



Stop Skimming, Start Learning

**How to Ensure Every
Student Reads for Depth**



Actively Learn



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INTRODUCTION

What does depth mean?

In brief, achieving depth in reading means getting beyond the gist and making the text one's own. Depth entails understanding the reading thoroughly and being able to discuss it, analyze it, and question it in a sophisticated way.

When we talk about students reading for deep understanding, we are assuming that students can accomplish three tasks:

- 1) Demonstrate mastery by explaining the text thoroughly (establish meaning)
- 2) Use sophisticated thinking to analyze the text (assess, compare, ask why and how)
- 3) Apply ideas from the text in new ways (such as by writing an original essay, creating a project based on ideas from the text, etc.)

Essentially, getting to depth means that students make the text their own by constructing knowledge, analyzing writing and ideas, and then applying the text to create something new.

Students can achieve deep understanding through complex texts across a variety of subjects, whether it be by reading a scientific study, a historical document, or a literary narrative.

Why is depth so challenging?

The vast majority of thinking happens like a reflex: it's fast and automatic. The human brain would rather remember than reason; it prefers to simplify rather than create complexity. We'd much rather skim a document and get the gist than slow down and closely read.

We like to think that we're cognitive machines, but most of our brain's real estate is actually devoted to seeing and moving. Our brain supports thinking, but it does this far more slowly and with less accuracy. Humans are much better at processing visual input than they are at solving calculus problems.

This is why switching gears to thinking in a slow, deliberate way requires significant time and effort, and why it doesn't happen enough in schools. Thinking deeply means overcoming our propensity to avoid the hard work of constructing meaning and problem solving. It also means setting up the right conditions for deep thinking to occur.

How do we get to depth?

Thinking deeply entails a significant effort for students: they will need to push past the comfort zone of their mental activity, tackle challenging work, and perhaps even make mistakes along the way. We are essentially asking students to complete a mental marathon.

Before we figure out how to help students succeed, it's worthwhile to consider reasons why they might not make it to the finish line.

1) Students do not know how to think when they read for depth. Reading for depth is qualitatively different from other types of reading. It requires focused attention, the willingness to slow down and re-read certain passages, and a critical perspective that questions, evaluates, and engages in a discourse with the text. This way of thinking is not obvious to many students and will not happen without guidance and structure.

2) Students cannot access the text at a basic level due to gaps in content knowledge, language barriers, or reading impairments. Even with the best of intentions, students who cannot make sense of what they read will not achieve depth.

3) Students have no idea whether they are on track with how they analyze and make sense of the text. Because their thinking is invisible, they continue to repeat the same mistakes, r on misconceptions, and ultimately stop trying.

Getting students to overcome these obstacles to depth requires three key interventions:

1) Activating thinking

2) Supporting thinking

3) Revealing thinking

Activating thinking entails showing students how to read for depth and ensuring that they adopt the strategies and thought process of expert readers. Teachers activate thinking by modeling close reading, asking higher-order questions, facilitating discussion, and encouraging students to annotate while they read.

Supporting thinking enables students to access the text and receive the guidance they need. Teachers support thinking by making it possible for students to overcome common reading obstacles such as gaps in content knowledge or vocabulary deficits. Technology helps students make sense of the words by offering dyslexic settings, built-in foreign language dictionaries, and text-to-speech.

Revealing thinking is a means of demonstrating the learning process in order to improve it. Teachers and students need to see how students construct knowledge to assess learning strategies and understand where students are struggling. Revealing thinking consists of having students write extensively while they read, encouraging metacognition, and providing effective feedback for deeper learning.

Is depth attainable for every student?

There is a misconception that students who struggle academically cannot achieve deeper learning. These students are often thrown into cycles where they pass from one surface-level topic to the next without getting the opportunity to deepen their learning. While it is true that surface-level knowledge is necessary in order to move to depth, the learning process should not stop there.

Some students may take longer to understand a particular text at a deep level. They may require more support in figuring out what the text is saying or drawing connections between ideas. But in the long term, taking the time to understand a topic in depth is worthwhile because it creates a foundation for further learning and enables students to transfer what they know to other contexts.

Another misconception is that some students simply lack the motivation to learn deeply. How will teachers get students who show little interest in their schoolwork to conduct rigorous analysis?

A lack of depth may actually explain why students are not motivated to learn in the first place. Evidence shows that cognitive involvement is a hallmark of motivation: students who read texts that are challenging yet accessible are more likely to become immersed in their reading and find interest in it. On the other hand, students who are only asked recall questions or assigned reading that does not challenge their thinking are likely to see schoolwork as boring and not worth their time. For these students, depth may actually be the key to engagement.

"People are naturally curious, but they are not naturally good thinkers; unless the cognitive conditions are right, people will avoid thinking."

- Cognitive scientist Daniel T. Willingham in "Why Don't Students Like School?"

ACTIVATE

Modeling Close Reading

The primary hurdle for students in reading for depth is not knowing what is required of them. Students cannot look into the brains of expert readers and figure out what it is they are supposed to be doing as they read. Because reading for depth requires specific strategies, students will not spontaneously figure out how to do this on their own.

When a teacher explicitly models close reading strategies, students can see how expert readers process the text and in turn adopt the same strategies in their own reading. Teachers typically model their own reading processes through read-aloud or by sharing their annotations with students.

Processes to highlight during modeling include:

- Asking questions while reading to monitor understanding and drive engagement
- Summarizing the text
- Deciding strategically where to slow down and pay close attention
- Navigating the structure of the text and understanding how various parts of the text work together
- Making predictions while reading
- Making connections between different parts of the text as well as connecting to prior knowledge

Annotation

In order to dig below the surface of the text, students need to mentally engage with the words they read.

Annotation is a means for students to explicitly demonstrate how they are interacting with the text. It activates thinking by getting students to generate textually-dependent notes and construct knowledge as they read.

However, successful annotation for depth entails more than having students mark up their books. Students need to learn annotation strategies that will further their learning. As with many learning tasks, students need structure, guidance, and feedback on how to annotate effectively.

Effective annotations are:

- 1) Selective: Students should be making decisions about what parts of the text to annotate. They should also be reading for a purpose and using annotations to focus their attention.
- 2) Metacognitive: Annotating allows students to track how they are thinking as they read. Making connections to prior knowledge, asking questions, or summarizing to monitor comprehension are ways for the student to become aware of on his or her own learning.

3) Textually dependent: Annotations should reference the text and interpret what the text is trying to say. Merely articulating one's personal opinions and responses has been shown to be less effective in building reading comprehension.

4) Useful: Annotating should help students organize and retain information that is pertinent for class discussion and further study.

Discussion

Discussion serves several purposes in the context of deeper learning:

- it engages students by creating a community of learners and instills a purpose for the reading assignment
- students who participate in discussion advance their learning far more than they would by working alone
- discussion gives students an opportunity to articulate what they've learned
- during discussion, students can hear other points of view on a topic and gain exposure to other learning strategies
- discussion encourages students to think through their own ideas and develop support for them

Ideally, discussion should entail students responding to one another rather than voicing their individual thoughts. One way for teachers to encourage this more productive form of conversation is to scaffold discussion with sentence starters:

"I agree with and want to add...."

"I disagree with because...."

"I heard say that and wanted to ask a clarifying question."

In this way, students will deepen the discussion rather than merely creating several individual strands of discourse.

Questioning

Recall that students need to be pushed to think past the surface of the text. There is no better way to stimulate that thinking than by asking higher-order questions that draw attention to the text and get students to think as they read.

Ideally, students will be answering questions not after they've finished their reading, but in the process of reading. Questions that are asked during the reading:

- chunk the text by creating pauses to reflect after more significant passages
- allow students to monitor their comprehension as they read

- enable students to articulate their thoughts during the reading process and thus create a roadmap of their thinking
- push students to stay engaged while they read
- focus the reading so that students know exactly what they are looking for in the text



It is important that these questions be not merely recall questions that ask students to reproduce what is already in the text. Students should be summarizing, paraphrasing, analyzing, making connections, and evaluating what they read. They should be activating their prior knowledge in order to make sense of new ideas and constructing their own arguments with evidence. This is the higher-order thinking that should be elicited by the teacher's questions.

"The best learning takes place when learners articulate their unformed and still developing understanding and continue to articulate it throughout the process of learning."

- Keith R. Sawyer, "The New Science of Learning"

SUPPORT

Accessibility Using Technology

Now that we've activated student thinking, we need to ensure that students are given the proper guidance and support to make sense of the text and access it at a deep level.

The first challenge is to ensure that all students can derive meaning from the words they read. This is particularly an issue for dyslexic readers, English Language Learners, and students who struggle with disfluency. These students will have a difficult time getting to depth without reading aids.

In this instance, technology can offer solutions beyond the paper text. Features such as dyslexic settings, built-in translation, and text-to-speech can make it possible for these students to decipher an otherwise opaque stream of words. Embedding these features in a digital text also enables students to make sense of the reading on their own, thereby freeing up instructional time for deeper-level analysis.

Building Content Knowledge

Content knowledge gaps are the primary reason that students don't understand what they read. Imagine that you have to make sense of this sentence from an article on string theory:

"According to Einstein's theory, a relativistic equation has to use coordinates that have the proper Lorentz transformation properties."

(Source:

<http://www.superstringtheory.com/basics/basic4a.html>)

If you were truly determined to understand this sentence, you might:

1. read an encyclopedia entry on Einstein's theory of relativity
2. look up an article on relativistic equations
3. figure out what a Lorentz transformation is

At that point, you would be holding three significant new pieces of information in your working memory and trying to connect them. That would be quite a bit to mentally juggle, and this is only one sentence from a much longer article.

This is the reading experience of a student who lacks content knowledge.

Students who face consistent gaps in content knowledge cannot establish meaning in the text. This means that they cannot figure out what the text is saying, much less proceed to the next step of analyzing the text or applying it in a new way.

Overcoming gaps in content knowledge requires both a short-term and a long-term strategy.

In the short term, teachers can help students overcome deficits in content knowledge by first getting a grasp of what students do and don't know before they tackle a text. This can be done through discussion, a pre-reading quiz, or a gallery walk.

Once gaps in content knowledge are identified, teachers can help students by explaining unfamiliar concepts, creating notes within the text, or distributing a guide to orient students around new events and ideas. This is a way to ensure that students have the necessary information to make sense of an individual assignment.

In the long term, building content knowledge requires sequencing instruction so that students can develop their understanding of a topic over time.

Reading across texts enables students to create more anchors for their knowledge by continuing the conversation from one text to the next. Ideas can be revisited rather than forgotten, and students benefit from the content knowledge of one text when it can be reused to unlock another reading.



"Specific subject-matter knowledge over a broad range of domains is the key to language comprehension—and, as a result, to a broad ability to learn new things."

-E. D. Hirsch, Jr. "Creating a Curriculum for the American People"

Building Vocabulary

Like content knowledge, vocabulary knowledge is critical to helping students unlock the meaning of the text. In addition to helping students make sense of what they read, a more sophisticated vocabulary enhances the way that students articulate their thinking in writing and discussion.

The words that students encounter in their reading are often different from those they hear in everyday speech. Students who are not accustomed to reading challenging text may feel like they need to master a foreign language to figure out what an academic or technical text is saying.

In addition to previewing key vocabulary for individual texts, devoting class time to learning new words in a structured, deliberate way is a worthwhile investment. Students will not fully understand the meaning of new words or embed them in memory unless they actively practice using the word. Students should discuss the nuances of new vocabulary words, use them in original sentences, and review them regularly to ensure that they aren't forgotten.

It's important to note that relying on dictionaries or context to determine the meaning of new words is insufficient to build robust vocabulary knowledge.

Writers generally expect their readers to know the meaning of the words they use, so they do not go to great lengths to define them or leave context clues as to their meaning. In many instances, context will reveal little more than the most general aspects of an unfamiliar word, such as what part of speech it is.

Looking up a word in the dictionary is a good start, but students need further steps to ensure that they fully understand what the word means, can use it themselves, and will devote it to memory.

Exposing students to more words by having them read broadly is another effective strategy in building vocabulary. Students who read more tend to have larger vocabularies. Encouraging students to increase their reading volume through an independent reading program is one way to ensure that students see more words in print.

Scaffolding

In order to read for deeper learning, students need to tackle challenging texts: richer works that lend themselves to interpretation and analysis will yield more engaged thinking and writing than simple texts with straightforward ideas. Simply put, there is more for students to learn from a complex text than there is from a simple one.

Of course, more challenging texts require greater instructional support from the teacher. Scaffolding is an instructional strategy that bridges the gap between the difficulty of the text and the skills and knowledge of the students.

Here are a few ways that teachers can scaffold challenging texts:

- Give students a framework in which to situate the text by providing historical context, information about the author, and an explanation of key terms from the reading. The framework will depend on the text being studied.
- Focus student reading by laying out the objectives for the assignment. Students will know whether to study the development of an argument, the growth of a character, or the application of a theorem. They will get more from the reading and be prepared to discuss the text in a relevant way.
- Ask students to keep track of portions of the text they find confusing and address their questions in class.
- Explain thornier passages by doing a close reading as a class, modeling thinking through a read-aloud, or asking questions that help students figure out what the text is saying.
- Create connections between new information from the text and students' previous knowledge.

The degree of scaffolding will vary from one text to the next, and perhaps from one student to another. It is possible that some students will require very little scaffolding to make sense of a text, while others will need significant support. Differentiating instruction will ensure that all students are stretching themselves and still benefitting from the support they need.



"In a good differentiated classroom, the teacher is constantly raising the stakes for success for any individual, then doing whatever is necessary to help the student succeed in taking the next step."

- Carol Ann Tomlinson, "How to Differentiate Instruction in Mixed-Ability Classrooms"

REVEAL

Writing Extensively

The last step in the process is giving students the opportunity to reveal their thinking so that teachers can offer formative feedback on learning. Having students articulate their thinking in writing not only lets teachers see student thinking in action, but it also helps further student learning by putting words to ideas. This is why it's important for students to continually write as they read, rather than saving the writing until the end. Writing is a means of constructing knowledge.

Here are some ways to encourage writing while students read:

- Have students annotate the text with specific guidelines to ensure that notes are selective, metacognitive, textually dependent, and useful. Teachers should ideally look through student annotations periodically or offer opportunities for students to share their annotations with the class.
- Embed open-ended questions for students in the text. This will allow them to stop and take stock of what they know thus far in the text before continuing with their reading.
- Have students come to class with a list of things they found confusing, surprising, or interesting from their reading. They should articulate in writing the reasons for their selection. This is a terrific way to kick off a discussion in a student-centered way.

Metacognition

Metacognition is a powerful way for students to become aware of their own learning and become more strategic in their thinking.

Metacognition can include any of the following elements:

- Understanding what one already knows about a topic
- Figuring out what one wants to know about a topic
- Realizing what one has learned in the course of a lesson
- Monitoring one's understanding during the course of an activity
- Choosing which learning strategies to employ and when
- Evaluating whether a particular learning strategy was successful in a given circumstance

Educators can encourage students to adopt metacognitive strategies by asking students to reflect on their own learning. This can take the form of a group discussion, a learning log, or even habits such as annotation that direct students to monitor their understanding of the text.

Feedback

When students reveal their thinking while they read, teachers gain insight into what students are struggling with and how best to direct student learning. The most effective feedback for deeper learning:

- Targets the task rather than the student. Making comments about a student's inherent ability or intelligence can actually harm academic outcomes, even in cases when the feedback is positive (e.g. "you are such a good writer.") It is best to focus attention on the task to foster a growth mindset and encourage students to push themselves without risking a blow to their egos.
- Gives specific guidance on how to improve. Students need to know exactly what steps to take in order to do better next time.
- Is frequent. In most classrooms, the incidence of feedback is measurable in seconds per day. For students who are consistently making the same mistakes without knowing it, infrequency of feedback results in wasted time and frustration. Leveraging the data reports from online platforms and relying on self- and peer-evaluation are ways to increase feedback without taxing limited instructional time.

- Focuses on process rather than results. Knowing that an answer was right or wrong does little to help the student understand how to improve his or her learning. Feedback should give insights into appropriate strategies that the student can use in the future.

Formative Data

When teachers evaluate student thinking, they gain valuable insight for their own instruction. Understanding where students are struggling gives teachers an indication of where to focus their teaching and how to best meet student needs.

The key to getting valuable formative data from students is eliciting the how and why of student thinking. It is not enough to know that students have misunderstood a particular topic; the insight comes from seeing exactly where student thinking has gone off-course. This is why having students write extensively is so important: it reveals how students are constructing knowledge and helps teachers decide what misconceptions or strategic errors need to be addressed.

Another important aspect of formative data is its frequency: information about student learning should be gathered throughout the learning process so that teachers can stay informed about student progress and the impact of their instruction. This ensures that student learning continually informs the decisions that teachers make about what and how to teach.



"The regular use of minute-by-minute and day-by-day classroom formative assessment can substantially improve student achievement."

-Dylan Wiliam, "Embedded Formative Assessment"

CONCLUSION

Reading for Depth

Up to 90% of instruction can be completed by students using only surface-level skills. This is not a testament to the shortcomings of teachers, but rather an indication of just how challenging it is to reach depth.

And yet students need depth, because it is only once they make ideas their own that students experience what it means to truly learn. The skills that define depth—analysis, evaluation, comparison, application—are examples of higher-order thinking that students will need to succeed in college and career.

Creating the right conditions for depth by activating, supporting, and revealing student thinking helps to overcome the barriers to meaningful engagement with the text. It gets students to push through the brain's natural tendency to avoid complex thinking and helps them adopt the habits of expert readers.



“When we demystify the thinking and learning process, we provide models for students of what it means to engage with ideas, to think, and to learn. [...] School no longer is about the ‘quick right answer’ but about the ongoing mental work of understanding new ideas and information.”

- Ron Ritchart, Mark Church, and Karin Morrison. "Making Thinking Visible: How to Promote Engagement, Understanding, and Independence for All Learners"

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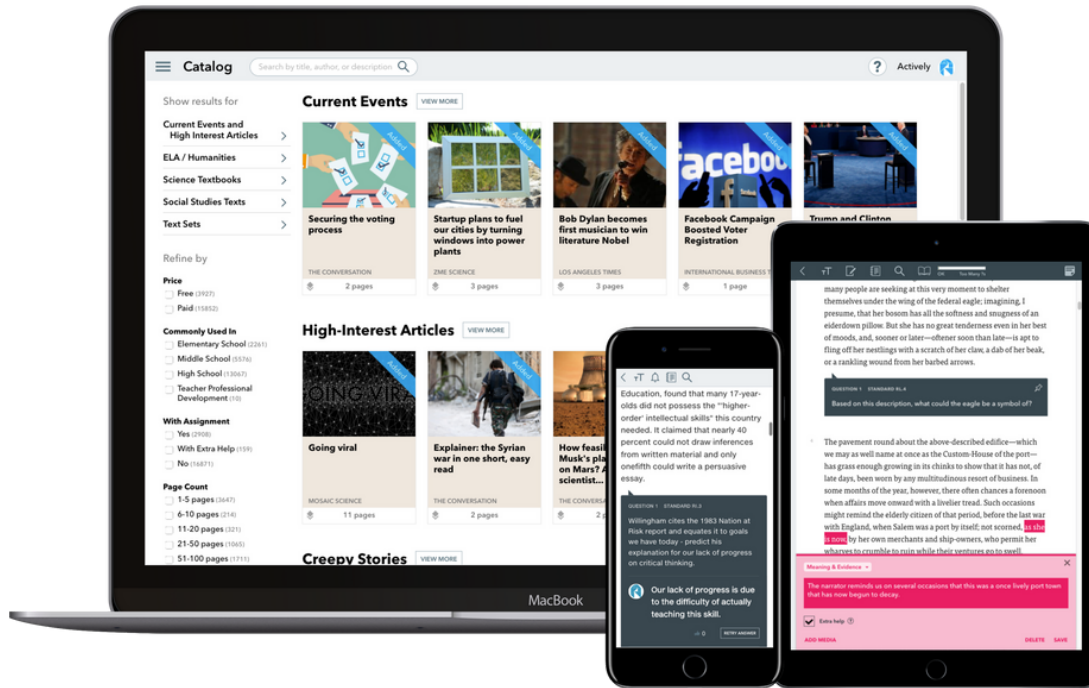
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WHO WE ARE

Actively Learn is an online reading platform that helps students read for depth by activating, supporting, and revealing thinking for every student. Learn more about how we amplify teacher instruction and encourage best practices for deeper learning at www.activelylearn.com.



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