

# **Multiple Intelligence Theory as a Tool for Improving Student Achievement**

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"I would rather entertain and hope that people learned something than educate people and hope they were entertained" --Walt Disney

This paper advocates for the wider adoption of Howard Gardner's theory of "multiple intelligences" (MI) by educators and policy makers in the traditional public school system, and discusses the implications of the No Child Left Behind Act of 2001 (NCLB) in terms of the implementation of MI Theory. The main argument for the adoption of Gardner's ideas is that, as of now, the majority of traditional public schools' curricula and instructional methods cater to verbal-linguistic and/or logical-mathematical dominant students (Armstrong 1993, Gardner 1993). Because these are the favored teaching models, these students may do better than others in high school and college. However, Gardner contends that wider use of MI Theory in classroom instruction will give more students a chance to learn according to their own dominant intelligence(s).

Gardner's decision to use the term "intelligences" instead of "talents" was controversial: he held that traditionally accepted ways of measuring one's intelligence (such as IQ testing and SAT scores) only measure some forms of intelligence. But Gardner held that since these tests only measure certain traits, it is to be expected that those who are dominant in verbal-linguistic or logical-mathematical areas are more likely to score well on the test and be seen as the smarter students. Gardner contended that there were many ways to learn. He began with a basic set of seven intelligences: verbal linguistic, logical-mathematical, bodily-kinesthetic, visual-spatial, musical-rhythmic, intrapersonal, and interpersonal. Later naturalist intelligence was added and now

spiritual intelligence is under consideration. He believed that every person has all of these intelligences, some dominant and some weak, usually 2-4 dominant forms and 2-4 weak ones (Armstrong 1993, Armstrong 1994). Since the majority of teaching methods, 80-90%, use verbal-linguistic and/or logical-mathematical skills, then the 30-35% of students who are dominant in those traits will perform better in school than those who are not dominant in those traits (Armstrong 1993). These students will then be more likely to go on to college. As one can see, that leaves a considerable number of students who are not being reached by traditional teaching methods.

This paper will not examine the proportions in which these intelligences are dispersed within the student population, nor explore differences in intelligences in relation to factors such as ethnicity, gender, social class or age. The purpose of this paper is simply to support Gardner's effort to persuade educators to believe in multiple intelligences and to utilize methods appropriate to them.

In 2001 President Bush signed legislation that would reauthorize the Elementary and Secondary Education Act (ESEA) -- the main federal law affecting education from kindergarten through high school. That act had not been changed since 1965. The intention of President Bush was to initiate bipartisan reform. School funding generally falls under state legislation but this act, re-designated as No Child Left Behind (NCLB), allowed states to use federal funds for state schools. The NCLB Act is based on the following principles: an increased

accountability for student performance; more focus on what works; the empowerment of parents and students in school choice; and an increase in flexibility. Schools now had to assess their students every year and the goal was for students to meet the standards set before them. The yearly testing focused on reading and mathematics. Based on their test scores, schools that achieved their goals received federal funds. Schools that did not perform well were sanctioned and students were allowed to attend another school.

One aspect of the NCLB act was to implement "scientifically based" educational programs. Thus, if it can be shown that MI Theory is scientifically based, then a school that successfully implements this theory can receive federal funding. However, administrators have traditionally needed to be convinced that MI theory will be effective in helping students learn. This paper will attempt to present a systematic description of the universal profile of intelligences proposed by Gardner. We will explore the different intelligences and describe how students who are dominant in one or another particular intelligence are helped to learn by an MI-based curricula.

Verbal-linguistic students are able to use words easily. They like to write, tell stories, and enjoy reading. Techniques to teach these students include the following: note taking, verbal response to questions, writing term papers, storytelling, brainstorming, tape recording, and journal writing (Armstrong 1994). It is easy to see that these are the qualities valued in most classrooms.

Logical-mathematical students do well with numbers and reasoning. They are likely to enjoy using computers, play and win strategy games, and reason things out logically. Ways that they can learn include the use of outline or diagrams, cause-effect analysis, and categorization. Appropriate techniques to teach logical-mathematical students include using calculations, logic

puzzles, and categorizations. For example, it is helpful for such students when studying history to make lists of the numbers of wars, famous people, and other information to be memorized (Armstrong 1994). Again, it is clear that many of these activities are familiar tasks in a traditional school setting.

Bodily-kinesthetic students are also known as haptic learners. They have the ability to use their bodies to show, produce, or transform things. They tend to do well in competitive sports, fidget while sitting in a chair, and prefer to engage in physical activities. They have physical skills needed for excellence in certain types of careers such as surgery or professional sports. They tend to learn by acting out skits, role playing, building, touching, and operating equipment (Armstrong 1994). These are skills less emphasized in school.

Visual-spatial students often enjoy doing art activities, daydream a lot, and are able to easily read maps and charts. They can see colors and shapes well and translate them easily into meaningful symbols. They learn best by making a video drawing, color-coding class notes, drawing or doodling, visualizing, and using flash cards. Visual-spatial people excel in professions such as architecture, careers which require keen observation, or in the field of interior design (Armstrong 1994). These skills are sometimes, but not frequently, taught in schools.

Musical-rhythmic dominant students usually play an instrument, study with music playing in the background, and sing songs to themselves. They learn well by using mnemonic devices, having background music to assist in concentration, singing, tapping feet or hands, listening, and making a rap or poem (Armstrong 1994). Most of these techniques, though sometimes used at the elementary level, are forgotten in high school, unless students are actually in a music class.

Intrapersonal people act on the knowledge they have about themselves. They are able to

see themselves accurately and are aware of inner feelings. Intrapersonal students are often very independent, self-confident, and self-motivated. They learn best by writing in journals, silent reading, meditating on the material, and having silent think time (Armstrong 1994). In most schools, little time is allocated for such activities.

Interpersonal people are most likely to have plenty of friends, be involved in after-school activities, and enjoy group games. They are able to understand and detect the feelings of other people. They learn by debating, having study groups, relating, and doing group projects (Armstrong 1994). Some of these activities are used in schools, but many are not.

If the theory of multiple intelligences is valid, as many teachers believe, then there are many students who are not receiving an education that is helping them learn. The traditional teaching methods are missing many students, and these students are more likely not to be at the top of the class. They are not going to be seen, by teachers, fellow students, administrators and most importantly by themselves, as intelligent in the traditional sense. Being aware that there are multiple intelligences and that our school system is not doing the best possible job at reaching all students could help students realize that it is not their fault that they did not "get" some things in high school. They may be smart in a way that is not traditionally accepted in our school system. Teachers, who are generally already aware of different learning styles in their students, should be encouraged to study the theory of multiple intelligences in depth, to learn how to accurately identify students, and to incorporate into their teaching some of the techniques and strategies discussed above. These and other useful teaching tools were researched by Dr. Thomas Armstrong, a follower of Howard Gardner who built upon Gardner's theory and created ways to teach to each of the intelligences.

It is clear why traditional public schools, especially high schools, cater to verbal-linguistic and/or logical-mathematical dominant students. However, the No Child Left Behind Act has only exacerbated the problem because improved reading, writing and math are the primary learning goals for elementary schools targeted by NCLB; as a consequence, assessment initiatives focus primarily on these skills. Although science and history are briefly studied, the goal is to get students up to their grade level on reading, writing and math. But when these subjects are emphasized, students who are verbal-linguistic and/or logical-mathematical dominant will generally out-perform other students. Of course, if the techniques being implemented to meet the goals of the NCLB work, and if it is eventually shown that all students do well on these assessments, then the program will be deemed a success. Certainly our society needs people to accomplish these basic tasks. However, this has not yet occurred. Meanwhile the problem remains that art and music are being ignored. Money is being cut from programs considered optional in order to pay for programs considered necessary to complete the goals of the NCLB Act.

Bonnie J. Bennett completed a study in 2005 entitled "Educator's Perceptions of the No Child Left Behind (NCLB) Act of 2001". Bennett surveyed a particular school district. Teachers, the principal, and the superintendent were among the people surveyed. Bennett's study showed that educators felt that while "the idea behind the NCLB act is a good idea in concept, it is difficult to implement" (Bennett 2005). A key finding was that the closer the person interviewed was to the students, the more that person viewed the effects of NCLB negatively. Not one of the people interviewed would attribute the improvement of the students to the NCLB (Bennett, 2005). In this district, as previously noted in general terms,

music and art were disappearing from the curriculum. "Music and fine arts had been severely curtailed in the district that was selected for this study, not because of the community, but because the demands of the state and federal government required the intense focus on language arts and mathematics, leaving no time in the day for other content areas. Sadly, teachers reported that the fun had gone out of teaching, and that the excitement in children's faces was fading as school became a place of work for them" (Bennett, p. 40).

It is true that school is work, but it is also important for students to want to learn, as Bennett's study showed. School will be easier for students who like to read, write, or do math since those are the subjects that are emphasized. "According to one participant, in order to meet the federal demand for improved student achievement in the district selected for this study, teachers teach 80% of the time using direct instruction, which works

for [only a proportion of] the students" (Bennett 41). Armstrong made a similar point in his own statistical estimates (Armstrong 1993).

The goals of the NCLB Act appear to be good ones. We need citizens who have basic reading, writing, and math skills, just to survive as a society. The problem is that there are still many students whose skills are undervalued in school. Our society also needs artists, musicians, architects and athletes. In order to accomplish the goals of the NCLB Act, many of the programs designed to provide training in such skills are being cut. Schools need to embrace the reality that every person learns in a distinctive way; they need to see the merit of utilizing some of the methods of the MI approach to accomplish the goal of the NCLB Act: to promote an overall improvement in student achievement. The best outcome would be if each student learned to succeed from the standpoint of his or her own dominant intelligence.