

MULTIPLE INTELLIGENCE THEORY

In all of its Educator Guides, SPARKed offers a diversity of content and activities addressing a variety of student intelligences. These designations refer to Howard Gardner's Theory of Multiple Intelligences, described in the document below. Some of this description is partially adapted and reprinted from the ERIC Digest on Howard Gardner's Multiple Intelligence Theory printed at <http://www.ericfacility.net/ericdigests/ed410226.html>.

Howard Gardner's Theory of Multiple Intelligences

In 1983 a researcher and professor at Harvard University named Howard Gardner proposed a new view of intelligence that has been widely embraced since its publication, now being incorporated in school curricula across the country. In his seminal book Frames of Mind (New York: Basic Books, 1983), Gardner put forward his "Theory of Multiple Intelligences," a theory that challenged the dominant definition of intelligence as limited to mathematical and linguistic abilities (verbal and computational intelligences). Gardner theorized that rather than just these two intelligences, a grouping of seven intelligences more accurately accounts for the diversity of ways in which people acquire and utilize knowledge.

SEVEN INTELLIGENCES

Using the definition of intelligence as "the capacity to solve problems or to fashion products that are valued in one or more cultural setting" (Gardner & Hatch, 1989), Gardner used biological as well as cultural research to develop a list of seven intelligences.

Gardner's seven intelligences are:

- (1) Logical-Mathematical Intelligence -- the ability to detect patterns, reason deductively and think logically. Most often associated with scientific and mathematical thinking.
- (2) Linguistic Intelligence – the ability to use language masterfully to express oneself rhetorically or poetically. Also allows one to use language as a means to remember information.
- (3) Spatial Intelligence -- the ability to manipulate and create mental images in order to solve problems. Not limited to visual sight, Gardner noted that blind children can possess spatial intelligence.
- (4) Musical Intelligence -- the ability to read, understand, and compose musical pitches, tones, and rhythms. (Auditory functions are required for a person to develop this intelligence in relation to pitch and tone, but it is not needed for the knowledge of rhythm.)
- (5) Bodily-Kinesthetic Intelligence -- the ability to use one's mind to control one's bodily movements. This challenges the popular belief that mental and physical activity are unrelated.
- (6) Interpersonal Intelligence – the ability to apprehend the feelings and intentions of others.

- (7) Intrapersonal Intelligence -- the ability to understand one's own feelings and motivations.

Gardner hypothesizes that these seven intelligences usually operate together, and rarely operate independently. The intelligences, he says, are used simultaneously, usually complementing one other as we develop skills or solve problems.

For example, a dancer can excel only if s/he has:

- (1) Strong Musical Intelligence to understand the rhythm and variations of the music,
- (2) Interpersonal Intelligence to understand how he can inspire or emotionally move his audience through his movements,
- (3) Bodily-Kinesthetic intelligence to provide physical agility and coordination to execute movements successfully.

THE BASES FOR INTELLIGENCE

According to Gardner, there are biological and cultural bases for multiple intelligences. Current neurobiological research indicates that learning is an outcome of the modifications in the synaptic connections between cells. Primary elements of different types of learning are found in particular areas of the brain where corresponding transformations have occurred. Thus, various types of learning results in synaptic connections in different areas of the brain.

For example, injury to the Broca's area of the brain (part of the frontal lobe believed to be associated with speech production) will result in the loss of one's ability to verbally communicate using proper syntax. Nevertheless, this injury will not remove a patient's understanding of correct grammar and word usage.

Since different cultures value different types of intelligences, culture and one's cultural context play large roles in the formation of intelligence. The cultural value placed upon one's ability to perform certain tasks provides the motivation to acquire skills in those areas. Therefore, while certain intelligences might be highly evolved in people of one culture, those same intelligences might not be as developed in the individuals of another.

USING MULTIPLE INTELLIGENCES IN THE CLASSROOM

Accepting Gardner's Theory of Multiple Intelligences has several implications for teachers in terms of classroom instruction. The theory states that all seven intelligences are needed to productively function in society. Educators, therefore, should think of all intelligences as equally important. This is in great contrast to traditional education systems, which typically place a greater emphasis on the development and use of verbal and mathematical intelligences. Thus, the Theory of Multiple Intelligences implies that educators should recognize and teach to a broader range of talents and skills.

A second implication is that teachers should structure the presentation of material in a style that engages most or all of the intelligences. For example, when teaching about the revolutionary war, a teacher can show students battle maps, play revolutionary war songs, organize a role play of the signing of the Declaration of Independence, and have the students read a novel about life during that period. This kind of presentation not only excites students about learning, but it also allows a teacher to reinforce the same material in a variety of ways. By activating a wide assortment of intelligences, teaching in this manner can facilitate a deeper understanding of the subject material.

Everyone is born possessing the seven intelligences. Nevertheless, all students will come into the classroom with different sets of developed intelligences. This means that each child will have his own unique set of intellectual strengths and weaknesses. These sets determine how easy or difficult it is for a student to learn information when it is presented in a particular manner. This is commonly referred to as a learning style. Many learning styles can be found within one classroom. Therefore, it is impossible, as well as impractical, for a teacher to accommodate every lesson to all of the learning styles found within the classroom. Nevertheless the teacher can show students how to use their more developed intelligences to assist in the understanding of a subject which normally employs their weaker intelligences (Lazear, 1992). For example, the teacher can suggest that an especially musically intelligent child learn about the revolutionary war by making up a song about what happened.

TOWARDS A MORE AUTHENTIC ASSESSMENT

As the education system has stressed the importance of developing mathematical and linguistic intelligences, it often bases student success only on the measured skills in those two intelligences. Supporters of Gardner's Theory of Multiple Intelligences believe that this emphasis is biased, unbalanced, and unfair. Children whose musical intelligences are highly developed, for example, may be overlooked for gifted programs or may be placed in a special education class because they do not accomplish the required math or language scores. As educators, we must seek to assess our students' learning needs in ways which will give provide a clear picture of the their strengths and weaknesses.

Since all children do not learn in the same way, they cannot be assessed in the same way. Therefore, it is important that an educator create an "intelligence profiles" for each student. Knowing how each student learns will allow the teacher to properly assess the child's progress (Lazear, 1992). This individualized evaluation practice will allow a teacher to make more informed decisions on what to teach and how to present information.

Traditional tests (e.g., multiple choice, short answer, essay, etc.) require students to demonstrate their knowledge in a predetermined manner. Supporters of Gardner's theory claim that a better approach to assessment is to allow students to explain the material in their own ways using the different intelligences. Preferred assessment methods include student portfolios, independent projects, student journals, and assigning creative tasks. An excellent source for a more in-depth discussion on these different evaluation practices is Lazear (1992).

CONCLUSION

Schools have often sought to help students develop a sense of accomplishment and self-confidence. Gardner's Theory of Multiple Intelligences provides a theoretical foundation for recognizing the different abilities and talents of students. This theory acknowledges that while all students may not be verbally or mathematically gifted, children may have an expertise in other areas, such as music, spatial relations, or interpersonal knowledge. Approaching and assessing learning in this manner allows a wider range of students to successfully participate in classroom learning.



NOTES

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