# Session 4

# Different Kinds of Smart: Multiple Intelligences

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# I. Key Questions and Learning Objectives

## Key Questions

• How are students "smart" in different ways?

• How can teachers use multiple intelligences in the classroom?

## Learning Objectives

• **Defining intelligence**—Teachers will understand that intelligence is multidimensional and can be developed. Teachers will consider how definitions of intelligence inform teaching.

• **Gardner's theory of multiple intelligences**—Teachers will consider and understand eight different intelligences, how they might be accessed, and how they might be instrumental in helping students learn.

• **Applying the theory of multiple intelligences**—Teachers will become familiar with how the theory of multiple intelligences can be used in their classrooms by helping to identify students' strengths, providing entry points into subject matter, and encouraging students to represent their understanding in different ways.

# II. Session Overview

Think, for example, of sailors in the South Seas, who find their way around hundreds, or even thousands of islands by looking at the constellations of stars in the sky, feeling the way a boat passes over the water, and noticing a few scattered landmarks. A word for intelligence in a society of these sailors would probably refer to that kind of navigational ability. Think of surgeons and engineers, hunters and fishermen, dancers and choreographers, athletes and athletic coaches, tribal chiefs and sorcerers. All of these different roles need to be taken into account if we accept the way I define intelligence—that is, as the ability to solve problems, or to fashion products, that are valued in one or more cultural or community settings.

—Howard Gardner (1993, p. 3)

What does it mean to be smart? Tests of "intelligence" typically measure how well you read and write or how quickly you can work with numbers. In 1983, Howard Gardner presented an alternative view of intelligence. In his book, *Frames of Mind,* he outlined seven intelligences—*linguistic* and *logical-mathematical* (abilities typically measured by IQ tests), *musical, spatial, bodily-kinesthetic* (movement and motor skills), *interpersonal* (skills and abilities in working with others), and *intrapersonal* (self-knowledge and awareness). Since that time, Gardner has explored other areas that may also be included as human intelligences. In that pursuit, he added *naturalistic* intelligence—the ability to make distinctions in the natural environment—as the eighth intelligence.

Gardner developed this expanded view of intelligence by reviewing studies of cognitive development in normal children, as well as exceptional individuals like prodigies and autistic children. Studies of stroke patients and other brain-damaged individuals who lost cognitive abilities provided further evidence of the different kinds of intelligences we possess. He used these sources of evidence and others to identify abilities that develop relatively independently of one another. As a result of this work, he found that in addition to the linguistic and logical-mathematical abilities traditionally valued in IQ tests, five other capacities met his criteria for intelligence. These, in combination, enable people to solve problems or fashion products with varying levels of skill in ways that are recognized and valued by our culture.

Traditionally, IQ was seen as an innate capacity—something you are born with in a given quantity. However, multiple intelligences theory suggests that intelligences can develop and be developed over time. Although some individuals may have a special capacity for a certain type of intelligence (e.g., musical talent), all healthy individuals can nurture and develop their intelligences over a lifetime. Multiple intelligence (MI) theory suggests not only that people have differing interests and abilities, but that it is useful for lifelong learners to develop a range of abilities in addition to those required for reading, writing, and mathematics. In fact, these other intelligences—spatial, musical, interpersonal, intrapersonal, and bodily-kinesthetic—can often create useful pathways into developing essential literacy and quantitative skills, as well as playing valuable roles in their own right.

In this session, we first define Gardner's eight intelligences and then discuss three areas for classroom application of his theory:

- Using MI theory to help understand students as learners and to provide opportunities for them to strengthen their abilities in different areas,

- Introducing new topics by drawing on the diversity of ways we learn and understand, and

- Developing lessons and curricula that require students to practice and apply multiple intelligences.

One of the things we know about any intelligence is that it gets stronger when students practice and work at it. The more teachers can provide appropriate resources, the stronger the child's abilities will become in that area. Ultimately, it is important to have many areas of intellectual strength. The art of teaching is helping people use their already well-developed abilities to build other strengths, so that they can master important learning in a variety of ways. Rather than providing a template for teaching—"If it's Monday, it must be music day"—Gardner provides a way of thinking about the diversity of ways we learn, understand, perform, and create meaningful products.

# II. Session Overview, cont'd.

## The Eight Intelligences

According to Gardner, an effective education builds a bridge between the content being taught and the students in the classroom:

> On the one hand, educators need to recognize the difficulties students face in attaining genuine under-standing of important topics and concepts. On the other hand, educators need to take into account the differences among minds and, as far as possible, fashion an education that can reach the infinite variety of students (Gardner 1999, p. 186).

Gardner (1983) emphasizes that an intelligence is most accurately thought of as a *potential,* and the various intel-ligences are sets of "know-how"—or ways of doing things. Most culturally valued tasks involve putting more than one intelligence into practice. For instance, lawyers must be well-practiced at writing briefs (linguistic intelli-gence), developing arguments (logical-mathematical), public speaking, and persuading a jury (bodily-kinesthetic, linguistic, and interpersonal). Similarly, concert pianists not only rely on musical intelligence, but must also rely on bodily-kinesthetic skills to develop their manual dexterity, as well as their intrapersonal skills to express the meaning of a piece of music (Kornhaber, Kreshevsky, & Gardner, 1990).

The following definitions describe each intelligence and the related occupations and directions an intelligence might take. These are by no means the only examples, nor does the development of any one intelligence suggest the exclusion of others. All healthy people possess all the intelligences, which they blend in various ways when they create products or perform meaningful roles or tasks.

- *Linguistic intelligence*—Linguistic intelligence involves the ability to communicate and use language in a variety of ways—through speaking, writing, and reading. This intelligence includes a sensitivity to the meaning of words, the order of words, and the sounds and rhythm of words. Poets, journalists, and speech-writers exhibit strengths in this intelligence. Students who enjoy playing with language, telling stories, and who quickly acquire foreign languages exhibit linguistic intelligence.

- *Musical intelligence*—We put into practice musical intelligence when we create and perceive sound patterns. Musical intelligence includes a sensitivity to pitch (melody), rhythm, and the qualities of a tone (Gardner, 1983). Composers, singers, conductors, and musicians exhibit this intelligence, as do poets and others who use word sounds and rhythms in their writing. Students who sing well, enjoy making rhythmic sounds, and can distinguish between notes are displaying musical intelligence.

- *Logical-mathematical intelligence*—Logical-mathematical intelligence is involved when we order objects, assess their quantity, and make statements about the relationships among them. Scientists, mathematicians, and philosophers all display strength in these areas. You can observe this intelligence in students who can carry out complex calculations in their heads, enjoy finding patterns in shapes and numbers, and excel at making logical arguments.

- *Spatial intelligence*—We use spatial intelligence when we perceive a form or object (either visually or through touch), when we remember visual or spatial information, and when we recognize and imagine objects from different angles (Gardner, 1985). Spatial ability is often assessed by having people copy shapes or match one visual image with another. Architects, mechanics, and engineers possess strong spatial abilities. Spatial intel-ligence can be observed in students who understand and can create visual images of their understanding—like charts, diagrams, or maps—as well as students who are drawn to the visual arts.

- *Bodily-kinesthetic intelligence*—Bodily-kinesthetic intelligence is visible when people use their bodies to create products or solve problems. Athletes, surgeons, dancers, choreographers, and craftspeople display competency in this area. Students strong in bodily-kinesthetic abilities show good coordination and gross motor skill—on the stage or playing field—or the fine motor skills involved in making models or sculptures.

# II. Session Overview, cont'd.

- *Interpersonal intelligence*—People exhibit interpersonal intelligence when they display an awareness or sensitivity to others' feelings and intentions. Teachers, parents, politicians, psychologists, and salespeople rely on interpersonal intelligence in their work. Students exhibit this intelligence when they collaborate well, when they show thoughtfulness and sensitivity toward their friends, and when they interact with ease with others of all ages.

- *Intrapersonal intelligence*—Intrapersonal intelligence helps individuals to "distinguish among their own feelings, to build accurate mental models of themselves, and to draw on these models to make decisions about their lives" (Kreshevsky & Siedel, 1998, p. 20). Therapists and religious leaders may exhibit strength in this intelligence. Students who understand their strengths and weaknesses, have an awareness of their own emotional states, and are thoughtful when they make decisions about their lives are displaying intrapersonal intelligence. [See Session 5, Emotions and Learning, for a more in-depth discussion of "emotional intelligence" (Goleman, 1995).]

- *Naturalistic intelligence*—Finally, naturalistic intelligence allows people to recognize and classify species and other aspects of their environment. Farmers, gardeners, botanists, geologists, florists, and archaeologists all exhibit this intelligence. Students who enjoy studying the world around them—insects, cars, or stamps—display strength in this intelligence.

These definitions can serve as guides to help us think about individual learning styles and preferences that can be developed over time. To prepare learners for the variety of occupations and roles they may have when they leave school, teachers might consider the kind of practice they are providing in these life skills—working with others, developing a sense of one's own abilities, creating, performing, and problem solving in different areas.

Each of these competencies has its own developmental trajectory, progresses at different rates, and results in differing intelligence "profiles" in individuals:

> . . . [L]anguage develops rapidly in almost everyone. Interpersonal competence also develops in almost everyone, but far more slowly. The speed and extent of musical development varies widely from person to person .... [A] given individual's musical and linguistic competencies may develop rapidly and to a high degree; his or her bodily kinesthetic and spatial competencies might also be high, but logical-mathematical and personal competences might lag behind others. These different profiles, trajectories, and rates of development enable a person to grasp, more or less readily, the symbol systems in which the domains of his or her culture are transmitted (Kornhaber, Krechevsky, & Gardner, 1990, pp. 183-184).

This view of intelligence is quite different from the traditional one. Our cognitive abilities are not fixed and predetermined; they change and develop over time.

## Multiple Intelligences in the Classroom

Since the publication of *Frames of Mind,* MI theory has had a great impact on schools and teachers. In a study of 41 schools using MI theory, researchers found that putting MI theory into practice was associated with improved test scores, improved student behavior, improved parent participation, and positive outcomes for students identified with learning disabilities (*Project SUMIT: Outcomes.* Retrieved from http://www.pz.harvard.edu/SUMIT/OUT-COMES.HTM). Interviews with principals and teachers in these schools suggested that using MI theory helps schools in several ways: It provides teachers with a framework for discussing children's strengths and weaknesses; it promotes the arts, including music, drama, and dance; and it promotes choice and individualization of education. In the following sections, we outline three ways teachers can draw on Gardner's theory in their classrooms: by assessing and building on students' strengths, by providing points of entry to subject matter, and by creating interdisciplinary curricula.

# II. Session Overview, cont'd.

## Assessing and Building on Students' Strengths

In order for students to remain motivated in school, they need opportunities to succeed in learning. An important aim of schooling is to give students opportunities to feel successful. Teaching focused on multiple intelligences can identify the areas where students excel and provide opportunities for students with different kinds of minds to flourish and to find pathways into all kinds of material. Teachers identify individual differences through careful observation and activities that reveal strengths, preferences, and abilities. Once these differences are identified, instruction can provide supports for students who learn in different ways. For instance, students who are interested in art can be given the choice of first illustrating an idea or topic and then composing a short story; the student who seems particularly strong in spatial thinking can be given the opportunity to work with manipulatives to explore mathematical concepts; the student who exhibits strong interpersonal skills can be called on to lead a group investigation.

However, a student's preferred mode of intelligence should not become the medium for all of the student's work in place of developing other needed abilities. A student who has well-developed ability in the spatial domain should not always be encouraged to create visual representations instead of writing. Linguistic skills need to be developed as well. Similarly, a student's interest and proficiency in music may provide a topic for an essay or the background for writing the essay, but should not become a substitute for learning to write proficiently.

Teachers should also be careful to avoid the "pigeon-holing effect"—labeling students forever as "X" types of learners. All individuals possess certain *combinations* of the various intelligences, and they can apply these differently in different contexts. We can look for specialized strengths in individuals and use them to assist learning, but attaching a permanent label can discourage future success in "weak" areas. We all have potential in all of the intelligences and it is important to understand that children's intelligences grow and vary over time and contexts (Hatch, 1997).

How can these differing intelligences be assessed? Observation plays an important role in understanding students' intelligence profiles. Observing how children approach problems and make products reveals much about their intelligences. Kreshevsky and Seidel (1998) suggest teachers look for the following things to develop better understandings of individual students:

- What choices do students make when given options?

- What roles do they play when working together?

- How do they handle unanticipated problems?

- What captures their attention? When do they lose interest?

- What problem-solving strategies do they offer?

- How do they communicate ideas, understandings, thoughts, and feelings?

- What does their physical behavior suggest?

Researchers at Project Spectrum (a collaboration between Harvard and Tufts Universities) developed activities and observational checklists to help teachers of young students recognize students' intelligences. For example:

> Spectrum divides the movement domain into athletic and creative movement. Athletic abilities include power, agility, speed, and balance, and creative movement includes body control, sense of rhythm, expressiveness, and generation of movement ideas. This delineation helps teachers make sense of key aspects of a domain with which they may not be familiar (Kreshevsky & Seidel, 1998, p. 24).

Among the ways that teachers can document students' intelligences in the busy life of the classroom are keeping track of when individuals get frustrated, paying attention to when a student seems particularly engaged, and documenting students' questions and ideas (Kreshevky & Seidel, 1998).

MI theory also recommends a range of classroom assessments that tap into the different ways students think and learn. When assessments are carried out in the context of a project or unit, several intelligences can be tapped.

# II. Session Overview, cont'd.

For instance, at the completion of a project researching water quality in the community, asking students to create a public service brochure to describe and report what they learned could involve linguistic, logical-mathematical, visual-spatial, and interpersonal skills. The more authentic the task, the more intelligences are drawn on.

Portfolios and public presentations that are evaluated by outside audiences also provide opportunities for students to share what they have learned through several communication modes. They also offer the benefit of tracking growth and development over time. For instance, in a number of schools in New York City, seniors must complete a graduation portfolio. Each student is asked to show achievement in literature, history, mathematics, and science, and also demonstrate accomplishment in fine arts exhibits and critiques, community service, ethics and social issues, and a physical challenge (Darling-Hammond, Ancess, & Ort, 2002). Gardner (1993) also proposes the idea of a "processfolio," an activity that gives students an opportunity to include *both* finished and unfinished work and to reflect on the many different skills and abilities they used to complete certain products. Such assessments not only provide valuable information about students' strengths and achievements, but also communicate that there is more than one way to be "smart."

## Providing Powerful Points of Entry

Part of being an intelligent learner is demonstrating that you can think about the same idea in different ways. In fact, if you have more than one way of thinking about something, you are much less likely to forget it. In *The Disciplined Mind,* Gardner (1999) describes how teachers can reach each diverse group of students by introducing and presenting rich topics in a different ways. He suggests three ways teachers can enhance students' understanding:

•   By providing powerful *points of entry*—MI theory provides many ways to introduce and approach a topic,

•   By offering apt *analogies*—connecting new topics to ideas and concepts that are more readily familiar to students, and

•   By providing *multiple representations* of the central or core ideas of the topic.

Traditionally, new topics may be introduced through a lecture-like introduction, a chapter overview, or demonstration of a rule or principle. Gardner suggests several other ways to introduce new material, based on different intelligences, for example, through narrative, numerical, aesthetic, and hands-on *points of entry*. A narrative entry point would involve introducing a new concept by telling a story or narrative: introducing evolution by telling the story of a single branch on an evolutionary tree or describing the concept of democracy by telling the story of its beginning in ancient Greece (Gardner, 1993). Both of these examples draw on narrative modes of understanding. A topic of study might also be introduced in a numerical or quantitative manner. For instance, students could be introduced to a unit on evolution by analyzing a map that shows the number of different species existing in different geographic areas or they could be introduced to a unit on Mayan culture by considering population shifts over time.

An aesthetic approach to introducing new material might involve watching a movie that introduces a historic event, discussing artwork of a specific period, or responding to poetry read aloud. A hands-on point of entry would provide opportunities for students first to manipulate and explore materials—weights and levers, computer simulations, or the fur of different animals—before launching into a unit of study. Each of these approaches provides a way into new material, designed to engage students' interests and promote thinking and learning in a variety of ways.

*Analogies* provide a different kind of hook in introducing new information. They attempt to create a bridge between students' current understanding and the new material to be learned. According to Gardner, "Stripped down, analogies are simply examples drawn from another realm of experience, a realm presumably more familiar to the students than the topic at hand" (Gardner, 1999, p. 199). In science, for example, one could describe the human eye as like a camera, the heart as like a pump, or a cell as similar to a factory. Although each analogy is limited to a certain extent, offering a similar situation, an evocative image, or a narrative plot can help students begin to grapple with complex subject matter.

# II. Session Overview, cont'd.

And, finally, introducing and encouraging *multiple representations* of the same core ideas can also help learners with differing strengths find their own ways into new material. The same idea can often be thought of in many different ways. The eight intelligences can help us think about a variety of ways an idea may be represented. For instance, the same algebra problem can be discussed in linguistic terms (through a verbal description), mathematical terms (with numerical symbols), and spatial terms (with a graph of the relationships represented). Similarly, the plot of a novel can be described verbally or mapped out visually with a diagram of the relationships among characters. MI theory offers us several ways of thinking in the service of introducing, clarifying, and helping students make sense of new material.

## Creating Interdisciplinary Curricula

The intelligences are pathways or entry points to understanding, not necessarily ends in and of themselves. More important than simply drawing on the differing intelligences is being clear about teaching and learning goals. There are many ways a teacher can incorporate multiple intelligences in the service of understanding. In this session's video of Georganne Urso-Flores's and Rebecca Young's first- and second-grade class, the teachers' goal is for their students to understand the structure of flowers, including the names and functions of different parts of a flower. They demonstrate many ways to teach this lesson, through reading, dissecting flowers, and building a model, among other strategies. This approach demonstrates to students that understanding means being able to think about an idea in more than one way. As we see in the high school segment of this session's video, Tom Romito asks his students to develop an understanding of the 1970s in terms of the history, culture, politics, social movements, and economic forces at play. Students draw on different intelligences as they interact, write, and develop artistic and dramatic presentations.

There are many ways to incorporate MI theory in a classroom. A teacher might teach algebraic graphing both spatially and kinesthetically by taking her class out to the playground and asking students to plot their bodies as points on a life-size graph. In a writing lesson, a teacher can use peer review to draw on interpersonal intelligence, and reflection on the writing process to draw on intrapersonal intelligence, in addition to linguistic intelligence used in the writing itself. To teach the process of photosynthesis in plants, teachers could develop hands-on plant growth experiments or provide access to a school garden for exploration, in addition to reading a text, drawing models of the process and discussing it—drawing on spatial, bodily-kinesthetic, and interpersonal intelligences. Charts, diagrams, conceptual maps, and opportunities to dissect plants or use microscopes might assist learners with a preference for logical and spatial modes. Throughout the unit, the teacher could provide multiple ways for students to share their growing understanding of the concepts. Groups of students might have miniconferences with the teacher to discuss their ideas (interpersonal and linguistic realms); they might write essays, draw illustrations, and so forth. The goal is not simply to develop a number of different kinds of activities, but to provide opportunities for students to connect with content and express their understanding in different ways.

Through longer-term projects that span weeks or months, students can conduct inquiries into class topics, like a study of local birds and their nesting habits or research focused on current issues in local government. As Campbell (1997) observed in her study of multiple-intelligence classrooms, opportunities for in-depth, self-directed learning help prepare students by teaching them how to manage complex projects:

> Students learn to ask researchable questions; to identify varied resources; to create realistic timelines; and to initiate, implement, and bring closure to a learning activity. Regardless of disciplinary focus, these projects typically draw on numerous intelligences (Campbell, 1997, p. 4).

For instance, researching and building a clubhouse involves mathematical and spatial abilities when measuring and drawing up plans, draws on interpersonal skills and intrapersonal awareness in collaborating with others, and relies on bodily-kinesthetic intelligence in creating the actual structure.

By expanding the ways material is introduced, as well as the modes through which students can express what they are learning, the teacher can tap into the different ways students best learn and work. At the same time, there is no formula for using a maximum number of intelligences. As Gardner notes, "... most topics can be powerfully approached in a number of ways. But there is no point in assuming that every topic can be effectively approached in at least seven ways" (Gardner, 1995, p. 206).

# II. Session Overview, cont'd.

Interdisciplinary curricula and projects may also be seen school-wide as teachers and administrators choose a theme—like international awareness or the Renaissance—to focus on across subjects and grades for a period of time. Some schools have organized curricula thematically by merging English with the visual and performing arts. Interdisciplinary units in such schools may begin with a provocative question like "How do we use imagination to explain our world?" (Campbell, 1997). Teachers at a school might also collaborate by planning and teaching in teams using their own intelligence strengths for some aspects of the unit and having students rotate from classroom to classroom.

Finally, apprenticeships in the arts, sports, crafts, humanities, or applied mathematics and science can allow students to gain expertise in a skill area by working with professional members in their communities. At the Key School in Indianapolis, for example, teachers, parents, and community members mentor students in 17 crafts or disciplines (Campbell, 1997). Groups of students work with these mentors four times a week on topics like city planning, aerospace, and vocal music. Local museums and industries can also offer student apprenticeships based on real-world tasks and focused on a particular intelligence or discipline. These apprenticeships—as is most real-life work—are by their nature interdisciplinary, relying on more than one intelligence for the successful completion of projects and products.

## Conclusion

MI theory prompts a consideration of what it means to solve problems in different disciplines using all of the human abilities at our disposal. Taking on a multiple-intelligence stance, a teacher might ask of her own teaching: "How can I learn about my students' preferences and strengths in the eight intelligences? What kinds of assessments can I create that provide opportunities for students to use and demonstrate their strengths in different areas? How can I think about introducing a rich and important concept in my subject area through a range of different intelligences? Which intelligences may I be neglecting in my teaching? How can I include these in some of what I do?"

MI theory is a way of thinking about how children learn and how best to teach them. The theory provides a way of thinking about how we learn that urges teachers to extend the boundaries of traditional curriculum, consider the many talents and abilities students bring to a school setting, and put greater emphasis on the variety of skills necessary to succeed in today's world.

# III. Additional Session Readings

Hatch, T. (1997). Getting specific about multiple intelligences. *Educational Leadership,* 54(6). [Online]. Available: http://www.ascd.org/readingroom/edlead/9703/hatch.html.

Sternberg, R. J. (1997, March). What does it mean to be smart? *Educational Leadership,* 54(6), 20-24. [Online]. Available: http://ascd.org/readingroom/edlead/9703/sternberg.html.

# IV. Session Activities

## Getting Started

Answer one of the following questions in a free-write, pair-share, or small-group discussion.

1.  Think of a complex task that you recently had to finish in your life. (Examples might be building a walkway, planning a vacation, persuading a friend, or figuring out your taxes.) Briefly describe this task.

    •   What abilities did you use to accomplish this task?

    •   What parts of the task were more difficult? Which parts of the task were easier?

    •   Did you get better at any part of this task by the time you were done? Did any of your abilities become sharper as the task proceeded?

OR

2.  Finish the following sentence: I am intelligent because I can _____.

    •   How easy or difficult was it to finish this sentence?

    •   How do you explain the ease or difficulty of this task?

    •   What definition of intelligence is implied by your statement? How do you define intelligence?

    •   How might your definition and understanding of intelligence influence your teaching practice?

> **To the Facilitator:** These activities can be used as session warm-ups or as activities that occur after video viewing.

> **To the Facilitator:** You may want to have a few learners share their responses to this prompt. Keep a list of the abilities learners mention on the board. Ask their peers if they imagine using other abilities to complete the same task. After reading the session overview, you can come back to this list of abilities and use them to illustrate specifics of Gardner's eight intelligences.

## Discussion of Session Readings

> **To the Facilitator:** You may want to select questions from the Other Learning Activities and Assessments section to launch a discussion of the session readings. The questions used for the Checking for Understanding activities may be a particularly helpful resource.

# IV. Session Activities, cont'd.

## Session Video

Multiple intelligence (MI) theory describes how people learn and demonstrate their learning in different ways. When teachers apply MI theory to the classroom, it changes the way they view their students and the way they teach. This session's video demonstrates how MI theory allows two things to happen: it offers students multiple entry points into one topic, and it deepens students' understanding of a concept by allowing them to approach it from a variety of angles.

### Background on Teachers

**Rebecca Young** co-taught multiage first- and second-grade students at Ann Visger Elementary School, River Rouge, Michigan at the time of this taping. A 33-year veteran of teaching, Ms. Young received her bachelor's degree in elementary education from the University of Michigan and her master's degree in reading and learning disabilities from the University of Detroit. She is a National Board-certified teacher and was a Wayne County Outstanding Teacher of the Year Finalist in 2002. She now works for the Michigan Department of Education.

**Georganne Urso-Flores** co-teaches multiage first- and second-grade students at Ann Visger Elementary School, River Rouge, Michigan. She has 30 years of teaching experience and received her master's degree in the teaching of reading and her bachelor's degree in elementary education with a concentration in social studies/science, both from Oakland (Michigan) University. Ms. Urso-Flores is a National Board-certified teacher and was a Wayne County Outstanding Teacher of the Year Finalist in 2002.

The first segment in this video features teaching partners Georganne Urso-Flores and Rebecca Young and their students ages five through eight, including special-education students. Their students are learning about the structure and function of plants as they rotate through learning centers focused on each of the intelligences.

**Tom Romito** team teaches ninth- and 10th-grade writing, literature, and U.S. history at Lake Orion High School, Lake Orion, Michigan. He has eight years of teaching experience. Mr. Romito holds a master's degree in political science from Wayne State University and a bachelor's degree in English from the University of Michigan, Ann Arbor.

The second segment in this video features Tom Romito and his freshman and sophomore humanities students. This is an interdisciplinary, multiage, multiability block class that includes general, college preparatory, and special-education ninth and 10th graders. Mr. Romito's class is near the end of a year-long study of the United States in the twentieth century. They are in the middle of a unit about the 1970s, in which groups have researched several issues that led to important social legislation. The students use a variety of intelligences as they prepare and then present theatrical skits that introduce their classmates to the social, political, economic, and environmental challenges of this decade. After the skits, each group discusses the information they discovered with the class, and together they consider the impact of this era on the society we live in today. Finally, they write essays about the issues they have researched.

# IV. Session Activities, cont'd.

## Discussion of Session Video

> **To the Facilitator:** You may want to pause the tape at the following points to discuss these questions. If you are watching a real-time broadcast on the Annenberg/CPB Channel, you may want to consider the questions as you watch and discuss some of them afterward.

### 1. Learning About Your Students (Georganne Urso-Flores and Rebecca Young)

**Video Cue:** *The Learning Classroom* icon fades out at approximately 12:30 into the program.

**Audio Cue:** Ms. Urso-Flores says, "Choice time is a very important part of our day. And because they get to choose and when you have the grade to look at their intelligences that they're very comfortable with and they enjoy." Ms. Young says, "It also allows us to play with them, which is another way to really learn a lot about a child."

- What strategies do you notice these teachers using to learn about their students and how they like to learn?

    - How might you integrate (or have you integrated) similar strategies into your curriculum?

### 2. Students Monitoring Their Own Learning (Georganne Urso-Flores and Rebecca Young)

**Video Cue:** *The Learning Classroom* icon fades out at approximately 13:15 into the program.

**Audio Cue:** Ms. Young says, "Definitely has changed the way I look at intelligence. I think that it's very easy to fall into just honoring linguistic and mathematical intelligences, but now I can see how wonderful it is and how really smart all of our students are."

- Why do you think the teachers might include this debriefing of "ways of being smart" in their daily lesson?

- How might discussion with students about multiple intelligences affect students' capacities and motivation to learn?

- How might learning about multiple intelligences affect students' perceptions of each other?

- Can you think of other ways students could identify and monitor their learning preferences?

### 3. Using Strengths To Build Confidence To Take Risks (Tom Romito)

**Video Cue:** *The Learning Classroom* icon fades out at approximately 21:30 into the program.

**Audio Cue:** Mr. Romito says, "But what ... one thing that we're able to do is use some of these multiple intelligences to give students opportunities to focus on their own strengths and, when they do that, it does build confidence and gives them some confidence to take that and apply it to something else."

- What are the teacher's goals in this lesson?

- How have these teachers used the skit activity to help all students learn?

    - Why might they have chosen this activity?

    - What are some possible next steps for these students?

# IV. Session Activities, cont'd.

### 4. Multiple Intelligences as a Route Toward Lasting Learning (Tom Romito)

**Video Cue:** *The Learning Classroom* icon fades out at approximately 23:15 into the program.

**Audio Cue:** Mr. Romito says, "And if we're asking them to perform these tasks or do things a certain way, they've gotta think about it, they have to interact with each other, and those are the skills that are, they're really gonna take with them."

- Think of some of the real-world tasks you engage in every day. What intelligences do they draw upon?

- Think of a topic being studied in your classroom. What are some opportunities for using MI you could imagine using in studying this topic?

# V. Other Learning Activities and Assessments

> **To the Facilitator:** These activities and assessments are for you to choose from according to your group's needs and interests. Many of the activities offered here would work equally well as assignments both inside and outside of class. You may want to use class time to prepare for and/or reflect on any activities assigned as homework.

## Applications

### 1. Journal

In your classroom, what are you currently doing to use MI theory to strengthen and support student learning? Consider how you use various intelligences to help students to access and understand ideas, represent concepts, and build on students' strengths. What kinds of successes have you had using this approach? What questions and concerns do you have?

### 2. Field Assignments

a.  *Describe and analyze a learning environment using a concept central to learning theory as a lens.* MI theory can be used in a variety of ways within the classroom. Observe a classroom lesson or series of lessons and analyze if and how this theory is influencing instruction. Use the following questions and considerations as guides, but feel free to describe and analyze other aspects you see as integral to the theory. Use specific, detailed evidence to support your assertions.

# V. Other Learning Activities and Assessments, cont'd.

**Field Assignment (a), cont'd.**

- Is there evidence in the classroom that students' multiple intelligences are considered and included in the teaching plan?

    - Are there multiple ways students can access and connect to the topic and/or show their understanding?

    - Are different kinds of intelligences and capabilities required for students to complete learning tasks?

    - What kinds of resources and materials appropriate to different intelligences are available to students? What kinds of student work are visible?

    - How do students and teachers talk about their abilities?

    - Which intelligences are included in this lesson series?

    - Are students' intelligences accessed in service of an academically important goal (e.g., core concept, skill, authentic task)?

b. *Evaluate and revise a lesson.* In a group, pick a concept or topic you teach. Generate four ways to introduce or represent this topic in your classroom. Identify how each method taps into different intelligences.

    Be clear about the learning goals of the lesson and use these goals to guide your planning choices in the lesson.

    These ideas can be summarized on poster paper and shared with the class via presentations or a gallery walk.

c. *Observe a student.* Think about a student or two students in your classroom (or the classroom you are observing) whom you would like to better understand. Use MI theory to learn more about these students in order to engage and support their learning. You may use the following questions and considerations as guides, but feel free to describe and analyze other aspects you see as integral to the theory. You may also interview the student about his learning preferences. Use specific, detailed evidence to support your assertions.

- What choices does he make when given options?

- What roles does he play when working with other students?

- How does he handle unanticipated problems?

- What kinds of problem-solving strategies does he offer?

- What captures his attention? When does he lose interest?

- How does he communicate ideas, understandings, thoughts, and feelings?

> **To the Facilitator:** Please see Thomas Armstrong's (1994) book, *Multiple Intelligences in the Classroom* (published by ASCD), for a more detailed set of questions designed to help teachers better understand their students' intelligences. See, in particular, his "Checklist for Assessing Students' Intelligences," on pages 29-31.

- What does his physical behavior suggest?

- What are his outside interests and hobbies?

- How do you think this student likes to learn? How do you know?

- What else do you want to know about this student's intelligences?

- What kinds of learning activities might you plan to capitalize on this student's preferences and capabilities?

# V. Other Learning Activities and Assessments, cont'd.

## Checking for Understanding

### 1. Short-Answer Questions

a.    What are some of the ways MI theory can be used in the classroom to enhance student learning?

b.    What are the dangers of "pigeon-holing" a student as a learner with a particular intelligence?

### 2. Essay Questions

a.    Explain MI theory. How does Gardner describe and define intelligence? How does his definition differ from other ideas about intelligence?

b.    What are some advantages of using MI theory in our schools? What are some specific teaching practices that this theory supports? What are some concerns about the way MI theory might be used?

### 3. Reflective Essay

Write a reflective essay on what you learned in this unit.

•    What ideas stand out for you as the most useful and helpful?

•    How do you think these ideas might affect your own teaching?

•    What questions remain for you about these issues?

## Long-Term Assignments

### Curriculum Case Study

Consider your case study learning problem from a multiple intelligences perspective. (Note: If your curriculum case is on a unit you plan to teach in the future, answer in the form of what you project for that unit. You may have to anticipate some of your students' reactions.)

•    How did students' different ways of learning influence what occurred in your curriculum case?

•    If you incorporated MI theory, how did you hope that accessing students' multiple intelligences would help them master the skill/content/processes you were aiming to teach?

•    What were your concerns, if any, about incorporating these multiple intelligences into your planning?

See the Field Assignment above, "Describe and analyze a learning environment," (under Applications) for more guiding questions.

> **To the Facilitator:** You will find other learning activities on the course Web site at www.learner.org/channel/courses/learning-classroom. You will want to look ahead to assign learners the reading and any homework for the next session.

# VI. Web Sites and Organizations

**Project Zero at the Harvard Graduate School of Education:** http://www.pz.harvard.edu/Default.htm

Project Zero is a research center at Harvard University's School of Education. Its mission is to support learning, thinking, and creativity in the arts and other disciplines. This Web site includes project descriptions and publications summarizing research in these areas.

**Project SUMIT: Schools Using Multiple Intelligences Theory:** http://pzweb.harvard.edu/SUMIT/Default.htm

Schools Using Multiple Intelligences (SUMIT), a research project at Harvard University's Project Zero, investigates how schools have put Howard Gardner's multiple intelligences (MI) theory into practice. The site includes an overview of MI theory, information about the research project and student outcomes, and ideas and examples for implementing the theory in classrooms.

# VII. References and Recommended Readings

*Note that recommended readings are marked with an asterisk (*).*

*Armstrong, T. (2000). *Multiple intelligences in the classroom.* Alexandria, VA: Association for Supervision and Curriculum Development.

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*Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences.* New York: Basic Books.

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*Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ.* New York: Bantam Books.

*Hatch, T. (1997). Getting specific about multiple intelligences. *Educational Leadership,* 54(6), 26-29.

Kornhaber, M., Krechevsky, M., & Gardner, H. (1990). Engaging intelligence. *Educational Psychologist,* 25(3&4), 177-199.

Krechevsky, M., & Seidel, S. (1998). Minds at work: Applying multiple intelligences in the classroom. In R. J. Sternberg & W. M. Williams (Eds.), *Intelligence, instruction, and assessment: Theory into practice* (pp. 17-42). Mahwah, NJ: Lawrence Erlbaum Associates.

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*Sternberg, R. J. (1997, March). What does it mean to be smart? *Educational Leadership,* 54(6), 20-24.

# Notes