion. In addition, the Romans worshipped gods and goddesses before they had any contact with the Greeks.

With these misconceptions in mind, teachers can plan appropriate instruction. It is advisable to assess for misconceptions using items such as anticipation guides, cloze assessments, and other products that encourage students to produce written work for you to analyze. Whether on paper or online, assessing for background knowledge with an eye toward unearthing misconceptions can result in more efficient and effective teaching.

Assessing student background knowledge

The next step in the process of building background knowledge is to determine the extent to which students possess relevant core background knowledge. This can be done in several ways. We provide a few examples of assessment tools, again drawing on the study of the Roman Empire.

Cloze assessment

Cloze is a tool used to assess comprehension or readability in which a reading selection is given and certain words are deleted (Taylor, 1953). The student provides closure by inserting the appropriate words according to context clues. This informal, criterion-referenced assessment procedure is useful for teachers for several reasons. First, it is flexible enough to allow teachers to assess large groups of students at the same time or to assess students individually. Second, the information gathered in the assessment procedure can be used to select reading material for students that is challenging but not frustrating. Finally, a cloze assessment allows the teacher to determine which students have sufficient background knowledge to understand the text. Using the cloze assessment procedure to determine if the text is at the students' reading level involves the following steps.

- Select a text or passage of approximately 250 to 300 words. These often come from the readings students will complete as part of a unit.
- If a 250-word passage ends in the middle of a sentence, include the entire sentence to be sure that the break in syntax is not confusing to the reader.

Figure 2 Misconception resources

Subject Area	Sponsor	URL
Math, Science, Technology	Conceptual and Reasoning Difficulties in Science, Mathematics, and Technology	http://www.card.unp.ac.za/home.asp
Biology	Weber University	http://departments.weber.edu/sciencecenter/biology%20
Physics	University of Montana	misconceptions.htm
Algebra	University of California-Irvine	http://www.physics.montana.edu/phised/misconceptions/
Algebra	Assessment Resource Bank (NZ)	https://eee.uci.edu/wiki/index.php/Algebra
Chemistry	Queens University (CA)	http://arb.nzcer.org.nz/supportmaterials/maths/concept_
Geometry	Boston College Diagnostic Geometry Assessment	map_algebraic.php#equality
Earth Science	Science Education Resource Center at Carleton College	http://educ.queensu.ca/~science/main/concept/chem/c07/C07CDTL1.htm

- Delete every fifth word and insert a straight line in place of each missing word. Place the first straight line after the 25th word.
- The passage should contain approximately 50 straight lines after deletions have been made.
- Ask students to insert the missing words. No time limits are set.
- Responses are correct even if misspelled.
- Each correct closure is worth 2 points.
- Score the assessment as follows: 58–100 points indicates an *independent* reading level for the student, 44–57 points indicates that this is the *instructional* level for the student, and less than 44 points indicates that the material is in a student's *frustrational* level.

Once the results are tallied, the teacher will have a general idea of where to begin instruction. By studying the type of errors students make, the teacher can analyze their success in comprehending the passage. While many educators may suggest that the exact word must be inserted, we believe that the inserted word should be counted as correct if it is the appropriate part of speech and does not alter the text meaning. The child's performance rather than the score is the key to successful integration of assessment and instruction.

In terms of background knowledge, the cloze procedure provides teachers with an idea about the type of words that come to mind for the student. Words represent concepts that the student has. Of course, there is significant variation in word understanding, but if the student can supply an appropriate word for the passage, it is likely that student has the relevant background knowledge.

Figure 3 contains an example of a cloze passage for a reading related to Roman civilization. The underlined words would be eliminated on the student version, but we left them to demonstrate the correct passage and how easy it is to create this type of assessment.

Caption writing

Asking students to write captions or descriptions of illustrations or photos will provide you with a reasonable understanding of their relevant background knowledge. As with the cloze procedure, if students can supply appropriate vocabulary for the images they see, they probably have the related concepts. For example, during the ancient civilizations unit, students viewed projected images from Google Images and wrote captions. In about 10 minutes, the teacher had a clear understanding of students' relevant background knowledge. Consider the background knowledge evident in Maribel's writing about an image of the Parthenon:

I know this one because I've been to Greece. I can't remember what it's called but it was a temple for Athena. She was kinda like a Greek Goddess. It was also a place where they buried people and there were celebrations there. It has a lot of different buildings that are mostly falling down now.

Word sorts

Another way to determine what students already know is to ask them to sort words. Sorts can either be closed, in which categories are furnished by the teacher, or open, in which students develop their own categories (e.g., Bear, Invernizzi, Templeton, & Johnston, 2007). Again, this requires that students draw on their word knowledge,

Figure 3 Cloze example

People lived in Italy long before the rise of the Roman Empire. According to legend, Rome was established by twin brothers named Romulus and Remus, who were raised by wolves. People from other regions began settling and trading around 750 BCE, including Etruscans from northern Italy and Greek traders. The Etruscans turned Rome from a village to a city by building roads and temples. They were cruel and were overthrown. The people of Rome established a republic.

The Greek traders shared their art, culture, and ideas with Romans. The Greeks were famous for their beautiful architecture and art, and the Romans admired it. They also worshiped many gods and goddesses. They told elaborates stories of their gods' adventures. We call these stories myths.

People in the ancient world lived short and harsh lives. The work was hard and disease claimed many. People began their adult lives when they were still teenagers. As with other societies, women and the poor had few rights. Many societies needed enslaved people captured from wars to do the work and building.

Figure 4 Word sort

Post words on the board in front of the class or create a handout for students to cut apart the words. Students will sort the words according to four categories: Greece, Egypt, Persia, and All Societies.			
Agora	exports	polis	wealth
democracy	Mediterranean	Acropolis	Cyrus
architecture	enslaved people		pharaoh
wars	very rich and very poor people		king

which is the representation of their background knowledge. A quick analysis of the ways in which students sort words informs the teacher about what the student understands and does not yet understand.

Figure 4 contains a sample word sort for the Roman Empire unit. When Heather put “democracy” in the category “all societies,” her teacher had a clue about needed instruction. Similarly, when Brianna put “polis” in the category “Persia,” her teacher hypothesized that she did not understand the ideas. When Onisha put “Pharaoh” in the category “Egypt,” her teacher knew that she had some understanding of the Egyptian civilization.

Opinionnaire

An opinionnaire is a tool for eliciting attitudes about a topic (Smagorinsky, McCann, & Kern, 1987). Understanding students’ attitudes is important in assessing their background knowledge, and such assessments are designed to “help students to broaden their repertoire of interpretive strategies by encouraging

them to consider and evaluate authors’ and characters’ uses of important themes and ideas and by helping them to connect literature and life” (White & Johnson, 2001, p. 120). Opinionnaires can take a variety of formats, but all feature a series of statements that are meant to be provocative or controversial. Most opinionnaires do not allow for neutral responses, either requiring an agree or disagree response or allowing the respondent to express further degrees of opinion, such as strongly agree, agree, disagree, or strongly disagree. We like to provide space for students to give a reason for their opinion. An example of this format appears in Figure 5.

Building background knowledge through vocabulary

As we have noted several times, vocabulary is inextricably linked with background knowledge. Thus, one of the ways teachers can develop students’ background knowledge is through systematic vocabulary instruction.

Figure 5 Opinionnaire example

Before		After
1 2 3 4 Why?	The Roman Civilization was the greatest of the ancient world.	1 2 3 4 Why?
1 2 3 4 Why?	It was difficult to be a poor person in the ancient world.	1 2 3 4 Why?
1 2 3 4 Why?	It was difficult to be a woman in the ancient world.	1 2 3 4 Why?
1 2 3 4 Why?	If it hadn’t been for the Greeks, Roman civilization would not have risen to such power.	1 2 3 4 Why?

Key: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree

Of course, students do not learn words from simply listening to teachers use words; they need word-solving techniques and opportunities to use words. Effective vocabulary instruction requires teachers to model word-solving techniques and provide students with ample opportunities to use the words in the presence of others. This format for vocabulary instruction is consistent with the “gradual release of responsibility” model of instruction, as it releases responsibility for learning to students so that they own their understandings of words while being supported in the acquisition process.

Drawing again from our Roman civilization example, there are a number of key vocabulary terms that students will need to understand to make sense of the text, including: vault, satire, ode, anatomy, Forum, gladiator, *paterfamilias*, and rhetoric. In this section, we illustrate how a teacher can model various word-solving techniques.

1. Modeling structural analysis

The teacher can model his or her thinking aloud as the class discusses how to understand an unknown word by looking at parts of the structure (prefix, suffix, root, cognate) they do know. The words *paterfamilias* and *anatomy* lend themselves to structural analysis. An example of modeling using structural analysis follows.

When I look at *paterfamilias*, I see two parts I can recognize. I see family in the word, so it gives me a good clue about the general meaning. I also see *pater-*, which reminds me of words that sound like it. I know that paternity means father, so I can take a good guess that *paterfamilias* has something to do with the father’s family.

I can do the same thing with *anatomy*. I know that *tome* in Greek means to cut, like when you dissect something. *Ana-* means up, like when I analyze something I always have to think about higher ideas. So *anatomy* comes from two words that mean to cut something up.

2. Modeling contextual connections

In addition to modeling word parts, teachers can model the use of context clues. Authors often embed clues about specific words within the text. By helping students recognize and use these clues, teachers provide them a way to build their background knowledge while reading independently. The following is an example of a teacher

modeling contextual connections to understand the words *satire*, *ode*, and *rhetoric*.

Three words on this list hang together thematically. They are satire, ode, and rhetoric. All of them have to do with writing. A satire is a play that pokes fun at a person or idea. An ode is a detailed story poem. And rhetoric has to do with how well you can argue a position. For example, when you give a list of good reasons why you should be allowed to stay up late on a school night, you are using your rhetorical skills. If you satirize the way your mother says no when you ask her to do something, she’s probably going to be angry and say no to your request to stay up late. But if you turn it into an ode, she’ll probably say yes!

3. Using resources to solve unknown words

When structural analysis and context clues do not work, readers rely on other resources to solve unknown words. Of course, readers today use their mobile phones or laptops as resources. Here are a few examples of modeling the use of classroom resources.

Sometimes structural and contextual analyses aren’t enough to solve an unknown word. I can’t figure out vault, gladiator, or Forum. But I can use resources to find them. One good resource is the glossary. When I look up vault, it says it’s a “curved structure of stone or concrete forming a ceiling or roof.” It also says the word vault is used on page 303. I can read that section to understand more clearly what it means.

Another resource I can use is another person. When I texted my friend and asked what a gladiator was, he told me it was someone who fights for a living. Then he sent me an e-mail and told me that in ancient Rome they had gladiators that fought in front of crowds to entertain people. I don’t know everything about the word yet, but it’s enough to get me started.

Another resource I can use is the classroom computer. When I typed forum, I got lots of stuff that didn’t look like it was related. So I added “Rome” to my search, and right away I got pictures and explanations about it. I learned that the Forum was where the senate began in Rome. I was able to look at pictures of the ruins.

Since students acquire vocabulary, in part, through multiple authentic opportunities to use it, students should summarize information orally with a partner. The teacher should post the target words and remind the students to listen for and use every term in their

summaries. Partners can check off the terms as they use them and hear their partners use them to make sure they have linked terms and concepts together.

Activating background knowledge

Questioning is an effective way to check for understanding and to provide students with more opportunities to apply their conceptual understanding. Bloom's Taxonomy is helpful for identifying relevant assignments that reinforce the purposes for learning. This is no less true when discussing question design. Factual knowledge at the level of remembering and understanding is important, of course, but remember not to ask questions that only draw on these levels of knowledge. Plan for questions that require students to apply, analyze, and evaluate to strengthen purposes for learning and build background knowledge. We routinely do this in our own practice by composing these types of questions in advance and writing them on sticky notes. We affix these notes near the passages in the textbook where we want to pose the questions. This reminds us to stop from time to time to foster discussion.

We shall return to our example of Ancient Rome to illustrate what we mean. For instance, the teacher reads to the students a statement from the textbook: "Using Greek models, the poet Horace wrote satires. These works poked fun at human weaknesses." The teacher then asks about satires they are familiar with today, reminding them that the television show *The Simpsons* is an example of a satire that pokes fun at American families. The question and ensuing discussion invite students to apply their new knowledge about satires to other, more familiar examples.

At another point in the textbook, this sentence occurs: "Persia expanded its empire through road building, as did the Romans." The teacher wants to encourage analysis, so she asks: "Why are roads essential for empires?" A question like this causes students to analyze for patterns regarding other empires they know. This also disrupts a major misconception in history—that it unfolds in a strictly linear fashion, and that the lessons from one culture have little to do with what is learned from others.

Questions that invite evaluation are particularly difficult to craft "on the fly." We take special care to write evaluation questions in advance so that we remember to ask them. An example of an evaluating question is, "How

were the lives of boys and girls in Rome similar to and different from those in Egypt?" This should be followed with a prompt that requires students to activate their own background knowledge about previously learned material. For example, follow evaluating questions with prompts that direct them about how to activate background knowledge. Simply saying, "Reread page 46 to help you with your answer" can help tremendously in building an understanding that one cannot hold all the information learned in one's head, but you do need to know how to find it.

Conclusion

Knowing how to support one's own comprehension is what we believe distinguishes a proficient reader. We have offered several ideas about how to support middle grades students so that they will become proficient readers who know how to activate and expand their own background knowledge. Faced with ever-expanding sources of information via the Internet and requirements to use this information through subsequent years of schooling,

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we believe it is essential to teach middle grades students how to identify their purpose(s) for reading, assess their potential for understanding a text by examining their existing base of related knowledge and language, determine the types of support they need to successfully comprehend the text information, and secure the needed supports. This degree of metacognitive awareness does not automatically happen. Rather, teachers must model this independence as a reader in every content area if we expect students to learn and demonstrate these behaviors.

To function successfully in a 21st century environment filled with new media texts and topics, one must be smart about one's own base of knowledge and how to support one's own intellectual growth. Because

students today are both producers and consumers of information, we believe they will willingly accept the challenge to grow their bases of knowledge if we show them how. This independence will help them make connections to information and create information they will need to function across communities and contexts continuously changed through new technologies that we may not yet fathom. We can be sure to offer students the experiences they need if, in addition to teaching them content, we also show them how to teach themselves.

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Extensions

Think about a time when you were struggling to learn something new because of a lack of background knowledge. What strategies did you use to address the situation? Were they effective?

For more ideas about supporting the development of students' background knowledge, visit: <http://www.readwritethink.org/classroom-resources/lesson-plans/gaining-background-graphic-novel-1063.html>

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