

CHAPTER FIVE

Five to Thrive: Strategies that Promote Learning

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“Instruction should not be a Ouija board-like game in which teachers guess about what to do next. Educating kids is far too important for that sort of approach.”

W. J. POPHAM, 2008, p.14

While reviewing the February 2012 issue of *Education Week*, an article title caught my attention—“Common Core State Standards Will Not Affect Student Achievement” (Gewertz, 2012). Of course, this compelled me to read further, considering the historical national movement toward the new standards. The assertions, outlined in The 2012 Brown Center Report on American Education (Loveless, 2012), were correct. Standards will not improve achievement . . . instruction will. Whether it is the Common Core or another set of academic standards, learning is accelerated by the instruction provided by the teacher, and not by the standards alone. The evidence is compelling. In the 1970s, The International Association for the Evaluation of Educational Achievement (IEA) coined the term “opportunity to learn,” asserting that there are

three types of curriculum—intended, implemented, and achieved (Loveless, 2012). The “intended” curriculum refers to the standards themselves, in this case the Common Core. The “implemented” curriculum is what teachers teach—it is the instruction provided to students. Finally, there is the “achieved” curriculum, which reflects what the students actually learn. Where we need to expend our energy is on the implemented curriculum, to ensure that all teachers have the tools they need to provide high-quality, research-based instruction aligned with the well-intended CCSS.

So, do you think all teachers have the right tools for the job? I would argue that teachers typically have a few great strategies in their toolbox that they use regularly. Then, they have a few more strategies that they have tried or that they recognize. It is imperative that we fill the classroom teacher’s toolbox with a variety of strategies that will help their students thrive in a rigorous, relevant learning environment. Therefore, I believe there are five strategic areas that deserve our attention. I call them the “five to thrive”:

- Activation
- Collaboration
- Metacognition
- Communication
- Application

Within each of these five categories teachers will find research-based instructional strategies to better meet the demands of the Common Core, as well as the next generation assessments from the Partnership for Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium (SBAC), slated for implementation in 2014/15.

ACTIVATION

Activating a student's knowledge is a key factor both for increasing student engagement and building a context for learning. From the time a lesson is introduced, students make a decision about the effort they will put forth to learn. Some decisions are based on their level of interest in the content; however, some decisions are based on a lack of background knowledge or a lack of understanding about the relevance of the subject to their lives. Have you ever heard the following questions: Why do I need to know this? How is this going to help me get into college? I don't know—what does it mean?

The following activation strategies provide teachers with options for setting a context for learning from the onset of a lesson. By activating prior knowledge, teachers set their students up for success. Dr. Madeline Hunter, author of the seven-step lesson design model (1994) called this the “anticipatory set” and referred to these strategies as “hooks” to build student interest and knowledge. (Additional explanation is offered about strategies marked with an asterisk.)

- Academic vocabulary
- Background knowledge
- Essential questions
- Advance organizers, including anticipation guides*
- K-W-L (know-wonder-learn)
- Teacher- and student-generated comparisons
- Student learning goals*
- Preview content

Advance organizers assist students with accessing prior knowledge in preparation for new learning. There are four formats for organizers—expository, narrative, skimming, and graphic.

- Anticipation guides are an example of an expository advance organizer and emphasize the essential learning. This can take the form of a content statement, asking students to agree or disagree, and then after experiencing the reading, video, or lesson students would confirm or revise their initial response.
- Narrative advance organizers refer to setting up a learning experience through reading an excerpt from an article or story, showing a video clip, introducing key vocabulary, or even sharing a personal story. This strategy engages students' interest and sets the stage for learning.
- Skimming the text with purpose can be a powerful tool. Teachers can model for students how to create a conceptual framework through skimming different types of text. Additionally, providing focus questions to guide students is beneficial: What can you predict from the title? What is the flow of the text (subheadings, amount of content)? What are the Big Ideas? What can the illustrations tell you about the text?
- Graphic advance organizers are used in advance of instruction and communicate learning expectations. Teachers can modify traditional organizer formats to fit the content.

Research in support of advance organizers includes *Visible Learning* (Hattie, 2009, p. 167), which show an effect size of 0.41;

and *Classroom Instruction that Works* (Dean, Hubbell, Pitler, and Stone, 2012, p. 57), which shows an effect size of 0.59 for combined cues, questions, and advance organizers.

Student learning goals inform performance expectations and promote students monitoring their own progress. Additionally, specific learning goals can elicit feedback that is timely and relevant. Encouraging students to write challenging yet attainable goals customized to meet their individual learning needs helps to engage learners and promotes a greater sense of self-efficacy. For students who struggle, the incremental goals make the work more palatable and often promote reinforcement of effort and recognition.

There are several recommendations for creating student learning goals (Dean et al., 2012, p. 5):

- Set learning goals (objectives) that are specific but not restrictive.
- Communicate the learning goals (objectives) to students and parents.
- Connect learning goals (objectives) to previous and future learning.
- Engage students in setting personal learning goals (objectives).

Research in support of student learning goals includes *Visible Learning* (Hattie, 2009, pp. 163–164), which shows an effect size of 0.56; and *Classroom Instruction that Works* (Dean et al., 2012, p. 3–4), which shows an effect size of 0.61 for combined setting objectives and providing feedback.

COLLABORATION

Learning is a very social activity. We learn best when we engage with others, talk about ideas, and experience new concepts. For far too long, traditional education has emphasized a one-to-one relationship between student and content. In contrast, a more forward-thinking education should recognize the social aspect of learning as a tool to better prepare students for college and careers. As an outcome of the Common Core, working collaboratively should become commonplace in the modern classroom and be leveraged to help students construct meaning.

The following strategies offer opportunities to engage students in collaborative learning experiences. John Dewey (1916) rejected the notion that schools should focus on repetitive, rote memorization and proposed a method of “directed living”—students would engage in real-world, practical workshops in which they would demonstrate their knowledge through creativity and collaboration. Students should be provided with opportunities to think for themselves and articulate their thoughts on a daily basis. (Additional explanation is offered about strategies marked with an asterisk.)

- Cooperative learning*
- Reciprocal teaching*
- Jigsaw
- Socratic seminar
- Feedback—peer-to-peer/teacher-student
- Games for learning
- Simulation/roleplaying

Cooperative learning promotes interdependence, peer inter-

action, individual and group accountability, interpersonal skills, and group processing, such as problem solving. Additionally, cooperative learning provides structures for students to deepen and enhance their knowledge while satisfying their need to socially interact with others. Students are more able to collectively make and learn from errors, and their conversations can assist in having the goals, learning intentions and success criteria spelled out for all (Hattie, 2009, p. 214).

Effective cooperative learning groups have the following characteristics (Dean et al., 2012, p. 39):

- Include both positive interdependence and individual accountability.
- Are small in size.
- Are used consistently and systematically.

Research in support of cooperative learning includes *Visible Learning* (Hattie, 2009, pp. 212–214), which shows an effect size of 0.59 for cooperative vs. individualistic learning; and *Classroom Instruction that Works* (Dean et al., 2012, pp. 88–89), which shows an effect size of 1.00.

Reciprocal teaching is a reading technique that provides students with four different strategies that are actively and consciously used to support comprehension. The purpose of reciprocal teaching is to facilitate a group effort between teacher and students as well as among students in the task of bringing meaning to text (Palincsar, 1986). The most effective use of the strategy is as a small-group collaborative discussion where participants take turns assuming the role of the teacher. The four strategies of reciprocal teaching are outlined below.

- Questioning is where readers monitor and assess their own understanding by asking themselves questions related to the information, themes, and ideas represented in the text.
- Clarifying focuses on unclear, difficult, or unfamiliar aspects of the text and on using strategies such as decoding or context clues to better understand the text.
- Summarizing requires the reader to distinguish important ideas, themes, and information within a text and to create concise statements that communicate the main idea.
- Predicting integrates a reader's own prior knowledge with text structures to create a hypothesis related to the author's purpose.

Research in support of reciprocal teaching includes *Visible Learning* (Hattie, 2009, pp. 203–204), which shows an effect size of 0.74; and *Classroom Instruction that Works* (Dean et al., 2012, pp. 88–89), which shows an effect size of 1.00 for combined summarizing and notetaking.

METACOGNITION

Teaching students explicitly how to think about their own thinking is an integral part of preparing students for more rigorous content and sets them up for academic success. Modeling for students how to organize their thoughts, plan an approach toward a task, make connections, understand relationships, and monitor their own progress are all part of learning. Research from *Visible Learning* (Hattie, 2010) reflects a 0.69 effect size for metacognitive strategies.

Students who demonstrate a wide range of metacognitive skills are self-regulated learners. Learners who take control of their own learning through evaluating and monitoring their progress and behaviors are more likely to achieve their learning goals.

Teachers need to empower students with metacognitive skills to address three kinds of content knowledge: declarative, procedural, and conditional (Metcalf and Shimamura, 1994). Declarative knowledge is the factual information that one knows. Strategies for organizing information would assist students with this type of knowledge. Procedural knowledge is knowledge of how to do something—of how to perform the steps in a process (for example, knowing how to plan a performance task or research paper). Conditional knowledge is knowledge about when to use a procedure, skill, or strategy and when not to use it; why a procedure works and under what conditions; and why one procedure is better than another. For example, students having the ability to think through the strategies they need to employ to solve a multi-step word problem is a critical skill that falls into this category.

Below are examples of strategies that help students organize new learning and ideas, think through the learning process, and become more self-sufficient. (Additional explanation is offered about strategies marked with an asterisk.)

- Nonlinguistic representations*
- Concept mapping*
- Summarizing/notetaking
- Read/recall/check/summarize
- Content frames
- Interacting with text

- Similarities and differences
- Close read
- Annotations
- Think out loud
- Self-assessment

Nonlinguistic representations and **concept mapping** refer to graphic and pictorial representations of key concepts being studied. This strategy emphasizes the identification of major ideas, themes, and interrelationships in order to enhance reading comprehension and conceptual understanding. It is often very successful with helping struggling students organize and synthesize ideas. Concept mapping is most effective when done by the student and tends to increase engagement. The following are examples of nonlinguistic representations.

- Concept maps are where students create a word web, with the main idea in the center and key details on the outside. This can be used as a pre-reading, during reading, and post-reading activity. Students add details to the map as they read and discuss.
- Free-form maps allow students to create their own representation of content through both pictures and words. This strategy is meant to be collaborative and taps into student creativity.
- Sequence maps can be used when there needs to be representation of a progression of events, and can be a combination of pictures and words.
- Character maps can be used to validate an opinion about a character or during reading to gather infor-

mation about the character. They can include both pictures and text.

- Comparison maps, such as a Venn diagram, can be used to highlight similarities and differences among concepts, characters, and events.

Research in support of concept mapping includes *Visible Learning* (Hattie, 2009, pp. 168–169), which shows an effect size of 0.57; and *Classroom Instruction that Works* (Dean et al., 2012, pp. 64–65), which shows an effect size of 0.75 in the original meta-analysis, and 0.49 in the updated 2010 McREL study (Beesley and Apthorp, 2010), equal to achievement gains of 19 percentile points for nonlinguistic representation.

COMMUNICATION

Teaching the language of learning is a strategy in and of itself. The Common Core emphasizes not only writing, but also speaking and listening. The opportunities provided for students to engage in speaking, listening, and writing are life skills and deserve classroom time and attention. Often oral presentations, meaningful class discussions, and writing are cast aside due to limited instructional time. Students need an authentic audience to motivate them to excel. We have all seen it happen time and time again. If students know they are going to present in front of peers and/or other adults, the effort and attention they give to the task increases significantly.

We also know that writing is not assigned as frequently as it should be due to the amount of time it takes to evaluate and provide feedback. But not all writing has to be an essay. Students can relay understanding through quick-writes or constructed re-

sponses. Students should be writing daily and in all subjects. Additionally, the use of benchmark papers, modeling, and scoring guides increases the likelihood that products will meet expectations. The Common Core requires that by twelfth grade 80 percent of student writing should be informational (explanatory) or argumentative (persuasive). The next generation assessments mirror these requirements in writing, with both short and extended constructed responses. Therefore, we must structure our courses of study to include meaningful writing opportunities and provide students with feedback.

Additionally, communication of learning expectations is a high-leverage strategy that should guide the focus of instruction and the actions of students. By utilizing strategies such as guided practice, modeling, and scoring guides, teachers can increase student understanding of the goals for learning and therefore produce higher results. Suggested communication strategies are listed below. (Additional explanation is offered about strategies marked with an asterisk.)

- Powerful questioning*
- QARs—question, answer, relationship
- RAFT—Role, audience, format, topic
- Writing to learn strategies
- Constructed response
- Argumentation*
- Benchmark work
- Anchor papers
- Learning targets
- Scoring guides and rubrics

- Guided practice
- Modeling

Powerful questioning refers to the teacher's role in engaging students in higher-order thinking through posing inferential or analytic questions (Dean et al., 2009, p. 54–57). Teachers ask an average of 100 questions per hour; however, on average, 60–70 percent of those questions require recall and another 20 percent are procedural in nature. Some tips for increasing the effectiveness of questioning are (Peery, 2009):

- Plan questions in advance and ask open-ended, thought-provoking questions that require students to analyze and make inferences about the content.
- Create assignments that require all students to answer questions, such as exit slips, think-pair-share, and interactive whiteboard clickers.
- Determine a system for involving a wide variety of students, not just those who volunteer.

A new publication from Lead + Learn Press, *Ask, Don't Tell: Powerful Questioning in the Classroom* (2013) by Angela Peery, Polly Patrick, and Deb Moore, provides detailed information about how to improve questioning in the classroom.

Research in support of questioning includes *Visible Learning* (Hattie, 2009, pp. 182–183), which shows an effect size of 0.46; and *Classroom Instruction that Works* (Dean et al., 2012, p. 51–57), which shows an effect size of 0.59 for combined cues, questions, and advance organizers, with an additional study (Dean et al., 2012, p. 52) noted for an effect size of 1.18 for questioning and achievement in reading comprehension.

Argumentation is a strategy that can be used across disciplines and that embodies creating and communicating an argument. The process can include debate, dialogue, conversation, and persuasion, and above all, must be claims-based. Beginning in sixth grade, the Common Core requires proficient argumentation. The standards say students must “cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text” and “write arguments to support claims with clear reasons and relevant evidence.” And one of the Common Core’s mathematical practice standards states that students must be able to “construct viable arguments and critique the reasoning of others.”

To create a viable argument, students must:

- Research a topic, problem, or situation.
- Create a minimum of two claims.
- Organize data/facts/textual evidence to support the claims.
- Provide a conclusion.

Arguments can be written or presented orally. This strategy represents a critical skill; as noted in Appendix A of the ELA Common Core State Standards, argumentative writing should represent 40 percent of a student’s writing by grade 12, followed by 40 percent explanatory or informational writing, with only 20 percent for conveying experience, or narrative writing (National Governors Association Center for Best Practices and Council of Chief State School Officers, 2010). With so many applications for argumentation across disciplines, the possibilities are endless.

Research in support of writing programs includes *Visible Learning* (Hattie, 2009, pp. 141–143), which shows an effect size of

0.44. If students are explicitly taught strategies for planning, revising, and editing, the effect size is 0.82, particularly if they are struggling students. Strategies for summarizing reading materials have an effect size of 0.82 and strategies for setting clear and specific goals for what students are to accomplish with their writing product is 0.70.

APPLICATION

Finally, asking students to apply their knowledge gives them the opportunity to show what they know. The shift from instruction of discrete standards to incorporating standards into engaging learning experiences is a welcome change. Balancing skills-based, direct instruction with time for students to construct their own knowledge is the focus of the application category of strategies. When teachers build performance tasks and project-based learning experiences, they show excitement about instruction and make statements such as, “I can’t wait to teach this” or “This is the way I love to teach.” I truly believe that structuring students’ application of knowledge around authentic, real-world problems will pay huge dividends in terms of student learning. Likewise, those results will translate into a successful transition to the next generation assessments that will require performance tasks in both reading and mathematics.

Below are some examples of strategies that can be used to foster application of knowledge and skills and create rich learning experiences for students. (Additional explanation is offered about strategies marked with an asterisk.)

- Authentic performance tasks or problem-based learning*

- Project-based learning
- Inquiry
- Individual contracts
- Generating/testing hypotheses*
- Portfolios
- Interactive notebooks

Authentic performance tasks, or problem-based learning activities, have the following characteristics (Gijbels, 2005):

- Learning is student-centered.
- Learning occurs individually and/or in small groups.
- The teacher serves as the facilitator or guide.
- Authentic problems, scenarios, or challenges are presented at the beginning of the unit of study.
- The tasks are designed to assist the student with achieving the required knowledge and skills necessary to solve the problem.
- New information is acquired through self-directed learning.

Creation of authentic, problem-based learning is a core component of the *Rigorous Curriculum Design* (Ainsworth, 2010) model that is being used across the nation to plan units of study for the Common Core. The integration of performance tasks throughout the unit allows for direct instruction, scaffolding learning, and authentic assessment prior to the end-of-unit assessment.

Visible Learning (Hattie, 2009, pp. 210–211) shows an effect size of 0.61 for problem-based learning.

Generating and testing hypotheses utilizes the thinking processes of deduction and inference making. These processes deepen student knowledge due to the use of critical thinking skills such as analysis and evaluation. The strategy is also very motivating for students, as it poses a problem to be solved—a puzzle. Students generate a hypothesis, for example; If (action), then (outcome). Then, students have to work to validate their answers. Four processes are outlined in *Classroom Instruction That Works* (Dean, et al., 2012):

- Systems analysis is the process of analyzing the parts of a system and the manner in which they interact (p. 139).
- Problem solving involves overcoming constraints or limiting conditions that are in the way of achieving goals (p. 140).
- Experimental inquiry is the process of generating and testing explanations of observed phenomena (p. 142).
- Investigation is the process of identifying and resolving issues regarding past events about which there are confusions or contradictions (p. 144).

Classroom Instruction that Works (Dean et al., 2012, p. 137), shows an effect size of 0.61 for generating and testing hypotheses.

DATA TEAMS

Before choosing strategies, teachers must first seek to understand the needs of their students, so that they can choose the strategies with the greatest likelihood of helping students reach their learning

goals. The Data Teams process outlines specific steps for teams of teachers to utilize to focus their conversation around the results of a common formative assessment:

1. Collect and chart data
2. Analyze data and prioritize needs
3. Set, review, and revise incremental SMART goals
(specific, measurable, attainable, relevant, timely)
4. Select common instructional strategies
5. Determine results indicators
6. Monitor and evaluate results

There is an explicit connection between the analysis of student work and the selection of strategies. The process is very intentional and eliminates the guesswork in determining what will work with different groups of students. With the requirements of Response to Intervention (RTI) and the need to differentiate instruction, Data Teams help teachers collaboratively determine next steps for instruction. Students are organized into four different groups—students who are proficient, students who are close to proficient (Tier 1), students who have far to go (Tier 2), and students who need intense intervention (Tier 3). Teams select strategies appropriate for the needs of each group that are focused on the Priority Standard(s) or learning target(s). These steps, implemented with fidelity and in conjunction with monitoring and evaluation by leadership, result in dramatic gains in student achievement and greater efficacy on the part of teachers.

FIVE TO THRIVE FOR STUDENTS

With the ultimate goal being development of students who are self-regulated learners, providing the “*five to thrive*” in student-friendly language is beneficial. Students should come to understand teacher expectations and begin to employ various strategies without being prompted. Communicating the student version also aids teachers when modeling for students the use of the strategies and when they are most appropriate.

The student-friendly version of the “five to thrive” is:

1. Activate my knowledge.
2. Collaborate with others.
3. Think about my own thinking.
4. Communicate my learning.
5. Show what I know.

WHY FIVE?

The five categories were selected following an extensive review of the research on instruction, effective schools, and preparing students for the future. Just as students need a way to think about their own thinking, teachers need a way to think about their own teaching. The five categories of activation, collaboration, metacognition, communication, and application also represent an alignment with the performance expectations within the Common Core State Standards, the Next Generation Science Standards, and the next generation assessments from PARCC and SBAC. Additionally, the framework published by the Partnership for 21st Century Skills (n.d.), promotes the “four c’s—collaboration, communication,

critical thinking (metacognition), and creativity (application)—as necessary skills to prepare our students for college and careers. You will find evidence of these within the five categories as well.

Regardless of the standards and the assessments, the one thing that makes the biggest difference in student learning is the quality of instruction in the classroom. While there are many variables that contribute to a student's learning experience, it is the quality of instruction provided by the teacher that can be isolated as a means to dramatically improve student achievement. It's true: the Common Core will not improve student achievement ... instruction will. "Five to thrive" fills the teacher toolbox with high-leverage, research-based strategies. Additionally, it provides a framework for teachers to design learning experiences that are relevant and meaningful. For students, "five to thrive" provides opportunities to become independent, self-regulated learners. Learning is a process, and we must empower students to become better thinkers, collaborators, and creators to prepare them for the world in which we live. Let's bring back the joy of teaching and learning. Leverage the "five to thrive" to build rigorous and relevant classrooms where learning flourishes and both teachers and students experience success.

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