



Multiple Intelligences: The Most Effective Platform for Global 21st Century Educational and Instructional Methodologies

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Abstract

This paper examines the theory of Multiple Intelligences (MI) as the most viable and effective platform for 21st century educational and instructional methodologies based on the understanding of the value of diversity in today's classrooms and educational institutions, the unique qualities and characteristics of individual learners, the opportunities that arise from applying the ideas of multiple intelligences, the need for flexibility and adaptation in a global society, and the increasing demand for accountability at all levels of education. Several definitions of intelligence are presented and the author examines the theories of Sternberg and Goleman as supportive of the philosophy of multiple intelligences being the most effective for 21st century educational and curricular platform. The author sees the value of MI theory as broad enough to facilitate 21st century understanding of education and intelligence in so much as diversity and technology have fueled changes in the definitions and requirements of individuals with regard to pedagogy. In putting forth a strong argument of multiple intelligences (MI) being a strong platform for effective educational and instructional methodologies in 21st century classrooms and schools, the author also examines opposing views and attempts to counteract such with supporting literature, examples, and ideas.

Introduction

Theories of intelligence are extensive in educational and psychological literature. However, regardless of the number of theories and perspectives that have emerged on intelligence, each with varying combinations of the original nature-nurture argument which underpins so many debates in social life, intelligence as a subject of education seems to have no exhaustion point. From the conception of a singular intelligence to Gardner's multiple intelligences, each theory or perspective has significantly affected educational and instructional methodologies. Multiple intelligences (MI) consist of many subdivisions of individual abilities and potential according to their learning modes. Gardner (2011a) believes that there are nine distinctive types of intelligences: linguistic intelligence, logical-mathematical intelligence, musical-rhythmic intelligence, bodily-kinesthetic intelligence, spatial intelligence, naturalist intelligence, interpersonal intelligence, intrapersonal intelligence, and existential intelligence. Smith (2008) provides brief definitions of the first seven of the nine intelligences developed by Gardner in Table 1, and to which has been added the other two types of intelligences.

Table 1: Gardner's Multiple Intelligences

TYPE OF INTELLIGENCE	DEFINITION/DESCRIPTION
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Linguistic Intelligence	Sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals. This intelligence includes the ability to effectively use language to express oneself rhetorically or poetically; and language as a means to remember information. Writers, poets, lawyers and speakers are among those that Howard Gardner sees as having high linguistic intelligence.
Logical-Mathematical Intelligence	Consists of the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically. In Howard Gardner's words, it entails the ability to detect patterns, reason deductively and think logically. This intelligence is most often associated with scientific and mathematical thinking.
Musical Intelligence	Skill in the performance, composition, and appreciation of musical patterns. It encompasses the capacity to recognize and compose musical pitches, tones, and rhythms. According to Howard Gardner musical intelligence runs in an almost structural parallel to linguistic intelligence.
Bodily-Kinesthetic Intelligence	The potential of using one's whole body or parts of the body to solve problems. It is the ability to use mental abilities to coordinate bodily movements. Howard Gardner sees mental and physical activity as related.
Spatial Intelligence	The potential to recognize and use the patterns of wide space and more confined areas.
Interpersonal Intelligence	Concerned with the capacity to understand the intentions, motivations and desires of other people. It allows people to work effectively with others. Educators, salespeople, religious and political leaders and counselors all need a well-developed interpersonal intelligence.
Intrapersonal Intelligence	The capacity to understand oneself, to appreciate one's feelings, fears and motivations. In Howard Gardner's view it involves having an effective working model of ourselves, and to be able to use such information to regulate our lives.
Naturalist Intelligence	Designates the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations) –Gardner, 2011b, p.1.
Existential Intelligence	Sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why do we die, and how did we get here (Gardner, 2011b, p. 1).

Source: Smith, M.K. (2008), www.infed.org, p.1

According to the originator of multiple intelligences theory, Howard Gardner, intelligence can be defined in three ways as: (i) a property of all human beings; (ii) a dimension on which human beings differ; and (iii) the ways in which one carries out a task in virtue of one's goals (Gardner, 2011a, p. ix). Gardner believes that the solid basis for multiple intelligences (MI) theory lies in bio-psychological potentials that range across cultural contexts. As such, the theory of multiple intelligences decisively addresses the deficiencies of many theories that do not take individual differences into deep consideration as the basis of intelligence, but rather, focus on intelligence as a consensus-driven concept such that standardized tests have always been the norm for measuring intelligence. However, Gardner and Hatch (1989) note that standard intelligence tests are incapable of tapping into the expanse of human potential which we call intelligence.

Gardner and Hatch's view on intelligence is further supported to some great degree by other scholars. Two notable examples are Robert J. Sternberg and Daniel Goleman. This is the case because both theorists differ significantly "like Gardner" when it comes to the traditional or what could be called the "cognitive" view of intelligence. The very definitions of intelligence provided by both these theorists reflect the same detachment from traditionalist theories of intelligence that is espoused by Gardner. Sternberg (2004) defines intelligence as "skill in achieving whatever it is you want to attain in your life within your sociocultural context by capitalizing on your strengths and compensating for, or correcting, your weaknesses" (p. 1). Goleman (1995) differs only slightly by having a more "singular" definition of intelligence: emotion. He defines intelligence as "abilities such as being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize, and to hope" (p. 285). Goleman calls this "Emotional Intelligence (EI)" and believes that it accounts for 80% of success in individuals.

Why Multiple Intelligences is the Most Effective Platform

Multiple intelligences (MI) as developed by Dr. Howard Gardner is based on the understanding that people learn utilizing different types of intelligences (Griggs et al., 2009). This means that individual learning varies across a platform of human potentialities in which individual differences stemming from bio-psychological and cultural factors affect their skills sets and even abilities. Multiple intelligences (MI) among intelligence theories specifically caters to the diversity characterizing individuals, and hence leads to a more effective and sensible approach to address unique learners in the classroom. The implications for educators and students are tremendous in terms of the richness and flexibility MI brings to teaching and learning:

As educators develop and utilize pedagogies that consciously attempt to engage students in a variety of ways, knowing which intelligences students possess is critical to effective instruction. The benefit of this evaluation is two-fold. If instructors know the strengths of their students, they can better prepare engaging and relevant lessons that correlate with those strengths. Secondly, students, knowing their strengths, can engage various strategies to enhance their learning accordingly (Griggs et al, 2009, p. 55)

Multiple intelligences (MI) when compared to other theories of minds or human potential is no doubt the most effective platform upon which to develop educational and instructional methodologies for the classroom of the 21st century. We are living in a truly global society where diversity has become the most defining aspect of social life. This diversity is reflected in the 21st century school and classroom where students from all walks of life (representing diverse languages, cultures, ethnicities, nationalities, religions, and socialization-backgrounds—not to mention unique individual personalities) meet in a singular place where the instructor must be able to facilitate vast differences.

Only multiple intelligences (MI) hold the power and potential for instructors or educators to develop flexible and broad enough methodologies and approaches to address this diverse audience with differing skill sets or potentials. This is supported by Haley (2004) who explored the application and suitability of multiple intelligences (MI) in shaping and informing instructional strategies, curricula development and alternative forms of assessments across second language learners. Second language learners more than many other groups in the classroom represent the extensive diversity which characterize today's classrooms and schools, and the application of MI as reported by Haley (2004) attest to the power of Gardner's theory as the most applicable and effective platform for 21st century educational and instructional methodologies. Students learn differently, and there is no doubt about that. Some students are visual learners, while others are kinesthetic learners, and yet others a combination of several learning modes based on their individual intelligences. This requires educators to vary pedagogy to effectively reach their students and meet accountability standards (Griggs et al., 2009). In their study attesting to the variability of students' intelligences as the rationale for educators varying pedagogy based on the existence of multiple intelligences (Griggs et al., 2009) found that among 167 students across different disciplines, "The intelligences listed most often were self and social, both in the high 60 percents, followed by body movement at 47.2%. Nature, musical, and language followed all with percents in the 20s. The lowest two intelligences listed were logic/mathematical and spatial, both at 17+%" (p. 59). This is sufficient evidence for multiple intelligences being the most effective platform for instructions across such cohorts.

Social theorist Robert J. Sternberg (1985, 1988, 1997) views intelligence as behavior and this behavior in individuals emerges from the balance existing between three faculties or abilities: (i) analytical, (ii) creative and (iii) practical; that collectively constitute human intelligence. According to Sternberg (2004):

Analytical abilities enable the individual to evaluate, analyze, compare and contrast information. Creative abilities generate invention, discovery, and other creative endeavors. Practical abilities tie everything together by allowing individuals to apply what they have learned in the appropriate setting (p. 1)

When we examine the ideas of creative, analytical, and practical intelligences (the triarchic intelligence theory) we can see where these present themselves as potentially encompassing all the nine intelligences described by Gardner. This stems from the idea that "creativity" broadly

defined can encompass any of the nine types of intelligences communicated by Gardner. Practical intelligence also envelops around several intelligences in MI theory, especially those that appear to be more mechanical than intellectual or abstract. Thus, Sternberg's idea of intelligence represents almost a "contraction" of what Gardner boldly puts out there to allow for flexible considerations in our understandings and definitions of human abilities.

Further evidence of the formidability of multiple intelligences as the most suitable and effective platform for 21st century instructional and educational methodologies can be gleaned from the application of various technologies in the learning process. According to Kezar (2001) multiple intelligences (MI) theory allows us to understand the effective application and usage of technology in serving diverse students and in meeting the standards set by various stakeholders, especially as increased accountability in 21st century education demands that each and every student becomes the focus of teaching. Additionally, multiple intelligences (MI) provides a new lens through which to see and address the problems that have plagued educators, learners, and schools for decades. As Silverstein (1999) notes, "traditional IQ tests, developed in the early 1900s, deal mainly with logical/mathematical and linguistic intelligences, but those tests are not designed to measure the other kinds of intelligences that people possess" (p. 18). However, multiple intelligences (MI) provides a remedy for this by allowing us to recognize different abilities and capabilities in our children and in people in general. This means that schools are able to expand their curricula and develop better assessments that are more applicable to individual lives and survival needs.

The emergence of Emotional Intelligence (EI) has also brought new understanding of intelligence that makes Gardner's Multiple Intelligences (MI) theory more formidable because the idea of "emotion" allows for even greater relatively and subjectivity in the definition of what truly constitutes intelligence. Moreover, it has made social interaction and interpersonal skills development important aspects of defining intelligence as a broader spectrum of human abilities, and this helps to formulate an understanding of individual uniqueness as the modulating factor in intelligence. Goleman (1995) has significantly contributed to the drift away from traditional understandings of intelligence by recognizing the "management of emotions" which essentially represents a collective medium of human abilities since we commonly feel and express those feelings from "frames of minds"; an interesting parallel to Gardner's multiple intelligences descriptor.

Regardless of the rich evidence and argument put forward for multiple intelligences (MI) as the most effective platform for 21st century educational and instructional methodologies, not everyone agrees. One researcher views the MI theory applied to educational methodology as creating negative stereotypes and categorical limitations on learners. According to Lacey (2006) the theory of multiple intelligences, while it holds some importance and great potential, reinforces some negative and fairly limiting stereotypes that affect individual learning and perceptions. Lacey (2006) argues:

Students do tend to think about themselves as being one specific

type of learner and they will often dismiss previously untried activities "because it's just not me". In the short term, this is counter-productive because education should be about developing a range of abilities, whether you demonstrate an initial aptitude or not. In the long term, it is even worse. People with PhDs are widely assumed to be incapable of tying their own shoelaces because of the belief that high academic ability equals spatial incompetence (p. 3).

This is a fairly reasonable argument. However, Lacey overlooks the numerous opportunities that multiple intelligences (MI) has created for educators, learners, and educational institutions, and society overall. Because of the development of the perspective of MI, we have acquired a better understanding of how people learn and have been able to facilitate learner differences much more effectively than at any other time in history. In addition, because of the ideas and application of multiple intelligences (MI), we have been able to eliminate the many barriers that affected learning opportunities for women and minorities of all classes, disabled children, and those who do not display the norm-based cognitive skills that standardized tests were originally formulated around.

Kezar (2001) points out that it is through multiple intelligences (MI) that we are able to respond effectively to increased access in education and teaching and learning, meet the needs of diverse technology users, and respond to accountability demands from various education stakeholders in 21st century society and schools. Multiple intelligences (MI) affords us the opportunities to better understand people from different social, cultural, political and historical backgrounds and relate to the contexts in which they live and learn. Armstrong (2011) finds multiple intelligences extremely integral to the teaching-learning process in any environment because he argues that whatever we teach and learn can be connected to the different intelligences as seen in Figure 1 below.

Figure 1: Multiple Intelligences in the Teaching-Learning Rectangle

- Words (*linguistic intelligence*)
- Numbers or logic (*logical-mathematical intelligence*)
- Pictures (*spatial intelligence*)
- Music (*musical intelligence*)
- Self-reflection (*intrapersonal intelligence*)
- Physical experience (*bodily-kinesthetic intelligence*)
- Social experience (*interpersonal intelligence*)
- Experience in the natural world (*naturalist intelligence*)

Source: Armstrong, T. (2011), Multiple Intelligences

With such a broad spectrum, multiple intelligences (MI) clearly addresses the varied aspects of human abilities and skills, since we have all of these intelligences in varying degrees and it is our development along these nine factors or intelligent quotients that make us fully human, fully functional members of groups, institutions, and society. Teachers and other educators, whether in formal, non-formal or informal educational settings

teach us through a combination of these "mediums" which Gardner calls "intelligences". These intelligences are not only representative of faculties, but parallel the different kinds of methodologies and approaches that we develop in teaching and learning. Even our very theories of learning and ideas about knowledge must fall within categories that encompass these intelligences defined by Gardner. Thus, multiple intelligences (MI) allows for the development of diverse approaches to teaching and learning by allowing educators to develop multiple platforms and examples to bring across experiences to children. Learning is generally defined as a permanent change in behavior resulting from experience and nothing best facilitates the development of this experience than ideas rooted in different modes that match individual preferences and abilities.

Conclusion

Intelligence and the ideas behind it have always influenced education and its methodologies. The differences between our present century and previous centuries are seen in the ways our perspectives have changed as a result of diversity, technology, and globalization. Education is now a global process and "Education should encompass a variety of methods in order to reflect children's different learning styles" (Silverstein, 1999, p. 18). The only way to do this is to understand and accept the power and potential of multiple intelligences (MI) to change the ways in which we think, teach, and learn. Gardner's MI theory therefore represents the most effective platform for global 21st century educational and instructional methodologies and those educators who embrace this perspective will find themselves meeting and surpassing stakeholders' demands for accountability in the classroom and education.

Our global 21st century society demands that we embrace differences, whether emanating from the individuals around us, or from the physical and unseen environments. Recognizing that each individual serves a purpose and that the classroom and school of the 21st century are "diversity mirrors" of our world, then it becomes only logical that there is need for a broader conceptual framework for teaching and learning. Multiple intelligences (MI) theory offers the opportunity to develop our perspectives, selves and institutions by allowing us to recognize and appreciate an expanse of human skills and abilities.

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