



CRITICAL
THINKING
SKILLS
FIRE UP
TEACHER
LEARNING



By Heather Donnelly and Jeffrey Linn

With increased teacher accountability and decreased funding, effective professional learning is more critical than ever. Teachers and educational leaders need to be fully and continuously supported in their professional growth around the changes they face, such as implementing Common Core, learning to interpret and use student data, and supporting teachers as they adjust to revised teacher evaluation models.

The challenge is to design and implement successful professional learning that allows for continuous and sustained growth by giving the learner some measure of control and the opportunity to embrace that growth.

Too often, the breakdown of professional learning occurs in the transition between the training room and the classroom. When professional learning follows the structure of sit-and-get, there is little transfer of new learning into practice.

Professional learning for educators is not generally a learner-centered environment. Educators are often introduced to new content or concepts without engaging in critical thinking about their practice.

For example, many educators are being introduced to Charlotte Danielson's Framework for Teaching (2007). While Danielson's framework is being used to assess teacher practice and compile scores as part of teacher evaluation models, too often educators are presented with a brief workshop that offers a surface-level overview of the instructional practices inherent in the framework.

This type of professional learning does not offer the level of reflection Danielson suggests: "The most powerful use of the framework — one that should accompany any

other use — is for reflection and self-assessment" (p. 168). The framework's intention supports designing professional learning that promotes metacognition and empowers educators to become instructional decision-makers.

So what lies at the core of professional learning? To be most effective, professional learning needs to focus on what matters most: thinking and learning.

METACOGNITION AND CRITICAL THINKING

The concept of metacognition refers to an individual's ability to monitor his or her thinking. A metacognitive learner recognizes what he or she understands, when he or she needs more information, and what his or her strengths and weaknesses are related to the learning.

The National Research Council's committee on developments in the science of learning (2000) found that metacognitive approaches to instruction help people take control of their own learning and that in the science of learning, individuals must:

- Recognize what they understand and when they need new information.
- Recognize the strategies they need to assess their own understanding.
- Realize the importance of building their individual theories.
- Recognize their intellectual strength and weaknesses.

Metacognition and critical thinking are often used interchangeably. Similar to metacognition, critical thinking describes a self-guided intellectual process of analyzing and conceptualizing problems and issues by closely examining reasoning, assumptions, evidence, beliefs, and biases.

The idea of critical thinking is also the thread connecting the student learning standards of the Common Core, indicating that metacognition is the outcome of implementing these standards. However, being a critical thinker is not synonymous with being metacognitive. There is a

difference between educators thinking critically about new standards and thinking critically about how their practice will change in order to implement those standards.

Why are critical thinking and metacognition important to professional learning? Research and personal experience have shown that when educators are engaged in critical thinking about the process of learning, they are empowered to take ownership of their learning. Whether in the classroom or in everyday life, this type of thinking creates a sustainable, ongoing process that promotes metacognition.

If the United States is embracing the idea that student learning should be grounded in critical thinking and metacognition, then isn't it reasonable that the people who educate these students be metacognitive, critical thinkers as well? If so, professional developers should focus on the processes of critical thinking and metacognition in conjunction with content as the core of professional learning.

PLANNING FOR CRITICAL LEARNING

While some learners are naturally metacognitive in their thinking, not everyone will take professional learning to metacognition. Therefore, it is important to plan experiences that engage learners in critical thinking, shifting the focus of professional learning to the process of professional growth.

Nothing is more frustrating than participating in professional development that doesn't support learning. Therefore, when educators begin to plan both short- and long-term professional learning, they must begin by asking the same critical questions that they want teachers to ask their students:

- What do we want participants to learn?
- What are the purposes of this learning?
- How will I model for my learners?
- How will I know they understand?

Rather than asking participants to sit through staff development in which they gain familiarity with a new program or new standards, we plan learning experiences that engage participants as critical thinkers about their instructional practice as related to these new programs, standards, or any new learning.

To engage participants in this type of reflection about their practice, effective professional developers act as instructional coaches who plan purposeful questions that focus on what they want participants to learn.

We recently worked with teachers designing a differentiated unit of study. We asked them to reflect on these questions:

- How will I be able to tell if the students really understand?
- What might students misunderstand?
- Does it have the rigor to challenge all students at their instructional reading level?

Using this method of teaching forces the professional developer to think more about critical thinking processes while engaging the teachers in metacognition.

In another recent experience, we worked with K-6 English

and language arts teachers to revise and align curriculum with their Common Core State Standards. Rather than asking teachers to read the standards and fit them into the current district curriculum, we focused on the six English and language arts shifts inherent in Common Core and how these shifts connect with what they already know about effective instruction (see table on p. 43, top).

Next, we asked teachers to examine their current curriculum document for what's missing in making the shift to Common Core — a shift in planning for doing to planning for learning — once again focusing on the instructional practices that promote the level of rigor present in these standards (see table on p. 43, bottom).

Both of these examples capture how planning for critical thinking and learning that promotes metacognition creates change in teacher practice. For example, teachers who completed the chart of English language arts Common Core shifts identified shared expectations of instructional practice, such as asking critical thinking questions, which they aligned with their teacher evaluation rubric. Once teachers embedded high-level focus questions in their curriculum-planning document, we observed increased use of these questions in instruction.

GRADUAL RELEASE OF RESPONSIBILITY

Professional developers strive to design a professional learning model that supports staff in becoming independent thinkers and learners. The key is to align professional learning with what we know about how people learn and process information so that educators feel supported.

Traditional models of staff development can be ineffective: New information is delivered, and everyone hopes that instructional practice changes. What's missing in this approach is the supported application component of the Gradual Release of Responsibility model, where teachers implement new learning in an authentic setting. As noted by Pearson & Gallagher (1983), "The critical stage in the model is the 'guided practice,' the stage in which the teacher gradually releases task responsibility to the students."

Knowing this, professional developers have to plan for how to provide this gradual and guided support to promote deeper understanding and successful change to teacher practice.

While the Gradual Release of Responsibility model is often presented as a linear approach to student learning, a fluid and flexible model more effectively supports professional learning and allows for differentiation to meet educators' individual needs (see figure on p. 44).

Each stage of this process is essential to professional learning, yet we know that everyone is at a different place in understanding. Therefore, it seems logical for these components to be flexible based on the needs of the learner.

As the figure shows, the essential components of Gradual Release of Responsibility within professional learning — coach-

MAKING THE SHIFT TO COMMON CORE

Common Core content shift	What this is not	What it is and what it means	Instructional shifts
Balancing informational and literary text	Reading nonfiction during content areas; always teacher-directed; adding more nonfiction to your library.	More student opportunity to choose text; differentiation; student-interest centered; teaching students how to match strategic thinking with informational text.	More rigor; higher-level questioning; increased teacher emphasis on metacognition; explicit instruction on organization of text.
Building knowledge of the disciplines	Lecture-based, isolated instruction; telling the facts.	More integration of thinking; purposefully integrating the disciplines; more student processing/inquiry; authentic investigations.	Metacognition; understanding organization of text; asking high-level questions; student application of thinking.
Staircase of complexity	Surface-level reading or more difficult words with low-level understanding; just harder books; limiting students to their Lexile level all the time.	Increase in deeper understanding and thinking; all learners involved in reading at complex levels; the thinking someone has to do in order to comprehend the text.	Scaffolding; more thoughtful questioning; high-level questions; modeling; differentiation; monitor and repair (and monitor combinations of strategies).
Text-based answers	Recall, surface questions.	Student-generated discussion about their thinking around content; how readers authentically use text to explain the change in their thinking.	Modeling; gradual release; higher-level questions to facilitate discussion.
Writing from sources	Copying information from a source; writing conventions; teacher-selected topics and students following an outline to guide their writing.	Knowing process of thinking behind the writing; mentor texts; authentic writing situations; monitoring their writing; research process.	Mentor text (examples); specific resources to push their thinking; model: how am I going to write from a variety of sources?
Academic vocabulary	Isolated word lists, copying definitions from a dictionary.	Words encountered in texts as students read; using strategies to build meaning within context.	Monitor and repair when you read; rereading; cross-curricular connections; strategies that help us learn words.

WHAT'S MISSING IS ESSENTIAL

Course outline	Common Core: What students will do	Learning focus: What students will learn	Focus questions	Recommended resources
	<ul style="list-style-type: none"> • Read with accuracy and fluency to support comprehension. • Read on-level text with purpose and understanding. • Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. 	Students will learn how to monitor their comprehension when reading independently by identifying how they know they are confused.	<ul style="list-style-type: none"> • How do you know when you are confused when you're reading? • What do you do when you realize that you are confused/you have stopped understanding what you have read? • How did using context clues help you decode unfamiliar words? • How did using context clues help you repair your understanding? 	Variety of fiction, nonfiction, prose, and poetry.

ing, modeling/think-aloud, collaboration, whole-group learning, and independent application and reflection — become more of a menu than a checklist, allowing professional learning to be adjusted based on how to build metacognition for every learner.

At the center of this model is what professional learning is striving for — critical thinking about practice. Professional learning can promote critical thinking through a variety of processes that are gradually released to the learner based on his or her understanding and sophistication, knowing that some will need more scaffolding and some less.

The outer circle represents what drives and shapes the model: formative assessment and metacognition. Through continuous, nonevaluative assessment of professional practice, we identify strengths and opportunities for growth and provide customized support for individuals and systems based on our assessment.

For example, when observing classroom instruction, we can assess the effectiveness of a teacher’s planning and use of high-level questions to push student thinking. Then, based on what we learn about this teacher’s specific questioning practice, we might decide to model questioning in the classroom and provide job-embedded coaching.

Modeling allows the teacher to experience, in a classroom setting, how to implement high-level questions and the imme-

diated impact it has on student thinking. Scripting the teacher’s questions and students’ responses provides specific evidence that can be used when coaching to promote critical thinking and change to practice.

Whether facilitating collaborative conversations or whole-group sessions, working with a small group or one-on-one, the key to effective professional learning is to remain focused on critical thinking about practice, rather than the lesson, program, or other initiative.

For example, a recent collaboration with a group of mixed grade-level and content-area teachers featured a facilitated conversation about instructional practice, beginning with the question, “What changes have you made to your practice, and what evidence have you seen of increased student learning as a result?”

Gradually, the teachers began to take over the conversation, and we were able to step back, allowing the participants to guide the process. At their request, participants returned to their classrooms and modeled a specific instructional practice for the group, i.e. think-aloud, guided reading, or close reading, and these minilessons served as a springboard for continued collaboration.

After the day’s session, teachers assumed responsibility for continued learning by requesting released time from their administrator to observe one another again. Using purposeful and focused questions throughout the process, we kept the focus on thinking and learning and promoted independence through metacognition.

THE PROCESS OF METACOGNITIVE PROFESSIONAL LEARNING



EMPOWERED LEARNERS

The thread that connects all of us is our belief that to be a teacher is to be a learner. To accomplish this, professional learning must support educators in becoming metacognitive decision-makers who can meet today’s increased demands.

Students win when educators are empowered learners and instruction improves — and that is a win we can all celebrate.

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