

CONNECT to the topic page 42

Sasha: Hey, Hector, What are you up to? This room is a total mess.

Hector: Oh, hi, Sasha. Well, I'm building a bookcase. Not really building it. Just putting it together. I bought it online. The box says right here "Assemble in 10 easy steps." But I'm still figuring out where all the pieces go.

Sasha: This may sound like a crazy notion, but didn't it come with instructions?

Hector: I'm aware that there are instructions in the box, but I never use instructions. I don't like to read them. I'm more hands-on. I prefer to just pour everything out of the box onto the floor and then move the pieces around until I can determine where each piece goes. Kinda like a big puzzle.

Sasha: Well, that's one option, only how long have you spent so far "figuring it out"?

Hector: Hm, let's see. I started at about 10 this morning so not too long. I mean ...

Sasha: Except it's almost five o'clock and you still just have a pile of pieces on the floor. I'm a big fan of using instructions, especially if they include diagrams to help me get a good mental image of how all the pieces fit together. Let me get out the instructions and help you.

Hector: Nah, it's too easy to follow the instructions. I enjoy this.

Sasha: And yet, remember when you bought a new camera and refused to use the Help tutorial? You said you would learn about your camera by using it.

Hector: Right. I learn by doing.

Sasha: Except, about half of the photos on our trip were terrible because you didn't understand basic things about your camera.

Hector: Yeah, but the other half were incredible, right? We each have our own style.

Sasha: And right now, I value my ability to use the instructions. Let me help you build the bookcase, and then go to dinner.

Hector: Sounds good. Where would you like to go?

FOCUS your attention page 45

Speaker: We all know that we want any class that we teach to be successful. We want our students to learn. That's our goal as teachers, right? So, today, I'll present three teaching tips that are valuable in any classroom. The first tip is this: Engage your students. Make the class lively. Get students involved by asking questions, or by having them do something. The second tip: Make sure your students know what's

expected of them. Even if you have to write it on the board, make sure they understand what you want them to do. And the third tip: Can anyone guess? ...

WATCH the lecture page 46

Professor Nadine Clarke: E01 Today I'm going to talk about one theory in education that has had a big impact on the classroom. It's the theory of multiple intelligences. *Multiple* means "many." Intelligence is difficult to define. During today's class, as we discuss the theory of multiple intelligences, I'm going to use the term *intelligence* to mean "strength"—"a strong ability." This is a broader way of thinking about intelligence than usual. So first I'm going to go over the theory. Then, I plan to present how the theory has affected what some teachers now do in the classroom. **E02** Before I do that, I want to say a few words about how intelligence is often determined. As we all know, written IQ tests are still the main tool used to measure intelligence. IQ, by the way, stands for "intelligence quotient." *Quotient* means "number." A high score on an IQ test, say 130, is interpreted to mean a person is very intelligent; a score of 100 is average. **E03** However, many factors can affect someone's score, including cultural background, education—or even the fact that they aren't good at taking tests. For these reasons, some people say traditional IQ tests don't accurately measure intelligence. Another reason to question IQ tests is the theory of multiple intelligences. Harvard University's Dr. Howard Gardner and others have explored the notion that we each have many types of intelligence. What makes us different from one another is which intelligences are stronger. **E04** Now I'm going to present nine intelligences they have identified. Keep in mind that they say we each have all of these intelligences. **(COACHING TIP 1)** The first is verbal intelligence. People with strong verbal intelligence can speak and write well. This type of intelligence is valued in most schools and on written tests. The second is mathematical intelligence—the ability to work well with numbers and diagrams; think of someone who uses logic to solve problems and make decisions. The third is musical intelligence. People with strong musical intelligence, they feel sound; they feel music. They connect to sounds around them. **E05** Are you with me so far? OK. **(COACHING TIP 2)** The fourth is artistic intelligence. People with strong artistic intelligence are sensitive to color, light, and shapes. They're good at drawing, painting, fashion, lots of creative things. The fifth kind of intelligence is spatial. We use spatial intelligence to create mental images

to remember information. Think of someone who understands charts and maps easily; who has a good sense of direction, and doesn't get lost on mountain hikes. The sixth is kinesthetic or body intelligence; it's related to moving, to learning and remembering information by doing. The seventh is interpersonal intelligence; that's *inter*. Means "between" people. It's knowing how to work well with others in social situations, like work or school. **E06** The eighth is intrapersonal intelligence. *Intra* means "within one's self." It's about being uniquely aware of our own emotions and needs. For example, my brother John doesn't like crowds. He doesn't go to clubs or to the mall. He's happier alone or in a smaller group. The ninth kind of intelligence is nature intelligence—understanding one's connection with nature and the environment. Remember, the theory says we each have all of these intelligences. We just vary as to which intelligences are stronger. Think of your friends and what each is good at. **E07** So now I want to shift our discussion to the impact of the theory of multiple intelligences on teaching. If teachers accept the theory, how does this affect what they do in the classroom? There are two effects: One is on how they teach, the other is how they test their students. **(COACHING TIP 3)** To teach, they need to use a variety of teaching techniques in order to reach the most students. What works best for one student might not work best for another. To test or assess what students understand, teachers need to give students options besides taking a written test. **E08** Let's use an example. As I give the example, I want you to write down the intelligences you can identify. OK? So, a teacher, Mrs. Sanchez, wants to teach her students about trees. **(COACHING TIP 4)** Here's what she does: First, she talks about types of trees. She also draws a diagram on the board. Then they go outside, walk around, look at and touch trees near their school. Back in the classroom, she asks them to draw pictures of trees. Finally, she teaches them a song about trees. Did you get which intelligences she worked with when they went outside? How about when she had them draw pictures? **E09** All right. Now, she needs to test—or assess—what the students know. She gives them choices. For example, they can write about trees, draw a picture, make a chart, or create a song. Anything is acceptable as long as it contains the tree material she taught them. This is a key point. I realize you might think drawing a picture or creating a song isn't a "real" test. But, if we have multiple intelligences, what's the logical conclusion? Isn't it that students will benefit from using a variety of ways to demonstrate what they understood? A written test may not be the best way to assess every student. **E10** This brings up the whole issue of standardized tests, and whether they discriminate against students who don't have strong verbal and mathematical intelligences. For next time, think about this with regard to what you've heard today.

TALK about the topic page 49

Michael: Man, you know, this multiple intelligences theory is really interesting. Like, I know a lot of people who'd benefit from this theory.

May: What do you mean?

Michael: Well, I mean, I know a lot of people who are smart, but they're smart in different ways. I mean they're smart in ways that traditional IQ tests can't see.

Yhinny: I don't know. Can you give me an example?

Michael: OK. So for example, this guy Anthony in my history class, he's failing the course and on test day, he's a mess—I mean he can't remember a single fact or a single date.

Qiang: But he's intelligent in some other way, you think?

Michael: Well, definitely! I mean, he's a sculptor, and he makes really beautiful pieces.

May: A sculptor? Like, he makes statues?

Michael: Yeah.

May: But is that really intelligence? Because it just sounds like talent.

Qiang: Actually, that's what I was going to say. You know, we can all think of talented athletes, singers—but are they really intelligent?

Michael: Well, I tend to argue, yes. I mean, what good is a high IQ, or high verbal or mathematical ability? I mean, it doesn't necessarily mean that you're good at anything. It just means that you did well on an IQ test.

Yhinny: I'm with you. The multiple intelligences theory is more useful than an IQ test. It recognizes where a person is strong.

Michael: Right.

May: Or, talented, like I said. I don't think education is for developing those talents. It's for developing intelligence in those traditional areas. I'm sorry, that's just how I see it.

Michael: I mean, for me, I'd rather have a professor who sees me for my multiple intelligences—and not just how I do on written tests.

Qiang: Well, so have any of you taken one of those IQ tests?

Michael: I didn't do so well on mine. I don't know—I'm amazing in other ways.