An Overview of the Theory of

Multiple Intelligences

Because he was bothered by the assumption that a single number can define a person's intelligence, Howard Gardner developed a new way of defining what it means to be smart.

Questions about intelligence and what makes us smart have intrigued people for generations.

by Anita Oliver

Questions about intelligence and what makes us smart have intrigued people for generations. How intelligence is affected by heredity, race, economic factors, and quality of education continue to spark lively debate, as evidenced by books like *The Bell Curve*.[1] Over the years, psychologists have tried to define intelligence and then measure it. One of the most notable examples was the development of the IQ test by Alfred Binet. This test was lauded as finally offering a scientific way to quantify people's intelligence. But the idea that we can discover how smart a person is through an IQ test, and the assumption that a single number can comprehensively define a person's intelligence, has troubled some researchers. The most notable in recent years is Howard Gardner, who has developed what he calls a Theory of Multiple Intelligences.

Before we can examine Gardner's concept of multiple intelligences, we need to know just what he thinks intelligence is. He defines it "as the ability to solve problems, or to fashion products, that are valued in one or more cultural or community settings."[2] Gardner does not deny that genetics plays a part in intelligence, but he also includes cultural and family influences on the child's developing intellect.[3]

Gardner has transformed the traditional question about intelligence from "How smart are you?" to "How are you smart?" By making that switch, he suggests that there are different kinds of intelligences. Gardner groups these into seven areas: verbal/linguistic, the one most commonly used and measured in schools;

search studies by himself and others.[5] Unlike traditional methods of intelligence testing, Gardner's approach does not set out to narrowly define genius or mental deficiency. He is more interested in a broader and more inclusive overview of the skills and abilities that human beings possess or can develop. Gardner's definition of intelligence relates to societal expectations and values. For instance, the defining of giftedness, creativity, and genius. Gardner says these terms are applied to those who exhibit high achievement in areas that are valued by a culture, "products that are initially seen to be novel" but that a culture later accepts as being creative and universal.[6]

Multiple Intelligences Theory suggests that people learn the skills they need to survive and that are valued in their culture. Gardner links the forms of intelligence not only to societal values, but also to the opportunities and resources provided in the culture.

Gardner says that people have a plurality or "set" of intelligences or abilities, rather than a single intelligence.[7] Western culture focuses primarily on two of the intelligences—verbal/linguistic and logical/mathematical. Western education and society would probably be strengthened by a broader approach to intelligence, one that includes more of the other five intelligences.[8]

According to the Multiple Intelligences Theory, people learn through each of the seven intelligences. The differences between individuals lies in the "strength of their intelligences."[9]

Gardner holds that there is no pure form of an intelligence; rather, each one is expressed in certain ways, such as the production of a form of art, the solution to a problem, or the creation or performance of music.[10] Gardner thus recommends that each person learn about his or her skills and abilities, and be able to make decisions based on one's own model of intelligences.[11]

Multiple Intelligences Versus Learning Styles

The question has been raised, "Isn't this the same as learning styles?" Gardner suggests that there are several differences. First, the Multiple Intelligences

logical/mathematical, also important for successful schooling; visual/spatial, an important intelligence for architects, artists, and builders; musical, the primary intelligence of Mozart, singers, and church organists; bodily/kinesthetic, the intelligence demonstrated by athletes, dancers, and surgeons; interpersonal, the intelligence necessary for all of us to get along together; and intrapersonal, the intelligence involved in writing, philosophy, and thoughtful, personal communion with God.

Gardner further distinguishes between intelligence, domain, and field, which he defines as follows:

• *Intelligence* is one's biological and psychological potential.

• *Domain* is how a discipline or craft is practiced in a society; and

• *Field* is the groups and individuals

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in a society who determine which products within a domain have merit.[4]

Gardner has based the theory of Multiple Intelligences on hundreds of re-

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tests because these tend to be largely linguistic or logical/mathematical. Discovering students' intelligences requires that teachers be sensitive to each child's individuality. They must make accurate observations and draw appropriate conclusions.[18]

Using each student's individual assessment profile, the curriculum broker can recommend appropriate courses and methods. The school-community broker investigates the broader community to find appropriate activities in which to involve the students. This can include church and community groups, business and government organizations, and other local resources.[19]

Secondary

Students who have developed their intelligences in elementary school will be ready and able to use them at the high school level, so secondary teachers should incorporate multiple intelligences activities in their classrooms.[20] If they have not developed all of their intelligences by previous use, secondary students are often excited about the possibilities opened to them as they learn to use their various intelligences. When students understand their own profiles of intelligences, teachers can help them tune in to a particular intelligence to learn a subject area. Students should be continually aware of their intelligences so they can link their preferred approaches to their strengths as they learn new skills such as mathematics.[21]

Testing

Gardner's views on testing are interrelated with his philosophy about intelligences. He states that "we should get away altogether from tests and correlations among tests, and look instead at more naturalistic sources of information about how peoples around the world develop skills important to their way of life."[22] Rather than reducing human intelligence and achievement to test scores, we should examine what societies consider important and observe how they develop intelligences and skills that are important to them.[23] In further support of this view, Gardner says, "When it comes to assessment, educators need to make it clear that merely taking a tem-

Theory was developed through scientific research, while learning styles philosophy developed mostly from test scores or observations. Second, Gardner states that intelligences are tied to content. Learning styles are thought to cut across content. Although there is evidence to support these last two points, research is still being done to clarify the differences.[12]

Multiple Intelligences Theory and Educational Practice

Gardner does not say that there only is one right way to use the Multiple Intelligences Theory in schools. He does suggest important ideals: "Do no harm," "nurture," use a developmental approach, and recognize the importance of the individual.[13]

Because people are quite dissimilar, they need education that is responsive to their differences.[14] When an appropriate intellectual profile has been developed for each student, the teacher can plan the method of delivery. This profile should be "intelligence-fair"—that is, it should not be filtered "through the 'lens' of logic and mathematics. It should be developmentally appropriate" and "should be linked to recommendations" for each child.[15] Gardner describes the process used by Project Spectrum at Harvard University to determine students' intelligences in his book *Multiple Intelligences: The Theory in Practice* (Basic Books, 1993). These include games, activities, projects, portfolios, bodily

movements, and behaviors.

How to Use the Multiple Intelligences Theory in the Classroom

Here is a brief description of how the Theory of Multiple Intelligences can be applied in classrooms, beginning with early childhood. (See other articles in this issue for more specific suggestions.)

Early Childhood

Early childhood education should focus on a broad exposure to the seven intelligences. Children should be given many opportunities to develop their skills.[16] Using only one or two forms of intelligence in early schooling limits children's opportunities to grow and achieve through the other intelligences.[17]

Elementary

Gardner proposes a model for using multiple intelligences in elementary school. It uses three specialists—assessment specialist, curriculum broker, and school-community broker—to coordinate the classroom activities. In a small school, teachers can divide responsibilities for assignments and curriculum adaptation and can coordinate classroom activities.

The assessment specialist measures individual strengths. Great care must be taken to discover each child's interests and guide him or her toward kinds of learning that are culturally and individually appropriate. This should not be done primarily through standardized

perature over and over again does not heal a patient and that a person who can only spit back facts cannot be expected to solve an unfamiliar problem or to create something new."[24]

Gardner does recommend one approach to testing after a child's intelligences have been identified. It is a contextual approach that extends the domain of the various intelligences. For instance, it expands the musical intelligence from just music into the "production and perception" of music. "Thus, instead of looking at logical-mathematical skills in the abstract, we examine competences that may culminate in scientific inventiveness; instead of examining competence at repeating a series of sentences, we look at the child's ability to tell a story or provide a descriptive account of an experience."[25] Such evaluations will, of course, require more than a mere letter grade to summarize the student's achievement and level of competence.

Gardner's Response to Critics

As with any theory, there are critics. It is important, as we look at multiple intelligences, that we at least consider Gardner's response to them. To those who say the Theory of Multiple Intelligences has not been adequately tested, Gardner responds: "I have always taken care to note that it is less a set of hypotheses and predictions than it is an organized framework for configuring an ensemble of data about human cognition in different cultures."[26] In other words, multiple intelligences is not some sort of new IQ test, nor is it a rigid new educational program to follow. Gardner has attempted to build a theory that will make sense to the teachers and psychologists who use it. He does not claim that Multiple Intelligences Theory is the answer to all of education's problems.[27]

Conclusion

The Multiple Intelligences Theory resonates with what teachers have known for many years about good teaching—that children have different strengths and interests, and that they need to actively participate in their own learning. As a result, the Theory of Multiple Intelligences is being used in entire

Gardner's definition of intelligence relates to societal expectations and values.

schools, both public and private. It offers a new, student-centered way to look at instruction and evaluation. The MI Theory provides teachers with innovative and comprehensive ways to approach important skills. While the traditional verbal and mathematical areas are important for functioning in Western cultures, music, art, and interpersonal skills are also vital but often neglected intelligences. The Theory of Multiple Intelligences offers a way to remedy this problem. ✐

Anita Oliver holds a Ph.D. in curriculum and instruction from the University of Wisconsin-Madison. She is the current Chair of the Department of Curriculum and Instruction at La Sierra University in Riverside, California.

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