INCREASING STUDENTS’ EFFICACY THROUGH THE MULTIPLE INTELLIGENCES: PROMOTING DIVERSITY IN THE CLASSROOM

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ABSTRACT

What do people mean when they use the word “intelligence”? Does the definition have to do with how "smart" someone is, or does it imply how one fits a particular concept of "smart"? According to Howard Gardner of Harvard University’s Project Zero, intelligence is defined by the ability to:

- Solve problems that one encounters in real life
- Generate new problems to solve
- Make something or offer a service that is valued within one’s culture.

(Campbell 1998)

What can be done to implement the usage of multiple intelligences into the classroom? What does this definition of "intelligence" mean to educators and students? By modifying current curricula through the implementation of the multiple intelligences, it is this researcher’s argument that educators will see an increase in their students’ performance and desire to learn. Thus, by integrating multiple intelligences an educator is potentially opening a world of possibilities to diverse learners and empowering their sense of responsibility and efficacy as learners. This paper suggests a relationship between multiple intelligences and self-efficacy and proposes that this dynamic relationship has implications for social justice.

INTRODUCTION

What do people mean when they use the word "intelligence"? Does the definition have to do with how "smart" someone is, or does it suggest how one fits a particular concept of "smart"? According to the Webster’s American Dictionary: College Edition, intelligence is the "capacity for learning, reasoning, and understanding" (1997, p. 426). Who has this capacity and how does this definition of intelligence affect our students and their perceptions of themselves?

The often-perceived notion of intelligence in schools is how well someone can manipulate numbers or letters. Students who can manipulate and understand numbers and letters are thought to be more intelligent than those students who do not do well in these areas, even though they may excel in areas such as music or athletics. Our culture today has a heavy bias toward psychometric testing and findings (Gardner, Frames x-xi; Gardner, Intelligence 4; Kincheloe 7-9; Kline 50-51). We use these results to make educational and vocational decisions and to classify people. A sizable number of students do perform well on standardized tests that measure math and language proficiency. However, students who do not perform well on this type of test, or who require different instructional strategies in order to perform well, are left to feel undervalued and unappreciated.

How are students’ attitudes and confidence in relation to their intellectual capacities and capabilities affected when they are not appreciated and valued for the gifts that they do have?
According to Albert Bandura, students who feel confident in relation to a particular task will perform better, eventually taking on even more challenging tasks (394). This confidence (self-efficacy) has a profound impact on the future personal and intellectual success of all of our students. It is my belief that educators must seek out multiple avenues of teaching and learning to benefit all students, not just the ones that fit our often-singular view of intelligence. Educators must move beyond this exclusive and singular view that privileges proficiency in linguistics or mathematics.

**THEORY OF MULTIPLE INTELLIGENCES**

Howard Gardner of Harvard University's Project Zero and the Theory of Multiple Intelligences "challenges the classical view of intelligence that most of us have explicitly (from psychology or education texts) or implicitly (by living in a culture with a strong but possibly circumscribed view of intelligence)" (Gardner, Frames 5). In 1983, Gardner, Professor in Cognition and Education at the Harvard Graduate School of Education, wrote *Frames of Mind: The Theory of Multiple Intelligences* in which he single-handedly redefined intelligence as "an ability to solve problems or create products that are valued in at least one culture" (Ibid.x) and suggested that each human possesses at least eight "relatively independent" abilities or intelligences (Ibid. 8).

Though his colleagues did not embrace Gardner's theory, it was embraced by the world of education. There are many schools across the country that, by teaching to multiple intelligences, restructure their curricula to address the needs of their students. How have students been affected by this application of multiple intelligences theory?

Project SUMIT (Schools Using Multiple Intelligence Theory), a three year project directed by leading researchers at Harvard University's Project Zero, "identified schools that have been using MI for three or more years and that associate with the theory improved outcomes for students" (Kornhaber). According to this study, "Forty-nine percent of the schools that we interviewed reported that MI had been associated with positive outcomes on standardized tests" (ibid.). Project SUMIT "seeks to identify, document, and promote effective implementations of MI" (ibid). Schools that teach using multiple intelligences have seen an increase in their students test scores, discipline, parent participation and skills for those with learning disabilities. This and other research suggests that students are showing improvements in many areas because their schools are teaching to multiple intelligences (Eisner 106-107; Gardner, Frames 388-389; Gardner, Matrix 80; Mettetal & Jordan 121).

What are the intelligences and how are they determined? The prerequisites for candidate intelligences are that every individual must be able to:

- Resolve genuine problems or difficulties
- Create an effective product
- Have the potential for finding or creating problems (Gardner, Frames 61)

Before an intelligence will be considered for candidacy, it must meet these prerequisites. If an intelligence meets the prerequisites, it becomes a candidate intelligence and must now meet Gardner's eight criteria. The criteria are as follows:

- Potential isolation by brain damage
- The existence of idiots savants, prodigies, and other exceptional individuals
- An identifiable core operation or set of operations
- A distinctive developmental history, along with a definable set of expert "end-state" performances
- An evolutionary history and evolutionary plausibility
- Support from experimental psychological tasks
- Support from psychometric findings
- Susceptibility to encoding in a symbol system

(Gardner, Frames 62-67)

Thus, to be considered an intelligence, the candidate intelligence must be measurable according to psychometric testing and findings, its development must be clear; it must have its own unique symbol system; it must have an isolated area in the brain; it must have an evolutionary history; and it must serve a purpose for society. To date, the eight intelligences that fit these criteria are:

- **Logical-Mathematical** — someone who is sensitive to and has the capacity to differentiate logical or numerical patterns (mathematician, scientist)
- **Verbal-Linguistic** — someone who is sensitive to the rhythms, meanings, and sounds of words — the meaning of language (journalist, poet)
- **Musical** — someone who has the capacity to produce and appreciate rhythm, pitch, and timbre (composer, musician)
- **Visual-Spatial** — someone who has the capacity to perceive the visual-spatial world accurately and to perform transformations of one's initial perceptions (navigator, artist, sculptor)
- **Bodily-Kinesthetic** — someone who has the capacity to control his/her body movements and to handle objects skillfully (athlete, dancer)
- **Interpersonal** — someone who has the capacity to understand and appropriately respond to different moods, temperaments, motivations, and desires of others (therapist, salesperson)
- **Intrapersonal** — someone who has access to one's own feelings and the ability to discriminate among them and draw on them to
Again, our culture has historically prioritized only two of the eight intelligences in our educational system — logical/mathematical and verbal/linguistic. Many people have been disenfranchised and marginalized because of this societal bias (Gardner, Frames xi, 3-5; Kincheloe 13). It can be said that because these people do not fit the traditional mold of intelligence, as measured by Alfred Binet, that they are not acknowledged for their intellectual capacities and capabilities (Gardner, Frames 16). This arguably unitary view of intelligence has a substantial effect on how the people who do not fit this mold view themselves and their own intellectual capabilities and capacities. Bandura discusses further the effect of students' confidence in their abilities in his work on self-efficacy, "the belief in one's capabilities to organize and execute the sources of action required to manage prospective situations" (Zimmerman 203).

**SELF-EFFICACY**

Bandura wrote *Social Foundations of Thought and Action: A Social Cognitive Theory* in 1986. In this publication he argued that how individuals feel about their intellectual experiences influences how much control they will have over their feelings in relation to the experience, their overall thoughts of the experience, and it will also influence if they will take on even more challenging tasks (Bandura 27, 394-395; Pajares & Schunk 6). These self-directed beliefs have a substantial effect on how a student will perform a task. When students feel confident in relation to a particular task, their self-efficacy is high. However, when they do not feel confident or competent at a task, their sense of self-efficacy is low.

Given that self-efficacy refers to how individuals perceive their abilities in relation to particular tasks, if the students do not fit the perceived notion of intelligence, then they are likely to lack confidence in their capabilities. This lack of confidence, in turn, affects the students' success both in and out of school. When their intellectual needs are not being met, students will generally not have a high sense of self-efficacy (Bandura 25, 129, 444-445; Pajares & Schunk 6). According to Bandura, "how people behave can often be better predicted by the beliefs they hold about their capabilities...than by what they are actually capable of accomplishing" (Pajares & Schunk 5). "What people think, believe, and feel affects how they behave. The natural and extrinsic effects of their actions, in turn, partly determine their thought patterns and affective reactions" (Bandura 25). These beliefs will affect a student's behavior in four different ways:

- Choice of behavior: likely to engage in tasks in which they feel competent and confident and avoid those in which they do not.
- Effort: how people view themselves in relation to a task determines how much effort they will expend on the activity.
- Thought patterns and emotional reactions: how people view themselves in relation to a task, affects how they will react when they either fail or succeed at the task.
- Humans as producers rather than simply foretellers of behavior: high sense of self-efficacy leads to success, which leads to more challenging performances. Low sense of self-efficacy leads to hesitancy, defeat and failure to try.

When students are valued and appreciated for who they are and how they learn, meaning in this case respecting the varied intelligences set forth by Gardner, they have a higher sense of self-efficacy which will enable them to be more successful in their intellectual and personal careers. It therefore follows that this greater sense of self-efficacy will promote self-directed and self-regulated behaviors that will allow students to become more autonomous in their learning.

**CONNECTIONS**

The connections that are to be made between Gardner's acknowledgement of intellectual diversity and Bandura's suggestions for empowering self-directed student learning may potentially influence educators in how they promote diversity in their own classrooms. If students are respected for their abilities, for the purpose of this argument their multiple intelligences, then their sense of self-efficacy is likely to increase. Having already established the importance of self-efficacy, it therefore follows that including multiple intelligences in the classroom teaching and learning will empower all students — not just those who excel in linguistics and mathematics.

When the multiple intelligences are implemented in a classroom setting, the overall atmosphere and environment is positively affected because students who are not linguistically or mathematically proficient are likely to feel validated for who they are and how they learn. The impact that such validation can have upon students' sense of self-efficacy has been established and, as the research from Project SUMIT suggests, will in turn improve their mathematical and linguistic abilities. In another study, the test scores of a northern Indiana elementary school were compared before the implementation of multiple intelligences in the classroom setting and the next two years after.

Instead of a decline, Farmington test scores during the 1st year of implementation (the 1995 testing year) were higher than before. Scores were even...
higher the 2nd year (1996), when the MI curriculum was in place throughout the classrooms. When compared with other elementary schools in the same school district across the past 8 years, Farmington showed a recent dramatic increase. That score increase coincided with the implementation of the MI curriculum. (Mettetal & Jordan 121)

One can hypothesize that students are more successful because they are taught in a way that they are naturally inclined to perform better. As the principal in Farmington said when interviewed about her students' increased test scores, "one impact of the MI curriculum was that children felt better about themselves... student attitude might have a positive impact on test scores" (Mettetal & Jordan 121). Accordingly, students have more successful experiences, which in turn leads to an increase in their self-efficacy. Successful experiences beget success.

Classrooms consist of an assortment of individuals, and each of these individuals has his/her own method of learning. When students feel responsible, autonomous and validated for who they are and how they learn, there is also a greater likelihood that they will be cognizant and compassionate for the diversity of others. In Mettetal and Jordan's work on the implementation of multiple intelligences in Farmington school, a fifth grader said, "it gets you so that you're not putting anybody down - you're not putting yourself down!" (Mettetal & Jordan 118). The societal bias towards logical/mathematical and verbal/linguistic intelligence in the classroom has had a profound social impact upon the students who do not fit this perceived mold of intelligence. If students are not accepted for who they are and how they learn, how can educators expect the students to be accepting of others? By individualizing instruction, through the implementation of multiple intelligences, schools, such as the Farmington school and the schools studied in Project SUMIT, are helping to foster positive relationships between all students, no matter who they are and how they learn. Educators can also expect to see an increase in their students' performance and desire to learn. Thus, by integrating multiple intelligences, an educator is potentially opening a world of possibilities to diverse learners and empowering their sense of responsibility and efficacy as learners.

CONCLUSION

Every person is different from another. Each looks different, likes different things and, as Gardner explains, learns in different ways. By accepting and encouraging the fact that our students are unique (which includes how they learn and what they know best) educators will validate and support their students in the pursuit of their particular interests. For these reasons, the implementation of multiple intelligences in the classroom will enable all students, even if they do not excel in linguistics or mathematics, to feel validated and valued. When students feel validated and valued for their intellectual capacities and capabilities, their sense of self-efficacy, their desire to learn, and their success will be more likely. By implementing and incorporating the multiple intelligences into the curricula, educators will directly support their students' individual needs and potentially open a world of possibilities to diverse learners. This in turn will empower these students' sense of responsibility and efficacy as learners.

Students who feel validated for who they are and how they learn will likely be accepting and supportive of others. When educators accept their students for the diverse individuals that they are, they will promote and empower their students to do the same for each other. By implementing multiple intelligences into the curricula, educators will encourage their students to accept not only themselves, but also others, for who they are and how they learn.

In summary, a large majority of young lives are spent inside a classroom. Schools must be places where students can feel safe and supported to be who they are; every student must be included. As a future educator, I am greatly concerned about establishing an environment for my students in which each of them can safely and comfortably explore and learn. A lack of proficiency in either mathematics or linguistics does not (and should not) negate or devalue a proficiency in other areas, areas that, again, may in turn be avenues for improvement in reading and mathematics. When educators seek out multiple avenues of teaching, this will benefit all students, not just those who excel in linguistics and mathematics. When each student is accepted for who they are and how they learn, the classroom will be a place where diversity (of all kinds) is celebrated and encouraged.

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