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by Julie Viens

It's early evening in Salisbury, MA, and the GED preparation class is in full swing. Working in pairs or independently, the students use rulers, Play-Doh, drawing materials, measuring spoons, and even a xylophone to complete three measuring tasks from the 10 options Martha, their teacher, has provided. One student measures and cuts strips of paper, one student measures another's height, another pair giggle as they measure and compare differing amounts of Play-Doh. Lively discussions about inches, gallons, and musical notes create a welcomed din to Martha's ears.

Two hundred miles to the north, in rural Vermont, four students in an adult diploma class make entries in their dialogue journals. One student is describing how he used his carpentry-honed spatial skills to solve a math problem. A new student sits with headphones on, completing an informal self-assessment. The voice on the tape asks about her avocations, what types of things she's good at and likes to do. Meg, her teacher, described this as the first step in a process of "discovering her own areas of strengths."

The next morning, in Gloucester, MA, Wendy is leading one of the last sessions of her adult basic education (ABE) history course. She and her students set up the classroom for final project presentations. These projects, some in preparation for weeks, will demonstrate students' understanding of some aspect of the course. One group prepares to do a skit, one student will read an original poem and present related artwork, another pair pin up charts and graphs to accompany their oral

presentation. As everyone sits to watch the skit, the nervous energy is palpable and upbeat.

Which one of these teachers is using multiple intelligences (MI) theory to inform her practice? All three, as the reader likely guessed. "Multiple intelligences" is a theory, not an approach or set of strategies. Indeed, when Howard Gardner introduced the theory in 1983, educational implications were only briefly mentioned. As a theory of intelligence, multiple intelligences describes the "smarts" students bring to the task of learning. It frames and suggests, but does not prescribe any specific classroom practices. There is indeed no single "right way" to apply MI theory. However, using an MI lens or framework can and has helped inform excellent, and often quite distinct, teaching and learning practices.

Moving from a theory of intelligence to actual classroom practices is an act of interpretation. Applying MI theory in the classroom provokes a critical process of practice and reflection on the part of the educator. Simply put, because MI theory is not prescriptive, teachers decide for themselves how to apply it, reflecting and making revisions and additions along the way. Understanding MI theory and its major components is essential to applying it appropriately and well. The teacher researchers on the Adult Multiple Intelligences (AMI) Project described in this edition of *Focus on Basics* adopted MI theory with subjective but critical lenses. They designed MI-based applications that worked for them, taking into account their contexts, goals, and beliefs about what good, appropriate, and feasible teaching practices entail. Like hundreds of other teachers, they too started with the basics, "What exactly is the theory of multiple intelligences?"

In Theory

What is multiple intelligences theory and what major tenets guide its use? First and foremost, MI theory challenges the widely held belief that intelligence is a unitary trait that can be adequately measured by an IQ test (Gardner, 1993). MI theory claims that there are many ways to be smart and that those abilities are expressed in our performances, products, and ideas. Intelligence is defined as the ability to create or solve a problem or fashion a product that is valued in one or more community or cultural settings (Gardner, 1993a).

Thus MI theory makes proverbial "apples and oranges" out of intelligence: putting everyone on a single line is impossible and comparison or competition among people is pointless. With MI theory the question moves from "How smart are you?" to "How are you smart?" Therefore, MI applications are directed toward identifying, nurturing, and using students' unique combinations of intelligence in the business of

learning.

Gardner and his colleagues looked at the many abilities individuals demonstrate and the diverse roles they are able to assume and asked, "What are the basic biological faculties the intelligences' responsible for these abilities that we observe around us every day?" They developed a list of eight criteria necessary for an ability to be designated an intelligence (see page 8). These criteria represent evidence from brain research, human development, evolution, and cross-cultural comparisons that each of these abilities has a universal, biological basis and operates relatively independently. Using the criteria, Gardner initially identified seven intelligences (see page 9). An eighth intelligence, naturalist, has since been added, and a ninth, existential intelligence, is under consideration (Gardner, 1999). Abilities that satisfied a majority of the criteria were selected as intelligences. Not one of the eight intelligences fulfilled all of the criteria perfectly; each of the eight satisfied most of them. (For a detailed description of the criteria and how each intelligence was assayed, see Gardner, 1993a, Chapter 4; for naturalist intelligence, see Gardner, 1999.)

The criteria have served well as the principal means to identify a set of intelligences that captures a reasonably complete range of the types of abilities valued by human cultures. By keeping the criteria in active use, MI theory can be and has been modified to reflect our increasingly better understanding of people's intellectual capabilities. MI theory offers the most accurate description to date of intelligence in the real world, and it continues to be a helpful articulation and organization of human abilities.

Another important aspect of MI theory is the idea that both nature and nurture have a role in each individual's intelligence. It is not simply a matter of "what you're born with." MI theory holds that intelligence originates biologically; that is, all human beings are at promise for each of the intelligences. However if, how, and to what extent intelligences develop is intrinsically tied to an individual's life experiences. The more time an individual spends using an intelligence, and the better the instruction and resources, the smarter one becomes within that area of intelligence.

Each of the intelligences is universal, but how and to what extent intelligences manifest themselves depend to a significant degree on the cultural and individual context. For example, in the case of linguistic intelligence, writing might dominate in one context and storytelling in another. A child in the first context whose mother is a reporter and whose home is filled with books, a computer, and writing implements might have more developed writing abilities than a child without those environmental supports.

This view of the nature of intelligence suggests providing a range of activities in the classroom to ensure students the opportunity to develop abilities in a range of intelligence areas. It also suggests that if intelligence is demonstrated in the things we make and the problems we solve, then assessment of students' abilities should demonstrate this too. In other words, students should be assessed using real "tools" and solving real problems. Why choose among multiple answers or answer essay questions about, say, political action, when students can get involved politically in some way and teachers can assess that participation?

A Closer Look

Each intelligence has its own unique characteristics, tools, and processes: each represents a different way of thinking, solving problems, and learning; and each emphasizes a particular type of product. Although each intelligence operates relatively independently the brain has distinct mechanisms and operations for each intelligence in reality they work in combination. So people's intellectual strengths are demonstrated through their unique combination of intelligences. For example, a violinist needs musical intelligence to be successful, but only in combination with interpersonal abilities, such as communication with other musicians in the orchestra; intrapersonal, such as translating the emotion of the piece; and bodily kinesthetic, such as the physical act of playing the instrument.

Intelligences also include sub-abilities: one is not simply "musically" or "linguistically" intelligent. One's musical intelligence might be demonstrated through the ability to compose clever tunes or to distinguish instrument parts in a song. In the case of linguistic intelligence, ability might emerge through creative expression, as in a story, or in the descriptive language of a presentation.

These distinctions within intelligences are important to keep in mind when developing experiences and assessments in the classroom. Students may vary in terms of how they are musically or spatially intelligent (Hatch, 1997). Acknowledging the detail of each intelligence provides only more promise for rich, engaging activities in the classroom. Each intelligence is briefly summarized in the box on the next page.

MI in the Classroom

MI theory is not about introducing another way to do things, but rather is a framework for thinking about the types of experiences to have in the classroom that tap a range of intelligences generally and build on students' unique combinations specifically. Good teaching practices should fit under an MI-based umbrella.

Most MI-based programs have been initiated to address three goals: create opportunities for students across a range of intelligences (exploration); give students intensive opportunities in areas of strength (talent development); and create more individualized or personalized education by more directly addressing students' intellectual strengths in their curriculum (using strengths). The following approaches and activities were developed to address these goals.

- Providing a variety of curricular options. This approach is related to providing students with exposure to and experience across intelligences. Students can hone skills and experience success in the classroom (strength areas), and teachers and students have the opportunity to uncover their own strengths and interests.
- Providing choice among activities or "entry points" to develop understanding or learn skills. Many teachers use MI theory as a framework to develop options for students to work on particular material or skills. Allowing students to learn in ways in which they are most comfortable increases the chances for substantive learning as well as increasing student self-esteem.
- Expanding instructional strategies and media based on the intelligences. We teach in a manner that makes most sense to us. Upon closer inspection, teachers are not surprised to see that they tend to teach from their own strengths. MI theory has been a useful way to analyze and expand instructional practices and the media used.
- Informally assessing student intelligences toward developing educational activities. A definitive assessment of a student's intelligences is not only difficult, but also not necessary (Gardner, 1996). Informal assessments based on observations, student checklists and

The Eight "Signs" of an Intelligence

- Potential isolation by brain damage
- Existence of savants, prodigies, and other individuals distinguished by the presence or absence of specific abilities
- Recognizable end-state and distinctive developmental trajectory
- An identifiable set of core operation(s)
- Evolutionary history and evolutionary plausibility
- Support from experimental psychological tasks
- Support from psychometric findings
- Susceptibility to encoding in a symbol system

- Gardner, 1993

questionnaires, and other classroom activities such as dialogue journals and intake interviews provide a context to collect valuable information about students' areas of ability. This information can be shared explicitly with students, getting them involved in conversations around how they learn best. It can also be fed back into the curriculum.

- Expanding assessment options to allow for students' use of areas of strength in demonstrating their learning.

Analogous to providing curricular options, giving students options for showing their learning allows them to use ways that are comfortable and through which they can experience success.

These approaches are rooted in an understanding of MI theory, its implications for teaching and learning, and a desire to build on students' intelligences. Looking back at the opening vignettes, we see that Martha's application emphasizes providing students with a range of MI-informed entry points into their GED topics. Meg uses ongoing and informal assessment of each student's intelligences to develop instructional strategies. Wendy uses MI theory to give students an opportunity to use their unique profiles of intelligences to demonstrate their understanding.

MI theory did not direct these teachers to these practices, but served as a catalyst. MI theory offers both a framework and a language to use to develop practices that best fit one's context while acknowledging, celebrating, and building on the abilities adult students bring to their learning. In the other articles in this publication, you will see some of the many interpretations of MI that are possible in creating successful learning experiences.

[See descriptions of the Eight Intelligences.](#)

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About the Author

Julie Viens is a senior researcher with Harvard Project Zero, a research group co-directed by Dr. Howard Gardner and located at the Harvard Graduate School of Education. For the past 10 years, she has worked with educators, from pre-K on, in the research and development of MI-based strategies. The AMI Project represents Julie's first foray into adult education, and she hopes to continue working in this diverse and challenging field.