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Incorporating the Multiple Intelligence Theory of teaching to reach all students in the elementary classroom

Amy Kathleen Hocker

INCORPORATING THE MULTIPLE INTELLIGENCE THEORY OF TEACHING TO REACH ALL STUDENTS IN THE ELEMENTARY CLASSROOM

A Project

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

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in

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Approved by:

[redacted] 12/2/97

Dr. Carolyn Eggleston, First Reader Date

[redacted] 12-2-97

Dr. Thom Gehring, Second Reader Date

ABSTRACT

The purpose of this project was to analyze research regarding the benefits of using the Multiple Intelligence Theory of teaching in the elementary school setting. Intelligence, and specifically the seven types as proposed by Dr. Gardner, are defined. Glasser's five basic student needs, as well as cognitive learning theory are also incorporated to demonstrate the relevance and need for diversified teaching styles. The teaching implications resulting from Gardner's theory are examined and specific teaching applications are given, specifically citing third grade curriculum. Results from different sources have indicated that using Multiple Intelligence teaching methodology increases student's test scores, as well as their self-esteem and attitude toward school.

ACKNOWLEDGMENTS

I would like to thank the students, staff, parents, and especially the principal at Susan B. Anthony Elementary School for the Multiple Intelligences for the inspiration, tools, and opportunity to teach in such a manner that I am able to reach all of my students and for instilling in me the belief that I must "establish high standards for all students, rather than limited expectations for certain groups of students."

TABLE OF CONTENTS

CHAPTER I: INTRODUCTION

According to Cognitive Learning Theory (CLT) there is great variety in learning styles, teaching styles, developmental paces and intelligences (Herman, Aschbacher & Winters, 1992). In an attempt to address the learning styles of all students, Dr. Gardner (1983) has identified at least seven different intelligences that all individuals possess, described as the Multiple Intelligence (MI) Theory. Methods used for processing information may be identified by seven different ways of learning, or through the seven different intelligences - linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, intrapersonal, and inter-personal (Teele, 1994, p. 1). It has been found that schools generally only emphasize linguistic and logical-mathematical abilities, often missing the talents and abilities of students who are stronger in the other five intelligences (Teele, 1994, p. 1).

Learning disabled students are often identified as such because of their inability to succeed in the areas educators tend to focus on: numbers, words, and concepts,

otherwise referred to as the linguistic and logical-mathematical intelligences. By making use of the talents these identified students do possess, and focusing on the other intelligences that reside within every child, all students, including learning disabled students, would be given the opportunity to succeed in school (Hearne & Stone, 1995, p. 439).

Statement of the Problem

The public at large finds fault with teaching practices that produce poor test scores and individuals that are unprepared to enter the work place. Students are often disillusioned with school and their failure to succeed. Many children are labeled as learning disabled and placed in settings that are inappropriate for their needs. Knowing that students are capable of learning via seven different intelligences, it follows that the teaching process should address each intelligence. According to Gardner's theory, all students are able to find success in the school setting if they are given the opportunity to learn in a modality that accommodates their dominant intelligence. This involves including choices in

instruction, curriculum, and assessment. The question that this project attempts to address is: Does teaching that incorporates the MI Theory reach all students and empower them to find success in school?

Background

According to Gardner (1993), the quest to determine whether an individual would succeed or fail in school became quantifiable with Alfred Binet's development of an "intelligence test." This test provided one dimension of mental ability. Later psychologists such as Arthur Jensen and Hans Eysenck suggested that reaction time and brain wave activity were other dimensions that should be investigated to provide a more complete picture of intelligence. Piaget (1962) provided another view of intellect which conceptualized all aspects of symbol use as part of a single "semiotic function." Currently the Scholastic Aptitude Test (SAT) and the core curriculum provided in schools are further measures of one's intelligence or ability to succeed.

Gardner (1993) proposed that as educators we need to move away from tests and correlations among tests. He

suggested that instead we need to look at a more naturalistic source of how the brain works and how people develop skills important to their way of life. His concern with issues regarding intelligence grew out of the belief that the Piagetian view of intellect was flawed, based on his own studies of the development and breakdown of cognitive and symbol using capacities (Smerechansky-Metzger, 1995, p. 12). Furthermore, Gardner was disturbed by the nearly exclusive stress in school on two forms of symbol use: linguistic symbolization and logical-mathematical symbolization (Gardner & Hatch, 1989, p. 5). This led Gardner to "a conceptualization of human intellect that was more capacious...taking into account a wide variety of human cognitive capacities, entailing many kinds of symbol systems, and incorporating the skills valued in a variety of cultural and historical settings." (Gardner & Hatch, 1989, p. 5).

As teachers, we know that our teaching style or approach does not work for everyone all the time. There can be many reasons for this dilemma, but the most obvious is that students have multiple abilities, or intelligences, and one single approach will favor certain abilities over

others (Sternberg, 1994, p. 565). Looking at special education students in particular, it is clear that we are failing them with the traditional programs offered. "Although our current diagnosis, assessment, and instructional practices remain oriented toward locating and curing deficits rather than capitalizing on talents, our cure rate has been abysmally low, suggesting that it might be time to rethink our direction." (Hearne & Stone, 1995, p. 442). Thus, in order to reach the most students possible, consistently, we must diversify our instruction and assessment techniques. Gardner's theory of MI helps us do just that.

Eisner (1994, p. 558), a critic of the MI theory, points out that Gardner's work "provides a compelling corrective to the intellectually constipated conception of human ability that has characterized both public schools and, perhaps especially, universities." These institutions operate on the assumption that skills in mathematics and in the discursive use of language are the primary indicators of human intellectual ability, made clear through the emphasis placed on the Scholastic Assessment Test and the Graduate Record Examination. Furthermore, grades received

in fine arts courses are often omitted in determining the grade point average of an applicant.

The lack of attention given to the contributions individuals will make to society in areas other than those traditionally viewed as indicators of success causes the current educational system to fall short of its' mark. Gardner's work has begun to call into question some of the practices that have been employed in schools and universities for decades (Eisner, 1994).

Gardner points out that no human understands everything: .every human understands some things. The role education should assume is to attempt to improve understanding as much as possible, whatever the student's proclivities and potential might be.

> The biggest mistake of past centuries has been to treat all children as if they were variants of the same individual and thus to feel justified in teaching the same subjects in the same ways. We must discover areas of strength and characteristic approaches to learning. And, as much as possible, we must bring the teaching to where the child is. When a child does not learn, it is premature to blame the child, because, more often than not, the failure lies with the educator. When we educate better and when we can educate in a more personalized way, then children will learn better. (Siegal & Shaughnessy, 1994, p. 564).

Some think of Gardner as an archeologist who has discovered the Rosetta stone of learning (Armstrong, 1994). His model can be used to teach virtually anything from letter sounds to concepts and back. The MI theory "makes teaching simpler for teachers by chunking the broad range of human abilities into seven basic intelligences; we now have a map for making sense out of the many ways in which children learn, a blueprint for ensuring their success in school and life." (Armstrong, 1994, p. 28).

Definition of Terms

Learning disabled: Students in our classrooms are diagnosed as learning disabled for a variety of reasons. The most common characteristics of these students include: poor academic performance in one or more areas indicating a deficit, attention problems, hyperactivity, poor memory skills, inability to perform skills, poor language abilities, poor writing abilities, poor perceptual abilities, and problematic behavior patterns (Bos & Vaughn, 1991).

Multiple Intelligences: The seven intelligences as defined by Gardner (Teele, 1994, p. 1-2) are:

Linguistic - students have highly developed auditory skills, enjoy reading and/or writing, like to play word games and have a good memory for names, dates, and places. They can possess well developed vocabularies and use language fluently and are often able to spell words accurately and easily phonetically.

Logical-Mathematical - students like to explore patterns and relationships and enjoy doing activities in a sequential order. They often like mathematics, experiment to test things they don't understand, enjoy opportunities to problem solve and reason logically and clearly.

Spatial - students enjoy art activities, read maps, charts, ad diagrams and think in images and pictures. They are able to visualize clear images when thinking about things, and can complete jigsaw puzzles easily.

Musical - students are sensitive to the sounds in their environment, enjoy music and prefer listening to music when studying or reading. They appreciate pitch, rhythm and timbre and often sing songs to themselves.

Bodily-Kinesthetic - students process knowledge through bodily sensations and use their bodies in differentiated and skilled ways. They need opportunities to move and act things out, and tend to respond best in classrooms that provide physical activities and hands-on-learning experiences.

Interpersonal - students enjoy being around people, have many friends, and social activities, and learn best by relating and participating in cooperative group environments. These students express empathy for the feeling of others and respond to their moods and temperaments.

Intrapersonal - students prefer their own inner world, like to be alone and are aware of their own strengths, weaknesses and inner feelings. They often have a deep sense of self-confidence, independence, and a strong will, and motivate themselves to do well on independent study projects. They may respond with strong opinions when controversial topics are being discussed.

Goals

The purpose of this project is to determine if incorporating the MI theory of instruction in schools helps more students be successful through multiple means of learning. Furthermore, based on the findings, it will provide educators with an understanding of the importance of good, well-rounded teaching that incorporates the MI theory of instruction and assessment. Sample lesson plans and assessment measures will be offered to assist teachers in the development of their own program based on the MI theory.

Limitations of the Study

Gardner has identified an eighth intelligence, the naturalist intelligence, which involves classifying, discriminating, identifying, and grouping things in the natural world (Gardner, 1995, p. 206). Because of the relative newness of this intelligence and the lack of research and information available, this intelligence is not addressed in the current project. Secondly, while the curriculum portion can be modified to address any grade level or area of study, the curriculum project focuses on

third grade curriculum, the area of expertise of the author.

CHAPTER II: REVIEW OF LITERATURE

In order to peruse the possibility that teaching according to Gardner's theory proves successful for all students, certain questions must be approached. To begin, what constitutes an intelligence? What are the seven different learning intelligences and how can they be addressed? What does Multiple Intelligence teaching look like in the classroom? What proof is there that learning is taking place? These questions led to the following hypothesis: to increase learning and self-esteem of students, intelligences need to be assessed and appropriate teaching techniques applied. Assessment needs to be available in many forms, including portfolios, work samples, interviews, as well as standardized forms.

The Random House Dictionary defines intelligence as the "capacity for reasoning, understanding, and for similar forms of mental activity." Dr. Gardner (1995, p.202) took this definition further by explaining that "an intelligence is a biological and psychological potential; that potential is capable of being realized to a greater or lesser extent as a consequence of the experiential, cultural and

motivational factors that affect a person."

Gardner's theory stemmed from his work with brain damaged patients at a Boston hospital. He began to consider the possibility that our brains possess many distinct abilities when he realized that the kind of damage that was suffered depended upon the location in the brain of the injury. He set up a list of criteria to determine what in fact constitutes an intelligence (Hoerr, 1996, p. 9):

1. Potential isolation by brain damage
2. Existence of idiot savants, prodigies, and other exceptional individuals
3. An identifiable core set of operations - basic kinds of information-processing operations or mechanisms that deal with one specific kind of input
4. A distinctive developmental history, along with a definite set of 'end-state' performances
5. An evolutionary history and evolutionary plausibility
6. Support from experimental and psychological tasks
7. Support from psychometric findings
8. Susceptibility to encoding from a symbol system

From this, seven intelligences were identified that met these criteria, known as the multiple intelligences.

David Lazear (1991) has suggested that teachers need to teach according to student's individual abilities,

needs, and intelligences. Lazear claimed that within each student lies each intelligence; however, not all of them are developed equally and used effectively. Students must be taught the skills of each intelligence in the same manner that they are taught mathematics and reading. The intelligences must be embedded in the curriculum itself. In developing student's intelligences, teachers can help students actualize their full potential.

According to Teele (1994, p. 5),

> If schools are to provide opportunities for all students to learn and develop the ability to read, write and compute, then instruction must be presented in ways that address the students' dominant intelligences. This enables students to process information through their strength and then translate from the strength into less dominant intelligences. The translation process is a way to empower students to enable them to learn through their dominant intelligence while also strengthening their weaker intelligences.

Using the MI teaching approach allows students to have their needs, as described by Glasser, fulfilled. William Glasser has stressed that there are five basic needs students have when they enter a classroom: love, independence, fun, security, and power (Lazear, 1994). According to Hoerr (1994, p. 34), teachers who follow the model allow "...more choices than before. Students tend to choose those areas which are their strengths." This choice

is vital in creating a positive, nurturing classroom environment and is beneficial in promoting academic and personal growth amongst students.

> Viewing children through the MI (multiple intelligence) lens means that our role is to identify a child's talent and help nurture it. Rather than focusing on the mismatch between student and school, we focus on the child's many intelligences and on finding ways to bring them alive. (Hoerr, 1994, p. 35).

Lazear(1991) suggested that teachers need to proceed through four developmental stages in order for the multiple intelligence teaching methodology to be successful. Stage I involves creating an awareness of the multiple intelligences and their potentials. Stage II involves learning how each particular intelligence works; understanding the skills, capacities and how to access them. This includes strengthening the intelligences and learning how to interpret and work with the information we receive from each intelligence. Stage III involves learning how to teach content-based lessons that apply different ways of learning and knowing to the content. Lazear points out that 95 percent of the material teachers receive comes in the form of linguistic and logical-mathematical. Stage IV encourages teaching students how to use all of the intelligences to improve their effectiveness in school and everyday situations.

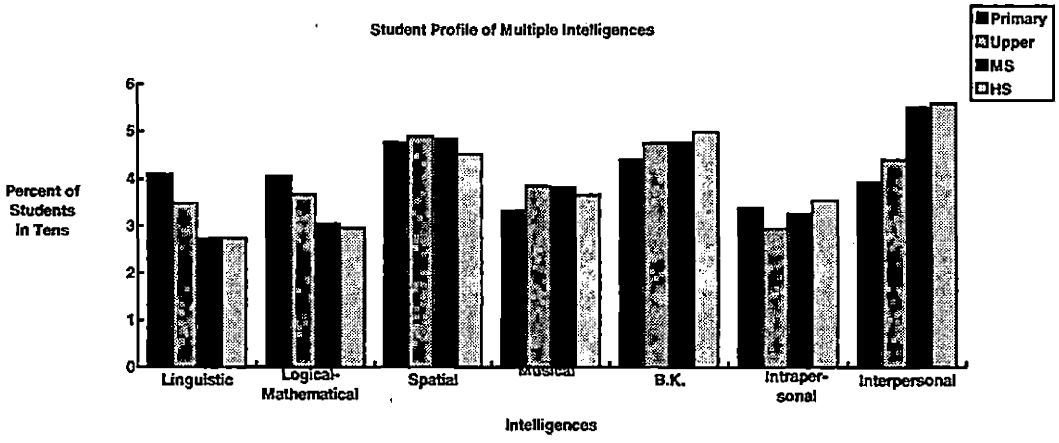
Once students have determined how they best learn, they are able to feel in control of their educational experiences. A number of different assessment tools are available for students to determine their dominant intelligence (Appendix A). These range from informal teacher assessment, to parent surveys, personal interviews/questionnaires, and self analysis (Lazear, 1994), to formal assessment scales available for purchase (Teele, 1994).

Most often it is believed that when a child is unsuccessful in school, it is an indication that something is wrong with the child. Recent research has established that teachers who employ instruction according to the MI theory empower students to be successful in school. This finding is imperative when special education students are considered, as they tend to struggle in the typical school setting.

According to Armstrong (1987), schools have allowed a plethora of imaginative kids to go unrecognized and let their talents remain untapped simply because educators focus on numbers, words, and concepts, and not enough on images, pictures and metaphors. Many of these children may be incorrectly placed in learning disability classes while

others may be wasting away in regular classrooms, in part because educators have not been able to figure out how to make use of their talents in the school setting.

Teele (1994) conducted a study in which she attempted to determine which intelligences were most dominant at each age level. She divided the schooling years into four categories, primary elementary, upper elementary, middle school (MS), and high school (HS). Students were given the "Teele Inventory of Multiple Intelligences", a test in which students choose one of two activities preferred when given two similar, yet separate activities to choose from. For example, reading alone or reading with others. The following graph demonstrates the results:



From the graph, information regarding age norms and teaching implications can be derived. For example, middle school and high school students prefer and excel in interpersonal learning activities while primary elementary

students perform best with bodily-kinesthetic and spatial learning experiences. Although all students possess each intelligence, "the focus should be to address these dominant intelligences and allow transfer to less dominant intelligences take place." (Lazear, 1994, p. 79).

Teele gave an inservice to teachers in the Corona-Norco Unified School District in which she offered ideas and lesson plans to foster teaching to the multiple intelligences of students. The following are instructional strategies that can be used to address each intelligence:

Linguistic Intelligence:
-write plays, tell stories
-describe, list, define, research
-play "hang-man" with spelling words
-omit spelling words from sentences
-write from different perspectives
Logical-Mathematical Intelligence:
-categorize, list
-ask/answer why
-math crossword, created by students
-spelling words in alphabetical order
-create crossword/scrabble
-graph/chart
Spatial Intelligence:
-math through patterns
-picture vocabulary for science and social studies
-draw pictures around spelling words to describe
-design, create, recreate
-maps
Musical Intelligence:
-spelling while dancing and singing
-write lyrics with vocabulary
-create music/songs/raps for science and social studies
-explore music of the period for social studies

Bodily-Kinesthetic Intelligence:
-games
-dance, act out a scene
-fine motor skills
-hands-on activities
Intrapersonal Intelligence:
-journal writing, reflecting
-oral speaking/debates
-independent projects
Interpersonal Intelligence:
-cooperative groups
-organizing information
-interacting/socializing about a topic

Many individuals who in past decades were considered brilliant creators would today be referred to special education (e.g. Albert Einstein, Vincent Van Gogh). Often these prodigies found school mundane and uninteresting, many dropped out, while others were thought of as poor students by their teachers. In fact, as history makes clear, these people were extremely intelligent, however their dominant intelligence(s) were not those that were traditionally valued by the school system. The focus was most often on reliance of traditional IQ measures to determine school placement, and the preoccupation with verbal and logical mathematical ability has diverted our attention away from other aspects or kinds of intelligences that reside within every child. (Hearne & Stone, 1995, p. 439).

According to Sternberg (1994, p. 48), in everyday life the person who is looked upon as intelligent is the individual who is capable of figuring out what he or she does and does not do well and then capitalizing on this knowledge. In the school setting, those students that have high analytical ability tend to be most favored, while those who are high in the creative aspect of intelligence are often not at the top of their class. Conventional teachers have certain expectations for the way in which assignments are to be completed. The student who chooses to be more creative repeatedly violates the expectations of the teacher and is marked down. This can lead to student frustration, dissatisfaction with school, and low self esteem. This in turn leads to poor academic performance, and a slow downward spiral that causes the student to believe that he is not capable of finding success in school.

According to Hearne and Stone (1995, p. 440) the field of learning disabilities has been deficit driven, focusing on remedial education, intervention, and compensatory education. The students' days were structured to focus on their weaknesses rather than their strengths.

Often these programs present isolated, disconnected and uninteresting tasks that are not even mildly successful in affecting the lives of the students. "Regardless of what they (learning disabled students) look like in research journals, we know they have incredible talents generally undervalued or not well represented in our curricula." (Hearne & Stone, 1995, p. 441).

Hearne and Stone found that when instruction incorporated the MI theory, providing challenging learning experiences based on varied creative and intellectual characteristics, 36% of students labeled learning disabled (LD) demonstrated traits of gifted behavior. Furthermore, when completing tasks based on their own interests, LD students were able to show extraordinary abilities and were highly motivated.

Teele (1995) spent seven months at the Green Tree East kindergarten through sixth grade school that opened in 1992 practicing the MI theory. The school's special education program implemented a full inclusive model that created a partnership between the regular classroom teacher and the special education teacher. The focus was on what the students could do, rather than on what they could not do.

The students' strengths were stated and a consultative plan was developed and reviewed monthly. The resource specialist focused on assisting students through instruction in their dominant intelligences. This enabled students to learn through their strengths and translate their learning from their stronger intelligences to their less dominant intelligences. The experience was viewed as very positive for the students as they came to realize that they were, in fact, intelligent.

The Key School in Indianapolis, was one of the first to apply the MI theory with positive results (Campbell, Campbell, & Dickinson, 1992). The goal in this inner city elementary school was to nurture each student's multiple intelligences on a daily basis. Pods were formed in which children were placed in multi-aged groups to explore common interests through a range of topics, such as architecture, computers, games, theater, gardening, etc. Of 168 students from diverse backgrounds and abilities, all but three scored at or above grade level on the 1988 state-mandated Indiana State Educational Proficiency Achievement Tests. This was attributed to the fact that limitations were

removed and students were encouraged to learn in a greater variety of active ways.

A study conducted by Minner (Hearne and Stone, 1995, p. 442) found that gifted teachers, who often employ more creative, divergent thinking MI teaching techniques, were less likely to refer learning disabled children to remedial programs. This indicated that when LD children are allowed to learn according to their strengths, they were not viewed as disabled. If learners are given the opportunity to frame problems in their own way, they might better identify their own unique means of making sense of the world around them. This flash of understanding allows them to demonstrate their ability to learn, understand, and produce valuable products, empowering the students to become motivated to continue their pursuit of knowledge.

The New City School, an independent preschool and elementary school in St. Louis, has used the MI teaching theory for six years. Each spring the Stanford Achievement Test is administered to students in grades one through six. They have reported that over one-half of the students have consistently scored more than two years above grade level. They attribute this to reaching students in different ways through the use of MI theory (Hoerr, 1994).

Sternberg (1994) has warned that Gardner has not conducted even one empirical test of the theory and is concerned that educators will falsely raise expectations that will later be dashed, forcing education to return to the three Rs. Sternberg (1994, p. 562) believes that although MI theory helps educators realize the multiple nature of abilities, it does not provide a clear road to school reform. "Gardner's theory may help us produce better dancers, athletes, and musicians...but it focuses away from rather than toward the traditional academic abilities in which our students are weak."

Contrary to what Sternberg has feared, Bruce Campbell (1994, p. 12) researched the effects of using MI Theory in his classroom. He claimed the following results: 1) students developed increased responsibility, self-direction, and independence over the course of the year, becoming skilled at developing their own projects, gathering necessary resources and materials, and making well-planned presentations. 2) Discipline problems were significantly reduced. 3) All students developed and applied new skills. 4) Cooperative learning skills improved in all students. 5) Academic achievement

improved as measured by both classroom and standardized tests.

Even children who have no problem in the traditional school setting do have difficulties when it comes to working with others and compromising. With the MI model, these students' weaker intelligences (interpersonal and intrapersonal) can be addressed through curriculum that incorporates teamwork, cooperation, and reflection. Thus, even successful students are able to become more successful as they are given skills they will need in the work place in later years.

Campbell (1992) incorporated the MI teaching model in his third through fifth grade classroom. As a result, the students' learning improved as measured by classroom standards and standardized testing.

> Retention was high on a classroom year-end test of all areas studied during the year. Methods for recalling information were predominantly musical, visual and kinesthetic, indicating the influence of the different intelligences. Students who had previously been unsuccessful in school became successful achievers in new areas. (Campbell, 1992, p. 201)

Furthermore, Campbell found that using the MI theory emphasized learning and learning how to learn rather than teaching. Students' needs were met as their interests and developmental needs dictated the direction of the program.

The model adapted to the students, rather than expecting the students to adapt to it.

Sternberg (1994, p. 51) stated "I used to think that many of my students were not very bright when it came to the subjects I taught. When I began diversifying my instruction and assessment (sic), I discovered that many students who I thought could not do well could, if I gave them the chance." The most important aspect in teaching according to the MI model is to provide a variety and balance of learning situations which allow all students to be reached. Students need to learn to remediate and compensate for weaknesses, allowing students flexibility in how they learn helps them to use their more dominant intelligences as a means of transferring information to their weaker intelligences.

"The implementation of MI in activities and programs is intended to motivate students while giving them the self-confidence to achieve." (Smerechansky-Metzger, 1995, p. 14). The variety of experiences children participate in provides them with the opportunity to work with others, self-direct their learning, assume leadership roles, reflect upon their learning, and most importantly, increase academic achievement and retention of knowledge because the pure enjoyment of participating in the activities. MI

allows the individual potential of each student to be realized.

At Clara Barton School in Minneapolis, MN, goal setting which incorporated the MI theory allowed parents to have an increased awareness and respect for their child's abilities. The label of "intelligence" for these abilities reinforced the importance of the skill and gave the child a new status as "intelligent." As students became aware of the various means through which one can exhibit intelligence, they broadened their respect for the diversity of abilities that existed within their own classrooms. (Smerechansky-Metzger, 1995, p. 13).

Evidence that teaching aimed at sharpening one type of intelligence will carry over to others and enhance them was provided by researchers at the University of California at Irvine (Pennar, 1996). Preschoolers were given instruction in piano keyboard for several months. As a result, their performance of spatial-reasoning tests improved dramatically. Another study conducted by Professor Catterall of the University of California at Los Angeles integrated the visual and performing arts with social studies and other core subjects for high-risk elementary students. As a result, standardized tests scores in the core subjects were boosted (Pennar, 1996, p. 107).

Project Spectrum schools, directed by David Feldman of Tufts University, incorporated the MI theory of teaching and assessing. The classrooms were equipped with "intelligence fair" materials that allowed children to gain experiences that engaged their several intelligences. These materials allowed teachers to incorporate intelligence fair measures of assessment that respected the different modes of thinking and performance that distinguish each intelligence. For example, young children's language capacity was not assessed in terms of vocabulary, definitions, and similarities, but rather by story telling and reporting abilities. Skills were not assessed in isolation, but rather in actual engagement of activities that relate to the skill. Teachers at these schools reported heightened motivation from students and claimed that children who had previously been considered unexceptional or even at risk for school failure were brought to the fore. (Gardner & Hatch, 1989, p. 7-8).

Lazear (1994) has suggested that a paradigm shift has been occurring in assessment. The trend, which was a result of the discovery of different intelligences or ways of knowing, pointed out that there are no standard students, and thus, there should be no standard tests. Assessment should be conducted involving a variety of

tools, including portfolios, performance based work, scientific investigations, open-ended questions, interviews, student self-report cards, behavior logs, product-problem based projects, and standardized testing. Traditional testing has resulted in bell-shaped curve data, although the growth of knowledge is a J shaped curve. "If our assessment practices are to reflect this growth, we must provide opportunities for students to demonstrate their growing knowledge and learning to us in whatever ways they can."

Assessments must be intelligence fair, based on culturally valued activities that take place in a familiar context (Gardner & Hatch, 1989, p. 6). This need has blurred the distinction between curriculum and assessment, however, assessing and drawing information from the students' activities during curriculum instruction can provide a more authentic assessment of student growth and understanding. Assessment has been an integral part of the learning process and must be part of any educational reform movement or paradigm shift. The key is to match assessment to instruction, allowing the measure to reflect the different ways students learn and are able to demonstrate their knowledge (Teele, 1996).

According to Teele, (1996), assessment is an integral part of the learning process and should be used both formatively and summatively. By using student centered assessment measures, the individual learning capabilities of all students are valued. Furthermore, allowing students multiple means of demonstrating their learning reinforces the value placed on the variety of intelligences through which students learn.

Gardner has asserted that relying simply on standardized tests to determine intelligence is not an accurate assessment. Outside of the school setting, individuals mostly carry out projects; thus, it follows that authentic assessment in school would also involve the use of projects, through a portfolio type of assessment (Siegel & Shaughnesy, 1994, p. 564). Portfolios provide opportunities for students to show what they know and can understand through the attention paid to actual work they have completed.

Gardner's theory is currently proving to be a catalyst for school, curriculum, and assessment reform because it allows individuals to look more carefully at children and examine their potential and achievement in a non-threatening manner. A variety of approaches to teaching and assessment are provided which help students who have

not always succeeded in school finally find a means to increase their learning and demonstrate their knowledge (Gardner, 1994).

We need to examine the possibility that many individuals in our schools, and particularly LD students, simply have talents that mismatch the primary values and expectations of the schools. Hearne and Stone (1995, p. 446) stressed that educators need to frame curricula based on inquiry questions framed by the students themselves, and then explore the topic through various approaches. Activities must be offered that draw on students' talents in areas other than those traditionally valued by schools. Lastly, alternative methods, other than tests, need to be offered to provide students a means of proving their knowledge.

Sternberg (1994, p. 563-564) summarized the importance the MI theory has when it comes to teaching and helping our children find success in school:

> We need to do with our children what we do as adults. We need to help them discover their own patterns of strength and weakness, and then help them to capitalize on their strengths and to compensate for and remediate weaknesses. We need to recognize that there is not just one general ability…each person has a different configuration of abilities, and how these abilities manifest themselves will depend on the tasks they confront in their lives, and the situations in which they find themselves.

CHAPTER III: A CASE STUDY

The MI theory of teaching was incorporated into a third grade classroom in the 1996-1997 school year, after the teacher had received specialized training in how to incorporate MI into curriculum development, instruction, and assessment. National percentile scores from the California Achievement Test, 5th edition (CAT/5) were used to determine academic growth over the year. The student's year-end second grade scores were compared against their year-end third grade scores. The third grade scores were also compared against the Corona-Norco Unified School District's compiled third grade scores to determine whether or not the MI theory provided students with additional skills and approaches to problem solving that would help them achieve more than their peers who had not received this type of instruction. As the chart below demonstrates, student scores increased in reading and math over the course of the year when students were part of an MI classroom:

Grade	Total Reading	Total Language	Total Math	Total Battery
Grade 2	40th percentile	49th percentile	44th percentile	44th percentile
Grade 3	53rd percentile	42nd percentile	52nd percentile	49th percentile

The decrease in the language portion of the testing is assumed to be a reflection of the need to incorporate more traditional instruction and skill practice in the areas of grammar, punctuation, language mechanics, and phonemic awareness, as the test does not provide opportunities to problem solve in a more creative manner on this portion.

The chart below provides information used when comparing the third grade scores in the classroom at Susan B. Anthony Elementary School to those of the school district as a whole:

Group	Total Reading	Total Language	Total Math	Total Battery
CNUSD	43rd percentile	43rd percentile	48th percentile	44th percentile
Anthony	53rd percentile	42nd percentile	52nd percentile	49th percentile

Again, the only area where students in the MI classroom performed below their peers was in language. However, the difference in reading and math percentiles is noteworthy, demonstrating the importance of incorporating the MI approach to teaching into the classroom.

Teachers at Anthony who had received MI training and implemented the approach in their classroom were informally interviewed regarding their opinion of the importance of incorporating the MI theory into teaching. These teachers indicate a decrease in behavior problems, an increase in student enthusiasm, and increased student self-esteem when they incorporate MI into their curriculum and assessment practices. They also report that their attitude toward traditionally low achieving students (those poor at math and/or reading) has become more positive, as they realize that these students are capable of learning if given an avenue more suitable for them to use as learners. Students were especially responsive when it was time for instruction in an area where they knew choices were incorporated, such as math, learning centers, or language arts. They felt ownership of the curriculum and their learning. They were empowered and felt in control of their experiences.

MI theory allows children to come to love learning, improve their self-image, and validate their strengths.

However, the reliance of the public on standardized scores as an indicator of school, teacher, and student success indicates that rote practice of skills should also be a part of the MI program in areas such as language mechanics. If students are to truly grasp the understanding and knowledge they need to perform well on standardized tests they need to be more formally instructed in grammar, punctuation, and language mechanics.

CHAPTER IV: ASSESSMENT APPROACHES

The human brain is multi-faceted and teaching according to the MI model allows students to succeed in areas where they may normally fail. Providing students with the MI tools and opportunities to learn is only the beginning. Assessment also needs to be multi-faceted, allowing students to demonstrate the skills and knowledge they have acquired. The use of portfolios, or compiling student work samples, is an excellent means of recording growth and development through authentic assessment. The next chapter, Lesson Ideas, also offers many opportunities for educators to collect and assess student understanding of concepts. Furthermore, the following list will provide educators with possible, alternative means for assessment. Each intelligence is listed, followed by assessment possibilities.

Verbal-Linguistic:

- written essays for creative thought, application of knowledge, or to explain a historical event
- creation of crossword puzzles to recall historical figures or vocabulary words

- recall of verbal information through question and answer, verbal games and puzzles
- audiocassette recordings - taping their own reading
- poetry writing
- linguistic humor in relation to a story, parts of speech, the writing process, etc.
- formal presentations
- debates
- learning logs and journals
- story writing to show understanding of grammar, syntax and semantics
- retelling of stories, experiments, or events verbally

Logical-mathematical:

- Graphic organizers, such as webs, Venn diagrams, matrixes
- Reflective journal writing, explaining thinking used when solving a problem.
- Higher order problem solving and reasoning, when applying information to new situation
- pattern games
- deductive and inductive reasoning skills
- analysis and critique of literature, historical events, or scientific investigations

- Time line creations
- Creation of story problems

Spatial:

- graphic representation and visual illustrating
- creation of maps
- flow charts and graphs
- video recording and photography
- manipulative demonstrations
- building and sculpting
- posters and brochures
- recognition through pictures of historical events, artwork, figures from history, etc.

Bodily-Kinesthetic:

- lab experiments
- dramatization
- charades and pantomimes
- impersonations
- skill demonstrations
- invention projects
- acting out ideas, thoughts and concepts

Musical:

- creation of songs and raps

- composing of music
- illustrating concepts through sound
- creation of lyrics to demonstrate knowledge for vocabulary, grammar, etc.
- retelling through music

Interpersonal:

- groups interactions and ability to jigsaw
- peer review
- giving and receiving feedback
- ability to empathize
- interviews and questionnaires
- mock trials
- role play and/or dramatic expression
- coaching of others

Intrapersonal:

- journal writing, diaries, learning logs, autobiographies
- personal projections, or the ability to place oneself in a different situation or experience
- metacognitive surveys and questionnaires
- setting and moving toward goals
- individual projects, tests
- personal reflections

CHAPTER V: LESSON IDEAS

The following guide will provide educators with instructional activities for each core subject area incorporating the MI theory of teaching. While third grade core subject areas are used, the approach to instruction may be altered for any grade level.

It is important that all seven intelligences are addressed at least once during the instructional day. This may be done through directed instruction and guided practice, through the use of centers, or by allowing students to choose which activity they prefer. Intelligence is displayed, discovered, and developed through the context of meaningful, culturally significant activities. Students need to be given the opportunity to learn in their more dominant intelligence, allowing them to then transfer their newly gained knowledge to their lesser dominant intelligences.

Spelling:

Adapted from Multiple Intelligences - Lesson Plans for Grades K-6 (Teele, 1994).

Objective: Students will participate in learning experiences using MI theory to practice and learn how to correctly spell the words on a weekly spelling list.

Linguistic:

- Students repeat words verbally as they are written on the board.
- Students write a story using their spelling words.
- Students spell words into a tape recorder and play it back to check correct spelling.
- Students play "hang man" with spelling words.
- Students write "cloze" sentences or paragraphs with spelling words. They trade these with a partner and complete.

Logical-Mathematical:

- Students count the number of letters in each word and group them accordingly.
- Students group words according to the number of vowels in each word.
- Students alphabetize words.
- Students create crossword puzzles with words, trade these with a partner and solve the puzzle.
- Students create word searches with spelling words, trade these with a partner, and solve the puzzle.

- Students categorize words according to parts of speech (noun, verb, adverb, etc.) or spelling rules, phonemic sounds, or other groups as determined by students.

Spatial:

- Students make flash cards of spelling words.
- Students write spelling words and then trace around them with different colors.
- Students draw pictures to illustrate the meaning of the words.
- Students paint spelling words and then decorate them.
- Students write spelling words with consonants in one color and vowels in another.
- Students write words with different colors with chalk on the pavement.

Bodily Kinesthetic:

- Students "air write" spelling as they repeat the correct spelling aloud after the teacher.
- Students pantomime spelling words, followed by oral spelling of the words.
- Students create the letters for the words with their bodies.
- Students spell words with macaroni, or another manipulative.

- Students write spelling words in sand, shaving cream, or another tactile material.
- Students finger paint the words.
- Students spell the words in sign language.
- Students snap or clap the spelling of a word.
- Students jump rope or do jumping jacks to the spelling of words.
- Students play spelling baseball or basketball.

Musical:

- The class sings the spelling of words to familiar tunes.
- Students brainstorm words that rhyme with their spelling words.
- Students create a jingle or poem incorporating their spelling words.
- Students chant spelling words.
- Students dance and spell.
- Students send spelling words to a partner in Morse Code.
- Students create 'raps' with spelling of words.

Interpersonal:

- All activities above that involve working and interacting with others and playing games.

Intrapersonal:

- Teacher allows students to work alone and focus on using metacognitive skills to determine how they best learn their spelling words.
- Students write definitions and appropriate sentences for each spelling word, demonstrating that they understand the meaning.
- Students copy words onto their paper from board or list.
- Students type words repeatedly on a computer.
- Students visualize words, draw the picture they visualized and then write the word above the picture.
- Students practice writing correct spelling of words while listening to music.

Math - Multiplication:

Objective: Students will participate in learning experiences using the MI theory in order to understand the process, practice and master multiplication facts.

Verbal - Linguistic:

- Incorporate literature to be read aloud:
    - Anna's Mysterious Multiplying Jar, by Masaichirao and Mitsumasa Anno, (New York: Philomel Books, 1983).

- One Hundred Hungry Ants, by Elinor J. Pinczes, (New York: Scholastic, 1993).
- Sea Squares, by Joy N. Hulme, (New York: Hyperion Paperbacks for Children, 1991).
- Bunches and Bunches of Bunnies, by Louise Mathews, (New York: Scholastic, Inc., 1978).
- 2 X 2 = Boo!, by Loreen Leedy, (New York: Holiday House, 1995).
- Each Orange had Eight Slices, by Paul Giganti, Jr., (New York: Greenwillow Books, 1992).
- One Grain of Rice, by Demi, (New York: Scholastic, 1997).

- Imitate the author's style to write your own multiplication book.
- Listen to poems on multiplication facts.
- Write poems or stories which incorporate multiplication facts (Three birds each with two eyes, 3 X 2 = 6).
- Write your own multiplication problems in the form of word problems.
- Write riddles or rhymes describing multiplication facts.

Logical-Mathematical:

- Read and recite multiplication facts in sequence and order.

- Create a multiplication chart.
- Create a skip-counting (multiplication) book to explore pattern of multiplication.
- Use a 100 grid to color in number facts (twos, threes, etc.)
- Use finger tricks to master multiplication facts.
- Write the addition equivalent for each multiplication problem (2+2+2=6, 2X3=6).
- Use calculators to solve problems.
- Incorporate computer programs and games that reinforce multiplication facts.

Spatial:

- Find things that come in twos, threes, etc. and illustrate these.
- Use flash cards to practice facts.
- Write facts in different colors.
- Paint multiplication facts.
- Create a multiplication chart using different colors to represent different fact families.
- Create a "House of ___". The house of fives would have numbers zero through twelve on the windows with the product of five times that number inside the window.

Bodily-Kinesthetic:

- Use items to demonstrate facts (two cookies on each of three plates 2X3=6).
- Do jumping jacks counting by twos, threes, etc.
- Play relay games with facts.
- Use a beach ball with multiplication facts, have students catch ball and recite problem and answer.
- Use manipulatives to make multiplication facts.
- Roll dice and have students multiply the two numbers.
- Play multiplication basketball or baseball with facts.
- Play Around the World with multiplication facts.

Musical:

- Play and sing Multiplication Rap and Multiplication Rock for the different facts.
- Students create own rap songs for different facts.
- Students practice facts with classical music playing.
- Snap and or clap multiplication facts, creating different rhythms for twos, threes, fours, etc.

Interpersonal:

- All activities above that involve working and interacting with others and playing games.

Intrapersonal:

- Teacher allows students to work alone and focus on using metacognitive skills to determine how they best learn their multiplication facts.
- Have students write facts in sand, with paint, or through other forms of tactile materials.
- Clap or snap multiplication facts.
- View the video Multiplication Rock.
- Draw pictures to illustrate facts.
- Memorize multiplication facts.
- Use timed tests to practice facts.

Science:

Objective: Students will participate in learning experiences using the MI theory in order to understand a science concept such as the water cycle, sound, the life cycle, simple machines, etc.

Verbal - Linguistic:

- Students are given vocabulary words which they look up.
- Students write sentences or a story incorporating the vocabulary.
- Students read and explore literature related to topic.
- Students read poems and riddles related to the topic.

- Students research and make presentations on sub-topics, acting as experts.
- Students write poems or riddles that reinforce concept.
- Students write reflectively on what they have learned and how this affects their life.

Logical-Mathematical:

- Students follow the scientific process to explore concepts.
- Students take surveys and make graphs.
- Students classify and group items.
- Students identify different processes or concepts as they appear in real life.
- Students make board games related to the topic.
- Students conduct step-by-step experiments to test hypotheses.
- Students use graphic organizers to record information.

Spatial:

- Students create comic strips to retell a concept.
- Students make posters which illustrate concept.
- The class creates a visual KWL (Know, Want to know, Learned) chart which is updated daily.
- Graphic organizers are used to reinforce a concept.
- Students view videos related to the topic.

Bodily-Kinesthetic:

- Students perform hands-on experiments.
- Students collect items and bring them in as they pertain to the topic.
- Students pantomime concepts they have learned.
- Students perform plays or act out poems related to the concept.

Musical:

- Students sing songs that reinforce concepts (i.e. The Water Cycle song).
- Students write songs or raps to explain various processes.
- Students bring in music that is related to the topic discussed.

Interpersonal:

- All activities above that involve working and interacting with others and playing games.

Intrapersonal:

- Teacher allows students to work alone and focus on using metacognitive skills to determine how they best learn and work.
- Students illustrate concepts.

- Students keep logs and daily dairies on experiences and/or changes.
- Students categorize vocabulary words.
- Students write creative stories using the knowledge they have gained.
- Students keep a journal regarding what they know, want to know, and have learned.

Social Studies - Native Americans

Objective: Students will participate in learning experiences using the MI theory in order to explore the lifestyle and history of Native Americans (or any other topic related to the social sciences).

Verbal-Linguistic:

- Incorporate literature, fictional, non-fictional, biographies, etc. to provide ample support material for students.
- Students write myths, fables, and legends based on information they gain.
- Students write a legend that they want passed down to future generations.
- Students create their own symbolic alphabet that reflects current cultural values.

- Students write myths appropriate for the 1990's.
- Students research the effect of explorers on Native Americans. They write about or present their information orally or through a play.

Logical-Mathematical:

- Students create game boards which retell a story or myth.
- Students graph information.
- Students chart the location of Native American tribes on a map.
- Students use maps to gather information.
- Students research Native American calendars and compare it to calendars used now.
- Students categorize information.
- Students create a time line.
- Students create a code and send messages to other students.
- Students partake in simulations.
- The students create a barter system.

Spatial:

- Students view videos on topic.
- Students create murals of villages, homes, etc.

- Students visualize what life was like as they are led through guided imagery.
- Students use Venn diagrams and other graphic organizers to record information.
- Students locate the homes of different tribes on a map.
- Students create a house that would work effectively with the environment in their own area.
- Students design costumes and masks that could be used by tribes.
- Students imitate art (totem poles, sun dials, masks, etc.).
- Students create original art inspired by Native American studies.
- Students create film strips or comic strips depicting life or important events.
- Students write stories or letters using Native American pictographs.
- Students reconstruct miniature homes (adobes, hogans, teepees, etc.) which depict Native American dwellings.
- Guest speakers are invited in.
- Realia is brought in to show the students tools, utensils, and clothing used.

Bodily ~ Kinesthetic:

- Students participate in games Native Americans played.
- Students create their own games.
- Students learn dances and create their own dances. These dances may tell stories, may reflect a god, demonstrate hunting or other skills, etc.
- Students act out or pantomime Native American rituals, important events, or daily life activities.
- Students learn sign language of Native Americans.
- Students make food that Native Americans made.
- Natural ingredients are used to dye clothing in the classroom.

Musical:

- Students are exposed to music from various Native American tribes.
- Students create their own music using similar instruments.
- Students create instruments from natural objects.
- Students make up dances to music from Native American tribes.

Interpersonal:

- All activities above that involve working and interacting with others and playing games.

Intrapersonal:

- Teacher allows students to work alone and focus on using metacognitive skills to determine how they best learn and work.
- Students keep a daily diary reflecting what their life as a Native American would be like.
- Students list tribes and their ways of life, and compare different tribes.
- Students perform research related to a specific topic (clothing) and write a report which may be presented orally.
- Students sequence events.
- Students make a dream catcher that reflects their personality.
- Students create their own pictographs.
- Students describe moods portrayed by music.

Language Arts:

Objective: Students will be exposed to a variety of literature and literature based experiences including reading, reflecting, writing, retelling, comprehending, and inference making through the use of MI theory teaching.

Verbal-Linguistic:

- Provide students with ample literature covering a variety of genres.
- Allow students to record themselves reading and let them share and listen to this.
- Encourage students to discuss author's style, point of view, theme, main idea, character motivation, plot, conflict, resolution, etc.
- Students role play various characters and are put on the "hot seat."
- Provide students with Literature Circle guidelines.
- Encourage book talks.
- Students keep journals on what they have read, or from the point of view of a character.
- Students write and explore poetry that they share with others.
- Students read with others, both as peers, and acting as tutors for younger students.
- Publish student work and have these publications available for students to read.
- Rewrite stories read, changing the ending, characters, conflict, etc.

Mathematical-Logical:

- Students sequence stories.
- Students use graphic organizers to compare characters, authors, stories, etc.
- Students create story matrixes to compare literature pieces, author style, etc.
- Students explore cause and effect and hypothesize about alternatives.
- Students chart parts of speech.
- Students list pros and cons of actions, likes and dislikes of characters, etc.
- Students follow the step-by-step process of writer's workshop.
- Students use word processors in their writing.
- Students categorize books according to theme, etc.
- Engage students in finding relationship among books, authors, characters and events.

Spatial:

- Students retell literature through pictures and art.
- Students write plays and act out scenes from books.
- Students read about artists and employ their artistic style.

- Students are given pictures to stimulate creative writing (a flower field, the beach, etc.)

Bodily-Kinesthetic:

- Students act out what they have read.
- Students are allowed to move and wiggle when they read and write.
- Students put on creative puppet shows or show based on literature they have read.
- Students interview others and write up the interviews.
- Give the students writing prompts that incorporate the tactile senses (writing about grass, the sun, etc.).
- Encourage students to read about sports, dance, and other activities that interest them.

Musical:

- Allow students to listen to music when writing.
- Students write about different types of music and the effect it has on their moods.
- Encourage children to read lyrics and analyze them.
- Students write their own lyrics.
- Students write poetry that involves meter, rhyme and rhythm.

Interpersonal:

- All activities above that involve working and interacting with others and playing games.

Intrapersonal:

- Teacher allows students to work alone and focus on using metacognitive skills to determine how they best learn and work.
- Have books on tape available to students.
- Students write stories and reflections based on what they have read.
- Set up a writer's workshop program and a writing center, supplied with various writing tools, paper, etc.
- Students write letters to characters or authors.
- Students write if/then books.
- Students are encouraged to create original art based on what they have read.
- Students chart story happenings.

APPENDIX A

CHECKLIST FOR ASSESSING STUDENTS' MULTIPLE INTELLIGENCES

Source: adapted from Multiple Intelligences in the Classroom by Thomas Armstrong.

Name of Student_____

Check items that apply:

Linguistic Intelligence:

_____ writes better than average for age
_____ spins tall tales or tells jokes and stories
_____ has a good memory for names, places, dates, or trivia
_____ enjoys word games
_____ enjoys reading books
_____ spells words accurately, or does developmental spelling that is advanced for age
_____ appreciates nonsense rhymes, puns, tongue twisters, etc.
_____ enjoys listening to the spoken word
_____ has well developed vocabulary for age
_____ communicates to others in highly verbal manner

Other linguistic strengths:

Logical-Mathematical Intelligence:

_____ asks a lot of questions about how things work
_____ computes arithmetic problems in his/her head quickly
_____ enjoys math class, or manipulating numbers
_____ finds math computer games interesting and fun

_____ enjoys playing chess, checkers, or other strategy games
_____ enjoys working on logic puzzles or brainteasers
_____ enjoys putting things in categories or hierarchies
_____ likes to experiment in a way that show higher order cognitive thinking processes
_____ thinks on a more abstract or conceptual level than peers
_____ has a good sense of cause-effect for age

Other logical-mathematical strengths:

Spatial Intelligence:

_____ reports clear visual images
_____ reads maps, charts, and diagrams more easily than text
_____ daydreams more than peers
_____ enjoys art activities
_____ draws figures that are advanced for age
_____ likes to view movies, slides, or other visual presentations
_____ enjoys doing puzzles, mazes, "Where's Waldo?" or similar visual activities
_____ builds interesting three-dimensional constructions for age level
_____ gets more out of pictures than words while reading
_____ doodles on workbooks, worksheets, or other materials

Other spatial strengths:

Bodily-Kinesthetic Intelligence:

_____ excels in one or more sports

_____ moves, twitches, taps, or fidgets while seated for a long time in one spot
_____ cleverly mimics other people's gestures or mannerisms
_____ loves to take things apart and put them back together again
_____ puts his/her hands all over things
_____ enjoys running, jumping, wrestling, or similar activities
_____ shows skill in craft
_____ has a dramatic way of expressing himself/herself
_____ reports different physical sensations while thinking or working
_____ enjoys working with clay or other tactile experiences

Other bodily-kinesthetic strengths:

Musical Intelligence:

_____ tells you when music sounds off-key
_____ remembers melodies of songs
_____ has a good singing voice
_____ plays a musical instrument or sings in a choir
_____ has a rhythmic way of speaking and/or moving
_____ unconsciously hums to himself/herself
_____ taps rhythmically on the table or desk as he/she works
_____ sensitive to environmental noises
_____ responds favorably when a piece of music is played
_____ sings songs that he/she has learned outside of the classroom
_____ listens to songs on the radio or stereo everyday

Other musical strengths:

Interpersonal Intelligence:

_____ enjoys socializing with peers
_____ seems to be a natural leader
_____ gives advice to friends who have problems
_____ seems to be street-smart
_____ belongs to clubs, committees, or other organizations
_____ enjoys informally teaching other kids
_____ likes to play games with other kids
_____ enjoys cooperative classroom activities
_____ has two or more close friends
_____ has a good sense of empathy or concern for others
_____ others seek out his/her company

Other interpersonal strengths:

Intrapersonal Intelligence:

_____ displays a sense of independence or a strong will
_____ has a realistic sense of his/her strengths and weaknesses
_____ does well when left alone to play or study
_____ marches to the beat of a different drummer in style of learning
_____ has an interest or hobby that is not talked about often
_____ has a good sense of self-direction
_____ prefers working alone to working with others
_____ accurately expresses how he/she is feeling
_____ is able to learn from his/her failures and successes in life
_____ has high self-esteem
_____ reacts with strong opinions to controversy

Other intrapersonal strengths:

SELF-ASSESSMENT FOR DETERMINING MULTIPLE INTELLIGENCE STRENGTHS

Source: from San Bernardino County Superintendent of Schools

Where does your true intelligence lie? This quiz can help you determine where you stand. Read each statement. If it expresses some characteristic of yours and sounds true for the most part, write "T". If it doesn't, mark "F". If the statement is sometimes true and sometimes false, leave it blank.

1. ____ I'd rather draw a map than give someone verbal directions.
2. ____ I can play (or used to) a musical instrument.
3. ____ I can associate music with my moods.
4. ____ I can add or multiply quickly in my head.
5. ____ I like to work with calculators and computers.
6. ____ I pick up new dance steps quickly.
7. ____ It's easy for me to say what I think in an argument or debate.
8. ____ I enjoy a good lecture, speech, or sermon.
9. ____ I always know north from south no matter where I am.
10. ____ Life seems empty without music.
11. ____ I always understand the directions that come with new gadgets or appliances.
12. ____ I like to work puzzles and play games.
13. ____ Learning to ride a bike (or skates) was easy.
14. ____ I am irritated when a hear an argument or statement that sounds illogical.
15. ____ My sense of balance and coordination is good.
16. ____ I often see patterns and relationships between numbers faster and easier than others.
17. ____ I enjoy building models or sculpting.
18. ____ I'm good at finding the fine points of word meanings.
19. ____ I can look at an object one way and see it turned sideways or backwards just as easily.
20. ____ I often connect a piece of music with some event in my life.
21. ____ I like to work with numbers and figures.

22.____ Just looking at shapes of building and structures is pleasurable to me.
23.____ I like to hum, whistle, and sing in the shower or when I am alone.
24.____ I'm good at athletics.
25.____ I'd like to study the structure and logic of languages.
26.____ I'm usually aware of the expressions on my face.
27.____ I'm sensitive to the expressions on other people's faces.
28.____ I stay "in touch" with my moods, I have no trouble identifying them.
29.____ I am sensitive to the moods of others.
30.____ I have a good sense of what others think of me.

Scoring:

Place a check mark by each item you marked as true. Add your totals. A total of four in any of the categories A through E indicates strong ability in that intelligence. In categories F and G a score of one or more means ability exists in these areas as well.

A Linguistic	B Logical-Mathematical	C Musical	D Spatial
7____	4____	2____	1____
8____	5____	3____	9____
14____	12____	10____	11____
18____	16____	20____	19____
25____	21____	23____	22____

E Bodily-Kinesthetic	F Intra-personal	G Inter-personal
6____	26____	27____
13____	28____	29____
15____		30____
17____		
24____		

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