

3.3: What are the theories of multiple intelligences and emotional intelligence?

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Learning Objectives

- recognize and define Gardner's ten intelligences
- distinguish traditional views of intelligence (e.g., IQ) from Multiple Intelligences and Emotional Intelligence
- identify which kind of learning is best for them (e.g., visual, kinesthetic, etc.)

What is intelligence?

The traditional view of intelligence has always been that people are born with a fixed amount of intelligence in which that level does not change over a lifetime (Hampton, 2008). Under the traditional view of intelligence, intelligence consists of two abilities—logic and language. Short answer tests, such as the Stanford-Binet Intelligence Test and the Scholastic Aptitude Test, are common ways of measuring intelligence.

However, in the past twenty years or so, a more modern view of intelligence has begun to replace existing traditional views. Extensive research has shown that it is, indeed, possible to have more than one intelligence and that the level of intelligence can change over a lifetime. This theory of intelligence is called Multiple Intelligences as created by Howard Gardner, Ph.D., a psychologist and professor of neuroscience from Harvard University.

According to Gardner, “Intelligence is the ability to respond successfully to new situations and the capacity to learn from one’s past experiences” (Hampton, 2008). Gardner believes that, “we all possess at least [seven] unique intelligences through which we are able to learn and teach new information” (Hampton, 2008). He believes that “we can all improve each of the intelligences, though some people will improve more readily in one intelligence area than the others” (Hampton, 2008).

Gardner does not believe in short-answer tests to measure intelligence because “short answer tests do not measure disciplinary mastery or deep understanding, rather they measure rote memorization skills and only one’s ability to do well on short-answer tests” (Hampton, 2008). Assessments that value the process over the final answer, such as the Performance Assessment in Math (PAM) and the Performance Assessment in Language (PAL), are more accurate measures of intelligence in Gardner’s theory than short-answer tests.

Introduction to Multiple Intelligences

In 1983 Howard Gardner proposed his theory of multiple intelligences in the book Frames of the Mind: The Theory of Multiple Intelligences. In his book, Gardner proposes that there are seven possible intelligences—linguistic intelligence, logical-mathematical intelligence, musical intelligence, bodily-kinesthetic intelligence, visual-spatial intelligence, interpersonal intelligence, and intrapersonal intelligence. Gardner would go on to add three more intelligences to his list—naturalist intelligence, spiritual intelligence, and existential intelligence—in his later book Intelligence Reframed: Multiple Intelligence for the 21st Century (1999).

According to the *Educational Researcher*, to arrive at Gardner’s first seven intelligences Gardner and his colleagues examined literature on the “development of cognitive capacities in normal individuals, the breakdown of cognitive capacities under various kinds of organic pathology, and the existence of abilities in ‘special populations,’ such as prodigies, autistic individuals, idiots savants, and learning disabled children” (Gardner & Hatch, 1989).

Gardner and his colleagues also examined literature on “forms of intellect that exist in different species, forms of intellect valued in different cultures, the evolution of cognition across the millennia, as well as two forms of psychological evidence—the results of factor-analytic studies of human cognitive capacities and the outcome of studies of transfer and generalization” (Gardner & Hatch, 1989).

Intelligences that appeared repeatedly in Gardner’s research were added to a provisional list, whilst intelligences only appearing once or twice were discarded. Gardner claimed that, “as a species, human beings have evolved over the millennia to carry out at least these seven forms of thinking” on his provisional list (Gardner & Hatch, 1989).

Multiple Intelligences Defined

Linguistic intelligence is the ability to learn languages and use language to express what is on one's mind and to understand people. Those who have high linguistic intelligence are well-developed in verbal skills and have sensitivity to sounds, meanings and rhythms of words (Hampton, 2008). These kinds of people enjoy reading various kinds of literature, playing word games, making up poetry and stories, and getting into involved discussions with other people (Hampton, 2008).

Examples of people with high linguistic ability include poets, writers, public speakers, TV and radio newscasters, and journalists.

Logical-Mathematical intelligence is the ability to detect patterns, reason deductively, and think logically. Those who are “math smart” have the capacity to analyze problems logically, carry out mathematical operations, and investigate scientifically (Smith, 2008). Those with high Logical-Mathematical intelligence are highly capable of thinking conceptually and abstractly (Hampton, 2008). This kind of intelligence is often associated with scientific and mathematical thinking (Hampton, 2008).

Careers that “math smart” people tend to be employed in include computer technicians and programmers, accountants, poll takers, medical professionals, and math teachers (Smith, 2008).

Musical Intelligence is “the capacity to think in music, to be able to hear patterns, recognize them, and manipulate them” (Hampton, 2008). Those who are musically intelligent learn through sounds, rhythms, tones, beats, music produced by other people or present in the environment,” according to Gardner (Hampton, 2008). Musically intelligent people also have the ability to perform, compose, and appreciate music and music patterns (Smith, 2008).

Jobs in which musical intelligence is a desired aptitude include advertising, music studio directors and recorders, singers and songwriters, conductors, and music teachers (Hampton, 2008).

Bodily-Kinesthetic intelligence is defined as “having the potential of using one's whole body or parts of the body to solve problems” (Smith, 2008). Those with high kinesthetic intelligence communicate well through body language and like to be taught through physical activity, hands-on learning, acting out, and role playing (Lane, n.d.). These kinds of people have a keen sense of body awareness and have the ability to use mental abilities to coordinate bodily movements (Smith, 2008).

Gymnasts, physical therapists, mechanics, athletes, builders, dancers, doctors, surgeons, nurses, and crafts persons tend to be highly kinesthetic.

Spatial intelligence “involves the potential to recognize and use patterns of wide space and more confined areas,” according to Gardner (Smith, 2008). As well as, “the ability to manipulate and mentally rotate objects,” adds Gardner (Thompson, 1999). Graphic artists, architects, and mapmakers tend to be highly spatially intelligent. These people are very aware of their environments.

Interpersonal intelligence is the capacity to understand the intentions, motivations, and desires of other people (Smith, 2008). These kinds of people are “people smart” and work well with others. Examples of people with high interpersonal intelligence include educators, salespeople, and religious and political leaders. Interpersonally intelligent people learn through personal interactions.

“[People with high interpersonal intelligence] probably have a lot of friends, show a great deal of empathy for other people, and exhibit a deep understanding of other people's viewpoints,” according to *MI Identified* (Hampton, 2008).

Intrapersonal intelligence is the capacity to understand oneself, to appreciate one's feelings, fears and motivations,” according to Gardner. “It involves have an effective working model of ourselves, and to be able to use such information to regulate our lives” according to *The Encyclopedia of Informal Education* (Smith, 2008). People who possess high intrapersonal intelligence are “self smart.” These people know who they are, what they are capable of doing, how to react to things, what to avoid, and what they gravitate to (Hampton, 2008).

Psychologists, philosophers, social workers, and counselors are all examples of “self smart” careers.

Naturalist intelligence is defined as the ability to recognize and categorize plants, animals and other objects in nature (Hampton, 2008). Those with high naturalist intelligence include gardeners, biologists, birdwatchers, florists, horticulturists and more.

According to *EdWeb*, “People who are sensitive to changes in weather patterns or are adept at distinguishing nuances between large numbers of similar objects may be expressing naturalist intelligence abilities” (Carvin, n.d.). Naturalist intelligence is the intelligence that presumably helped our ancestors survive—“to decide what to eat and what to run from” (Holmes, 2002).

Existential Intelligence is defined as the ability to be sensitive to, or having the capacity for, conceptualizing or tackling deeper or larger questions about human existence, such as what is the meaning of life? Why are we born? And why do we die (Wilson, 2005)? Existential intelligence is often called the “wondering smart” or the metaphysical intelligence.

The clearest definition of existential intelligence defined by Gardner is: “individuals who exhibit the proclivity to pose and ponder questions about life, death, and ultimate realities” (Wilson, 2005). However, Gardner has not fully committed himself to this ninth intelligence despite his book Intelligence Reframed: Multiple Intelligence for the 21st Century in which he first mentions the possible existence of a ninth intelligence.

Spiritual Intelligence according to Dr. Cynthia Davis, clinical and corporate psychologist and emotional intelligence business coach, “is the ultimate intelligence in which we address and solve problems of meaning and value, in which we can place our actions and our lives in a wider, richer, meaning-giving context, and the intelligence with which we can assess that one course of action or one life path is more meaningful than another” (Mindwise Pty Ltd, 2004) .

“Spiritual intelligence is the intelligence that which makes us whole, integral and transformative,” according to Danah Zohar, author of Spiritual Capital: Wealth We Can Live By (Spiritual Intelligence and Spiritual Health, 2008). Spiritual intelligence is not necessarily religious nor is it dependent upon religion as a foundation (Mindwise Pty Ltd, 2004). Characteristics of spiritual intelligence include the capacity to face and use suffering, the capacity to face and transcend pain, the capacity to be flexible, actively and spontaneously adaptive, and high self-awareness (Mindwise Pty Ltd, 2004).

Note

GARDNER'S THEORY OF MULTIPLE INTELLIGENCES

Linguistic Intelligence

“Word Smart”

Logical-Mathematical Intelligence

“Number/Reasoning smart”

Spatial Intelligence

“Picture Smart”

Bodily-Kinesthetic Intelligence

“Body Smart”

Musical Intelligence

“Music Smart”

Interpersonal Intelligence

“People Smart”

Intrapersonal Intelligence

“Self Smart”

Naturalist Intelligence

“Nature Smart”

Existential Intelligence

“Wondering Smart”

Spiritual Intelligence

“Spiritual Smart”

Conclusion to Multiple Intelligences

Note

"The single most important contribution education can make to a child's development is to help him towards a field where his talents best suit him, where he will be satisfied and competent."

-Howard Gardner

Since the publication of Gardner's *Frames of Mind: The Theory of Multiple Intelligences*, Gardner's theory has been put into practice in schools all over the world. Gardner's theory teaches that teachers should not teach the same material to the entire class rather individualize instruction by identifying students' strengths and weaknesses.

One way of identifying students' strengths and weaknesses is to offer a multiple intelligence assessment. Multiple Intelligence assessments typically ask students/test takers to rank statements from 1-5 indicating how well that statement describes them ("5" being the statement describes you exactly, and "1" being the statement does not describe you at all). Statements might look like the ones below from Dr. Terry Armstrong's online assessment of strengths (Armstrong, n.d.):

- I pride myself on having a large vocabulary.
- Using numbers and numerical symbols is easy for me.
- Music is very important to me in my daily life.
- I always know where I am in relation to my home.
- I consider myself an athlete.
- I feel like people of all ages like me.
- I often look for weaknesses in myself that I see in others.
- The world of plants and animals is important to me.

Teachers can use assessments like Armstrong's to take an inventory of learner's skills so that they can tailor their teaching methods to their learner's strengths.

Introduction to Emotional Intelligence

Emotion can be any number of things. It can be anger, sadness, fear, enjoyment, love, surprise, disgust, or shame (Goleman, 2005, p. 289). Author of *Emotional Intelligence*, Daniel Goleman, suggests that emotion refers to a "feeling and its distinctive thoughts, psychological and biological states, and range of propensities to act" (Goleman, 2005, p. 289). But, the most fascinating part about emotions is that they are universal. People from cultures around the world all recognize the same basic emotions, even peoples presumably untainted by exposure to cinema or television (Goleman, 2005, p. 290).

There are two basic definitions of emotional intelligence. One is the Mayer-Salovey definition and the other, the Goleman definition. There are numerous other definitions of emotional intelligence floating about, especially on the net. However, none are as academically or scientifically accepted as Goleman's and Mayer and Salovey's.

Emotional Intelligence Defined

Mayer-Salovey Definition

The first two people to suggest that emotional intelligence is a true form of intelligence were Jack Mayer and Peter Salovey. Mayer and Salovey are leading researchers in the field of emotional intelligence. They first published their findings in a 1990 seminal article where they defining emotional intelligence as "the subset of social intelligence that involves the ability to monitor one's own and other's feelings and emotions," as well as, "the ability to discriminate among them and to use this information to guide one's thinking and actions" (Hein, 2007). Mayer and Salovey further described emotional intelligence as, "a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one's life" (Hein, 2007).

Along with their definition of emotional intelligence, Mayer and Salovey proposed that there were four branches of emotional intelligence. Here is a compiled list of details from Mayer and Salovey's 1990 and 1997 articles on the four branches of emotional intelligence:

1. Perception Appraisal and Expression of Emotion

- Ability to identify emotions in faces, music, and stories (1990)
- Ability to identify emotion in one's physical states, feelings, and thoughts (1997)

- Ability to identify emotions in other people, designs, artwork, etc. through language, sound, appearance, and behavior (1997)
- Ability to discriminate between accurate and inaccurate, or honest vs. dishonest expressions of feeling (1997)

2. Emotional Facilitation of Thinking

- Ability to relate emotions to other mental sensations such as taste and color (1990)
- Ability to use emotion in reasoning and problem solving (1990)
- Emotions prioritize thinking by directing attention to important information (1997)
- Emotions are sufficiently vivid and available that they can be generated as aids to judgement and memory concerning feelings (1997)
- Emotional states differentially encourage specific problem-solving approaches such as when happiness facilitates inductive reasoning and creativity (1997)

3. Understanding and Analyzing Emotions; Employing Emotional Knowledge

- Ability to solve emotional problems such as knowing which emotions are similar, or opposites, and what relations that convey (1990)
- Ability to label emotions and recognize relations among the words and the emotions themselves, such as the relation between liking and loving (1997)
- Ability to interpret the meanings that emotions convey regarding relationships, such as that sadness often accompanies a loss (1997)
- Ability to understand complex feelings: simultaneous feelings of love and hate or blends such as awe as a combination of fear and surprise (1997)
- Ability to recognize likely transitions among emotions, such as the transition from anger to satisfaction or from anger to shame (1997)

4. Reflective Regulation of Emotions to Promote Emotional and Intellectual Growth

- Ability to understand the implications of social acts on emotions and the regulation of emotion in self and others (1990)
- Ability to stay open to feelings, both those that are pleasant and those that are unpleasant (1997)
- Ability to reflectively engage or detach from an emotion depending upon its judged informativeness or utility (1997)
- Ability to reflectively monitor emotions in relation to oneself and others, such as recognizing how clear, typical, influential or reasonable they are (1997)
- Ability to manage emotion in oneself and others by moderating negative emotions and enhancing pleasant ones, without repressing or exaggerating information they may convey (1997)

Goleman Definition

Daniel Goleman, Ph.D., is another important figure in the field of emotional intelligence. Goleman is the successful author of New York Times bestsellers, Emotional Intelligence and Social Intelligence, as well as an internationally known psychologist. Goleman is currently working as a science journalist and frequently lectures to professional groups, business audiences, and on college campuses (Bio, 2009). Goleman is one of the foremost experts in emotional intelligence. In his book, Emotional Intelligence, Goleman defines emotional intelligence as, “a set of skills, including control of one’s impulses, self-motivation, empathy and social competence in interpersonal relationships” (Goleman, 2005).

Goleman, like Mayer and Salovey, divided emotional intelligence into key components; three that pertained to oneself and two that pertained to how one relates to others (Gergen, 1999). Goleman’s five key components of emotional intelligence are: Emotional self-awareness, managing emotions, motivating oneself, recognizing emotions in others, and handling relationships. Goleman, for the most part, agrees with Mayer and Salovey. However, in recent years, Goleman has favored a four component system as opposed to his original five components in 1995.

Five Key Components (Goleman, 2005, p. 43-44):

1. *Knowing one's emotions*

- Self-awareness—recognizing a feeling *as it happens*—is the keystone of emotional intelligence
- The ability to monitor feelings from moment to moment is crucial to psychological insight and self-understanding
- People who know their emotions have a surer sense of how they really feel about personal decisions from whom to marry to what job to take

2. Managing emotions

- Handling feelings so they are appropriate is an ability that builds on self-awareness
- People who are poor in this ability are constantly battling feelings of distress, while those who excel in it can bounce back far more quickly from life's setbacks and upsets

3. Motivating oneself

- Marshalling emotions in the service of a goal is essential for paying attention, for self-motivation and mastery, and for creativity
- People who have this skill tend to be more highly productive and effective in whatever they undertake

4. Recognizing emotions in others

- Empathy is the fundamental people skill
- People who are empathetic are more attuned to the subtle social signals that indicate what others need or want; this makes them better at callings such as caring professions, teaching, sales, and management

5. Handling relationships

- Skill in managing emotions in others
- These are the abilities that undergird popularity, leadership, and interpersonal effectiveness
- People who excel in these skills do well at anything that relies on interacting smoothly with others

Conclusion to Emotional Intelligence

In 1998, Goleman developed a set of guidelines for *The Consortium for Research on Emotional Intelligence in Organizations* that could be applied in the workplace and in schools. This set of guidelines is divided into four parts: preparation, training, transfer and maintenance, and evaluation. Each phase is equally as important as the last.

Some of the first guidelines pertain to assessment. Teachers should assess the class and individuals and inform them of their strengths and weaknesses. In delivering the assessment the teacher should try to be accurate and clear. They should also allow plenty of time for the student to digest and integrate the information (Cherniss, 1998). The teacher should provide feedback in a safe and supportive environment and avoid making excuses or downplaying the seriousness of the deficiencies (Cherniss, 1998).

Other guidelines include: maximizing learner choice, encouraging people to participate, linking learning goals to personal values, adjusting expectations, and gauging readiness (Cherniss, 1998). Teachers should foster a positive relationship between their students and themselves. They should make change self-directed; tailoring a learning program that meets individual needs and circumstances.

Teachers should also set clear goals and make the steps towards those goals manageable, and not too overly ambitious (Cherniss, 1998). Teachers should provide opportunities to practice the new behaviors they have learned. Then, teachers should provide periodic feedback on the learners' progress (Cherniss, 1998).

Teachers should rely on experiential methods of learning, such as activities that engage all the senses and that are dramatic and powerful, to aid learners in developing social and emotional competencies (Cherniss, 1998). Eventually, learners will develop a greater self-awareness. They should be able to understand how their thoughts, feelings, and behavior affect themselves and others at this point (Cherniss, 1998).

Note

The Self Science Curriculum

from Self Science: The Subject is Me by Karen F. Stone (Goleman, 2005, p. 305)

Main Components

Self-awareness:

observing yourself and recognizing your feelings; building a vocabulary for feelings; knowing the relationship between thoughts, feelings, and reactions

Personal Decision-making:

examining your actions and knowing their consequences; knowing if thought or feeling is ruling a decision; applying these insights to issues such as sex and drugs

Managing Feelings:

monitoring "self-talk" to catch negative messages such as internal put-downs; realizing what is behind a feeling (e.g., the hurt that underlies anger); finding ways to handle fears and anxieties, anger and sadness

Handling Stress:

learning the value of exercise, guided imagery, relaxation methods

Empathy:

understandign other peoples' feelings and concerns and taking their perspective; appreciating the differences in how people feel about things

Communications:

talking about feelings effectively; becoming a good listener and question-asker; distinguishing between what someone does or says and your own reactions or judgements about it; sending "I" messages instead of blame

Self-disclosure:

valuing openness and developing trust in a relationship; knowing when it is safe to risk talking about your private feelings

Insight:

identifying patterns in your emotional life and reactions; recognizing similar patterns in others

Self-acceptance:

feeling pride and seeing yourself in a positive light; recognizing your strengths and weaknesses; being able to laugh at yourself

Personal Responsibility:

taking responsibility; recognizing the consequences of your decisions and actions, accepting your feelings and moods, following through on commitments (e.g., studying)

Assertiveness:

stating your concerns and feelings without anger or passivity

Group dynamics:

cooperation; knowing when and how to lead, when to follow

Conflict resolution:

how to fight fair with other kids, with parents, with teachers; the win/win model for negotiating compromise

Exercise 3.3.1

1. Who is author of the theory of multiple intelligences?

- (a) Daniel Goleman
- (b) Howard Gardner
- (c) Mayer and Salovey
- (d) Reuven Bar-On

2. Mary loves reading, writing, and telling stories. Her favorite course in school is Language arts. What kind of learning would be best for Mary?

- (a) Interpersonal
- (b) Kinesthetic
- (c) Linguistic
- (d) Spatial

3. According to Mayer and Salovey, emotional facilitation of thinking is the ability to_____.

- (a) Label emotions and recognize relations among the words and the emotions themselves, such as the relation between liking and loving
 - (b) Relate emotions to other mental sensations such as taste and color
 - (c) Use emotion in reasoning and problem solving
 - (d) Both B and C
4. Mr. Conway likes to incorporate lots of hands-on activities into his curriculum. He often asks his students to role-play in class projects. What type of learner is Mr. Conway?
- (a) Interpersonal
 - (b) Intrapersonal
 - (c) Kinesthetic
 - (d) Spatial
5. What might be a traditional view of intelligence?
- (a) Intelligence is fixed at birth
 - (b) Standardized tests such as the Stanford-Binet tests accurately measure intelligence
 - (c) There is only one way to measure intelligence
 - (d) All of the above

Answer

- 1. B
- 2. C
- 3. D
- 4. C
- 5. D

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