Great teachers know when to make decisions quickly and when to step back and reflect.

Teachers face a myriad of daily choices: how to organize classrooms and curriculums, how to interpret students’ behaviors, how to protect learning time, and so forth. Many choices involve matters so routine that a teacher can make and implement decisions automatically. Teachers make other decisions in the midst of an evolving situation after quickly reviewing the situation and recalling what has worked in similar scenarios. But teaching also involves complex choices about difficult problems that, if left unaddressed, often escalate. A different type of thinking is needed to address such choices. Tough choices call for teachers to engage in sophisticated reflection—including self-reflection.

Expert teachers adjust their thinking to accommodate the level of reflection a situation calls for. Their teaching is characterized by an intentional competence that enables them to identify and replicate best practice, refine serendipitous practice, and avoid inferior practice. Because of their ability to reflect, great teachers know not only what to do, but also why. Research (Constantino & De Lorenzo, 2001; Danielson & McGreal, 2000; Glickman, 2002; Lambert, 2003) substantiates the role of reflection in teachers' professional growth. A disposition toward reflection—and a good sense of when the teacher needs to step back and think deeply—should be part of all teachers’ repertoires. How can we nurture this habit of mind?

Understanding Reflective Thinking

Reflective thinking in teaching is associated with the work of Dewey (1933, 1938), who suggested that reflection begins with a dilemma. Effective teachers suspend making conclusions about a dilemma in order to gather information, study the problem, gain new knowledge, and come to a sound decision. This deliberate contemplation brings about new learning.

In the 1970s, Lortie (1975) described how failing to reflect on teaching decisions leads to teaching by imitation rather than intentionality. People who enter the profession have already gone through 16 years of "apprenticeship of observation" as students themselves and have developed preconceived ideas of what teaching is through having watched others do it. They may sense what teachers do but have no grasp of why they do it. Other researchers (Clift, Houston, & Pugach, 1990; Hargreaves & Fullan, 1992) have reinforced how important it is for teachers to examine their own beliefs about their classroom practices.

Four Modes of Thinking

To understand the complexity of reflection, consider the four modes of thinking Grimmett proposed: technological, situational, deliberate, and dialectical (Danielson, 1992; Grimmett, Erickson, Mackinnon, & Riecken, 1990). I see these modes in a hierarchy from the lower-level reflection useful for making routine decisions to the higher-level reflection needed for complex dilemmas.

Each mode requires an increasing degree of conscious analysis and data seeking. Expert teachers adapt their reflective thinking to the situation, recognizing when each level of thought is sufficient to address a concern and when they need to move to the next mode.

The following teacher journal entries (drawn from my research) show examples of a teacher using each mode of thinking, sometimes inappropriately (Danielson, 1992).

Technological (or Formulaic) Thinking

Technological or formulaic thinking is based on prepackaged knowledge from an external source. It relies on practices that have proven efficient and effective. For example, teachers might adopt general policies and
rules that are part of a school culture. In deciding how to teach a concept, curriculum teams might adopt standardized instructional procedures they believe will result in greater student learning.

Formulaic thinking works for many routine decisions: how a classroom teacher takes attendance, transitions students from subject to subject, implements emergency drills, and so on. As long as routines function effectively, there is no need to change them. Likewise, there may be instructional practices that demand that the teacher follows a prescribed set of steps.

The following scenario, however, shows a teacher relying on formulaic thinking to make decisions when a more reflective style would suit her purpose better. Mary is a novice teacher who has been given a plethora of curriculum materials. She shared her approach to lesson planning:

> When I start working on a unit, I just gather resource materials and start taking notes. I do outlines and headings of all the areas ... [students] need to know about. I have here a whole stack of notes and things; it's not broken down into specific lessons. I see how far I get with it and how they handle it. When I thought about today's lesson, I was thinking about reviewing what I had already covered to jog their memories. I also try to highlight some realistic examples that they would find interesting and that would draw them in more, as attention getters. ... I'm still dealing with the issue of how to get kids to respond to questions that I know they know the answers to.

Mary was conscientious in providing her students information she thought they needed to know and she used teaching techniques she had seen described in research articles: activating prior knowledge, including relevant examples, and asking questions. However, Mary's comments indicate that she didn't fully understand why these techniques might work or how she might use them more effectively.

For example, Mary reviewed the previous day's lesson "to jog their memories" but she didn't explicitly tie this material to the new lesson so students would see the connection. She asked questions she knew her students could answer, implying that she was thinking of questioning as another "attention-getting" technique rather than a strategy to ignite thinking. Mary's words indicate that she was not skilled at determining how to engage students actively in their own learning. By applying rules and procedures identified with good teaching in a formulaic way, Mary used her knowledge to direct, but not inform, her teaching.

Situational Thinking

When teachers make decisions using situational thinking, they focus only on information embedded in a specific context at a specific time, such as student behavior they are observing in the moment. They reflect quickly and act on a problem immediately. A teacher's day is full of appropriate opportunities for situational thinking. For example, when a student's behavior is off-task, the teacher might use a low level of intervention such as eye contact to remind the student to focus on work.

But situational thinking doesn't look beyond the surface to consider root causes of problems. If a teacher is unable to look beyond the realities of the immediate, frustrating situation, situational thinking can lead to spinning one's wheels rather than to quick reflection that halts a problem in its tracks.

In the following scenario, Teresa expresses frustration about make-up work and late assignments:

> Already many students have missed days so that they have make-up work. With all the responsibilities teachers have, worrying about make-up work is a real problem. Renee [Teresa's mentor] always tries to write down the things we do in class on a slip of paper for absent students so they have a list of what they missed for the class, but it just seems impossible to keep up with it. First of all, you have to mark in the grade book so that you remember they were gone, and then you have to remember that their assignment will probably not be on time again. ... If parents realized this, they would be less likely to pull their children out for such trivial reasons as a vacation.

Teresa's mode of thinking is situational. She identified the problem of student absences by listing its
immediately observable effects. She attributes all absences to "trivial" family activities and concludes that parents need better judgment. Although she does mention the effect absences have on students' learning, she doesn't explore alternatives for addressing the problem, focusing more on the teacher's burden. Teresa needs to ask different questions that might lead to better results. In short, she needs a higher level of reflection.

Deliberate Thinking

With deliberate thinking, an educator purposefully seeks more information than the immediate context provides by, for example, revisiting theory, talking with colleagues, interviewing students or reviewing student records. The goal is to learn more to better understand the dilemma.

One of Beth's students resisted participating in class. Tony attended class regularly but sat removed from his peers and said little. Yet he did not appear shy, and Beth learned that he was quite verbal in other classes.

In thinking about what was going on with Tony, Beth looked beyond his immediate, irritating resistance. She listened to information from another teacher and considered her own teaching behaviors in a new light:

    Today I was working with this group on a short story. Every time I asked Tony a question, I'd get "I don't know." When my eyes left him, I guess he grinned at another kid. After about three rounds of this, Jane [Beth's mentor] took him to the hall to talk with him. After much prodding, he finally blurted out "She treats us like we're stupid! I know those dumb vocabulary words, and the stories we read are stupid 3rd grade stories."

    When Jane told me what Tony said, I felt awful. I kept thinking, "If I treat kids like they're stupid, that defeats my purpose." ... This situation brings up the larger question. What do you do in a class [where] there are about five kids with average skills, about four who have low skills, and then about three who are simply behavior problems?

Beth did not blame Tony for being in a class that didn't challenge him. She generated possible reasons for Tony's conduct and comments. And she used his behavior as a prompt to assess her teaching and the ways she might be contributing to a less than ideal learning environment. Instead of becoming defensive or deciding that Tony's placement in a remedial class was the explanation for his stonewalling, she asked herself questions that led to new insights.

Although the scenarios discussed so far have highlighted problems, reflection is also a powerful way for teachers to understand why some kinds of instruction work so they can replicate them. If Beth's probing into how Tony was doing had shown he was actually making progress, deliberate thinking might have validated her current practices. However, when deliberate thinking generates more questions or indicates a change is needed, move to a higher level of reflection.

Dialectical Thinking

The dialectical mode builds on deliberate thinking to gain understanding of a situation and generate solutions. The greater a teacher's ability to suspend judgment and the broader the repertoire of pedagogical strategies, the more flexible dialectical thinking will be.

In the following scenario, Emily identifies a weakness in her instructional repertoire—her conferencing skills with student writers:

    In discussing each student's goals, I had a difficult time with eye contact. I was so nervous that I was forcing myself to look at [the students], and they started to get nervous and fidgety. Second, I talked so fast that there was no way they could have understood, but they pretended. The blank look and questioning eyes were a dead giveaway ... so one of my goals is to improve one-on-one dialogues.

In thinking about her first writing conferences, Emily employed situational thinking to describe the experience and identify weaknesses. Later, she engaged in deliberate thinking to gather information that would help her refine her skills. Talking with more experienced teachers and rereading texts on writers
workshop process helped her plan for the next conferences. A few weeks later, Emily wrote:

I held miniconferences with my kids. We went over their journal entries, and I concentrated on praise. I searched for originality in my comments to each student, and it really was easier than before. I found myself asking more than telling, which is a much better approach and much more meaningful to them.

Dialectical thinking is characterized by a change in how the thinker conceptualizes a particular episode that results in new teaching behaviors. Emily used dialectical thinking to transform her teaching, implementing changes that brought about more productive writing conferences.

Refraining the Skill of Reflection

All teachers can develop habits of mind conducive to effective decision making. Reflection is a skill that is best fostered with colleagues. Coworkers who demonstrate expertise in posing and solving problems often prove to be good mentors. They usually have the ability to listen analytically—focusing on key information that helps clarify what needs to be explored—and they have expanded repertoires of options.

Mentors should pose questions that lead their colleagues to ask productive questions themselves, to consider other sources of information that might provide additional insight, and to generate their own possible solutions. If the colleagues collaborate in drafting a plan for implementing change and formally schedule follow-up discussions, this will encourage the less experienced teacher to self-monitor and reflect further.

Another way to help teachers become better at reflection is to create study groups that introduce teachers to these four modes of thinking and explore which aspects of teaching call for each mode. Discussions and role-plays can help teachers see which routine decisions can be made through technological or situational thinking and which may require the deliberate or dialectical modes. Identifying when different kinds of thinking are appropriate helps teachers use their time and mental energies wisely.

Finally, to foster higher levels of reflection, encourage teachers to ask themselves questions about their classroom practice. Prompts like the following promote frequent reflection:

- What worked in this lesson? How do I know?
- What would I do the same or differently if I could reteach this lesson? Why?
- What root cause might be prompting or perpetuating this student behavior?
- What do I believe about how students learn? How does this belief influence my instruction?
- What data do I need to make an informed decision about this problem?
- Is this the most efficient way to accomplish this task?

The four modes of thinking enable teachers to connect reflection to practical classroom applications. When the modes are used appropriately, they also help educators understand their own practice and, ultimately, foster the intentional competence necessary for accomplished teaching.

References


Endnote

1 All names in this article are pseudonyms.

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