

Solving Instructional Problems. Solutions to problems that relate to curriculum and instruction are a constant concern of expert teachers. Unlike novices or less expert colleagues, inspired teachers solve problems all the time—before teaching, while teaching, and after teaching. They are better able to imagine the learning task from the student perspective and to adapt lessons in advance because of their awareness of a larger number of instructional goals. These teachers notice student behavior during the lesson, which provides clues to the lesson’s effectiveness, and they may adapt their plan based on these observations. After teaching, they reflect on whether they have achieved their goals and met students’ needs and then make further modifications if necessary in future presentations (Westerman, 1991).

Improvising. Insufficient background in a subject or lack of thorough preparation may cause presenters to mask personal limitations using a “highly didactic, teacher-controlled, swiftly paced combination of lecture and tightly-controlled recitation” (Grossman as cited in Shulman, 1987, p. 18). In contrast, inspired teachers can comfortably use the Socratic method or other highly interactive approaches because they can draw from their broad and deep understanding of subjects. These experts are able to field wide-ranging questions and quickly develop effective explanations or metaphors for unexpected queries.

Managing a Classroom. Inspired teachers prevent problems by “using their voices and body language along with well-practiced management strategies to motivate students and control their attention” (Westerman, 1991, p. 297). They sense the reasons behind students’ behaviors and adjust their teaching to increase the likelihood that learning will occur. Part of their management skill lies in developing routines that make aspects of the classroom automatic, comfortable, and reliable for teacher and students alike.

Interpreting Events in Progress. Experts use more elaborate schemas and greater metacognitive skills. These abilities allow them to notice more of what is occurring in the classroom and to consciously make choices that change the direction of interaction and instruction. These are teachers who seem to have eyes in the back of their heads and who remain constantly aware despite numerous distractions and interruptions (Westerman, 1991).

Being Sensitive to Context. Inspired teaching “involves complex judgments of balance between ideal and possible practices” to determine the best option in a given situation using practical wisdom (Shulman, 1987, p. 13). The wisest teachers understand themselves, and they understand the personal, social, and cultural characteristics of their students. They make continual adjustments to balance the complexities that connect these factors, aware that one size never fits all.

Monitoring Learning. Expert teachers are flexible in how they move toward instructional goals. They constantly sample students’ understanding to determine their comprehension level and also observe whether students are attentive moment by moment and adjust accordingly. These teachers usually present lessons in a highly interactive manner. In the classroom they show a “superior ability to see meaningful patterns in the stream of ongoing events” (Sternberg & Horvath, 1995, p. 13). They also give students useful feedback and often teach students to monitor their own learning.

Testing Hypotheses. Experts concentrate on identifying a problem before they advance hypotheses or attempt solutions. They are far more likely to consider and evaluate a number of alternative hypotheses, rather than use the first one that comes to mind. Inspired teachers continually learn through experience and welcome challenges

Questions to grow by

- Do you read several sources to make sure you understand material thoroughly before planning lessons?
- Do you discuss with other teachers which issues seem most important in a given lesson or unit?
- Do you ask students to tell you what they already know about the subject under consideration?
- Have you tried asking students what they want to know or what they are curious or confused about?
- Do you help students connect what they are learning to ideas from other subjects or previous years?
- Do you write down what worked and what didn't so you'll teach the material more effectively next time?

The Aware Teacher

At the aware level, teachers are still spending a great deal of energy assembling facts and mastering intricacies of their subject matter because it is relatively new to them. They rarely think about the order that facts are presented in, how those facts relate to other matters, or their students' current understanding. Their knowledge of subject matter, while fairly broad, is still incompletely processed.

The aware teacher knows the subject adequately but organizes poorly for learning

When I took 10th grade biology, I was taught by Mr. Hammond, a recent college graduate. I remember the day he explained genes and chromosomes.

"Genes are located on the chromosomes," he said, "like beads on a string. During reproduction, they duplicate themselves before the cell divides. That way each of the new cells is just like the old cell."

My mind rebelled. *How could beads on a string reproduce themselves?* I memorized what he said without understanding how the process could possibly work. Perhaps he repeated to us the explanation he received in college. Still, I felt dissatisfied; his explanation didn't make sense to me. My knowledge of actual beads was a barrier.

The aware teacher sometimes checks prior knowledge

What the learner already knows is referred to as prior knowledge. Why would beginning teachers ignore prior knowledge? One reason is a human tendency to make assumptions: *If the curriculum expects me to teach this, then the students must not know it.* Another reason is that teachers fear coping with the results, such as inventing a whole new approach on the spot.

The knowledge of novice teachers is often tentative. Beginning teachers may be able to comprehend the material well enough to take a multiple-choice test or understand summaries and studies, yet they find explaining it to students much harder and they may stumble. At the aware level, teachers know more information and have some memorable ideas about organizing lessons, but they can do this only with focused effort.

Collegial Support

- Scripting an entire lesson for other teachers can be helpful to them. Scripting requires that you jot down as many of the statements, questions, answers, and student comments as possible during a lesson, much like a transcription. Use the transcript to go back over the lesson and identify things that worked and things that didn't. Compliment successes. Discuss a few alternatives for less successful sections but don't overwhelm the listener with suggestions.
 - Listening is another valuable skill you can use with other teachers. Because you know both the triumphs and the frustrations of teaching, your interest and feedback can help teachers achieve professional insights.
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The Capable Teacher

Capable teachers have begun to recognize patterns in student learning, sensing which patterns are significant. They plan each new lesson based on students' reaction patterns in previous lessons. They have developed the ability to choose from a variety of methods and materials for teaching based on students' responses.

The capable teacher sees patterns in student understanding and events

Earlier Ms. Milanowski learned a basic lesson. Teachers can raise a student's level of concern by structuring assignments and feedback effectively. This is just one aspect of learning how to teach material. In time, we can see, interpret, and use the reactions of students to become more effective teachers.

A few years into my career I taught English courses at a Job Corps center. All the students in my classes had dropped out of high school. They were at Job Corps to learn job skills. They voluntarily signed up for high school completion classes in hopes of earning a diploma alongside vocational certification.

Whenever I started a grammar lesson, I noticed my students' body language and comments changed. Grammar made them apprehensive; they believed that they didn't get it and never would. One day I prefaced my lesson with an activity I thought would reassure them.

"Write your age down. Good. Now think about how old you were when you started speaking English. Were you two? Three? Whatever age it was, I want you to subtract that number from your current age."

Comments and jokes abounded.

"OK, what number did you get? That is the number of years you have been speaking English—and successfully! Your friends understand you, right? And your teachers, right? So you already know how to use English, don't you? What you don't know is the names we give some things. So, when we do today's lesson, remember that you are just learning to name the stuff you can already use."

Solving Instructional Problems

All teachers face problems regarding curriculum and instruction. Problem solving is difficult. When a situation frustrates us, we want to fix it. Sometimes we try the first thing that comes to mind. Our effort may solve the problem, cause no change at all, or make things worse. Even when we give the matter much thought, we can't be sure we have found the solution until we take action and look at the result. Searching for solutions is one of the reasons that Deborah Meier, in *The Power of Their Ideas* (2002), says that teaching is far more intellectually challenging than she ever expected it to be.

Over time a teacher can build strong problem-solving skills. For example, teachers look for ways to help every student succeed by presenting material differently or adjusting the lesson. Good problem solving usually includes continual reframing of the questions teachers ask themselves, because redefining a problem generally leads to new approaches. This chapter looks at how well instructors accept the intellectual challenge of continually seeking ways to improve their presentation of material.

The Unaware Teacher

The inability to identify an instructional problem is one hallmark of the unaware teacher. Novices usually see only surface issues regarding effective instruction and are less likely to look for underlying causes.

The unaware teacher is blind to most instructional and curricular problems

Teachers give orders or directions with varying levels of effectiveness. Ms. Obadare teaches 4th grade. The bell will ring in 15 minutes and the class has just finished its last lesson of the day. She tells students to put away their books and clean up. They finish in record time. Ms. Obadare decides to prepare the class for tomorrow's lessons. Maybe she wants to keep them busy now or save time tomorrow.

"Class, we will be having art in the morning so I am going to pass out your paper now so you'll be ready. Everyone will get three sheets. Put them in your desk now and we'll use them tomorrow."

Ms. Obadare sees no problem with her decision. She can't yet see how her own choices might create problems rather than prevent them. Other teachers might anticipate that the papers may be lost, crinkled, or used for scribbling or paper airplanes long before art class. Then searching, scolding, and resupplying are necessary before art can begin.

The inspired teacher guides students to higher levels of understanding

Inspired teachers often have personal standards that exceed curriculum guidelines or state minimums. Though they know that there are limits on time and energy, they rarely accept poor or even average results. They monitor learning because they enjoy watching students' eyes light up with comprehension. Gathering information provides the data needed to light up more eyes, more often.

This teacher begins with a clear understanding of what needs to be taught and what needs to be learned. She knows that teaching doesn't guarantee learning; she is constantly on the lookout, checking to see how much learning her teaching is actually triggering. She makes as many adjustments as needed to increase her students' understanding. Achieving the goal of the lesson isn't her only objective. She often says, "By the way, another interesting thing about this is ..." or "This won't be on the test but ..." or "Wow, your comment makes me think of something else interesting that you'll enjoy." When students grasp a concept, she presses on, taking them a few steps further in comprehension.

Inspired teachers are mentors. They develop a clear and detailed picture of what each individual under their tutelage knows. They use that information in a variety of ways to constantly nurture students' growth and development.

Actions to grow by

□ Some teachers ask for feedback from students at the end of the course. Regular feedback is more useful and can be applied while students are still in our classroom. If we ask a few simple questions after each unit or test, we gain valuable information:

"What new things did you learn in this unit? What did I do that helped you understand a hard part? Did a classmate help you understand something difficult? If so, explain. What concepts are still unclear or confusing to you?"

You can choose whether to simply read the answers, have a class discussion, or privately talk with individuals who admit to confusion.

□ Investigate metacognition, the study of how we learn and become aware of the thinking process as it occurs. Knowing about this higher-level thinking skill will permit you to monitor your own learning more effectively and thus encourage your growth as a teacher.

□ Combine the two previous suggestions. Teach your students about metacognition so they can ask themselves how they are doing. They will become more aware of their own learning processes. As they begin to assess their own learning throughout each lesson and unit and to identify where they need more help, the monitoring of learning in your classroom will be multiplied.