

Table of Contents

Introduction	4
Theory of Multiple Intelligences	5
Teaching with the Multiple Intelligences	12
How to Use This Book	13
Multiple Intelligence Assessment	16
Multiple Intelligences Activities	
Verbal/Linguistic Intelligence	25
Teaching Students About the Verbal/Linguistic Intelligence	28
Accessing Verbal/Linguistic Intelligence	33
Verbal/Linguistic Activity Sheets	44
Logical/Mathematical Intelligence	66
Teaching Students About the Logical/Mathematical Intelligence	69
Accessing Logical/Mathematical Intelligence	74
Logical/Mathematical Activity Sheets	87
Visual/Spatial Intelligence	111
Teaching Students About the Visual/Spatial Intelligence	114
Accessing Visual/Spatial Intelligence	122
Visual/Spatial Activity Sheets	131
Bodily/Kinaesthetic Intelligence	155
Teaching Students About the Bodily/Kinaesthetic Intelligence	158
Accessing Bodily/Kinaesthetic Intelligence	163
Bodily/Kinaesthetic Activity Sheets	174
Musical/Rhythmic Intelligence	195
Teaching Students About the Musical/Rhythmic Intelligence	198
Accessing Musical/Rhythmic Intelligence	202
Musical/Rhythmic Activity Sheets	210
Interpersonal Intelligence	228
Teaching Students About the Interpersonal Intelligence	231
Accessing Interpersonal Intelligence	235
Interpersonal Activity Sheets	244
Intrapersonal Intelligence	256
Teaching Students About the Intrapersonal Intelligence	259
Accessing Intrapersonal Intelligence	270
Intrapersonal Activity Sheets	284

Introduction

The education community has been clamouring for change for many years. Journal headlines suggest solutions. Politicians offer advice. Parents have their ideas of what should be done. There has been a growing trend in home schooling. Teachers are frustrated. Administration seems ineffective. All of this scurrying about has had dire effects on the very people we are trying to help – the students!

What is the solution? Many creative people have developed curricula, new approaches to learning and new teaching techniques. Teachers often go to seminars heralding a “new, improved and guaranteed successful” approach to classroom instruction. These presentations are often inspiring and full of great ideas. More often than not, teachers find themselves going back to their same classrooms, full of intent to implement these ideas, only to find the same textbooks, the same students and the same old attitude about new ideas taking too much energy.

Teachers do not give up their quests for solutions, however. They keep searching, and once in a while they find a theory, technique or idea that really works for them, and they embrace it. Teachers adopted the theory of multiple intelligences because it did not require the discarding of previous ideas. Instead of starting over with some brand new plan, they could just supplement the good things they were already doing with ideas that would reach even more of their students.

The theory of multiple intelligences makes sense. It involves taking what teachers already do in the classroom and expanding that to enable them to be more successful with all of their students. We have all heard quotes about the fraction of our brains that we use. Studies have shown that only 10%–25% of the human brain is actually used. The theory of multiple intelligences ensures whole-brain learning. The use of different parts of the brain guarantees that teachers and students alike will use larger portions of their brains. The theory is encouraging and does not limit anyone to a preconceived notion of how smart they are. It stresses real-life learning, not the memorisation of artificial, irrelevant snatches of information.

Celebrate learning with your students. Let them know that their potential is limitless. Help them to develop into successful, self-confident, well-rounded citizens by incorporating multiple intelligences into their lives. Putting this theory in practice has improved the personal and professional lives of teachers in amazing ways.

Theory of Multiple Intelligences

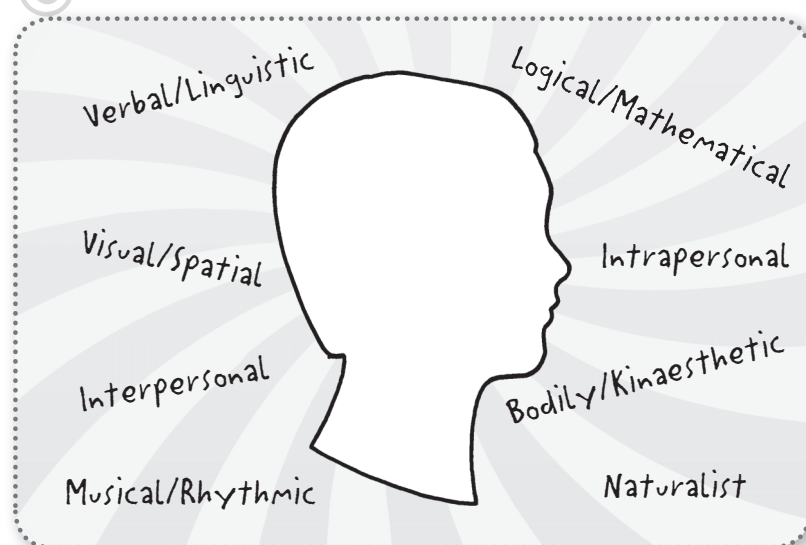
A Review

Traditionally, we have been led to believe that we are born with a certain potential for intelligence, and once we have gone through normal growth and education, we may reach and maintain that level of intelligence. This level can be determined by taking a pen-and-paper test using words, numbers and, maybe, a few pictures. This belief is not particularly encouraging.

In his book *Frames of Mind: The Theory of Multiple Intelligence* (Basic Books, 1983), Howard Gardner gives more hope with the theory of multiple intelligences. This theory proposes that people are not born with all of the intelligence they will ever have. Intelligence can be learned and improved upon throughout life. Everyone is intelligent in at least eight different ways and can develop each aspect of intelligence to an average level of competency (at the minimum). What an implication this theory has for students' success and self-esteem!

Intelligence, as defined by Gardner, is the ability to solve problems or fashion products that are valuable in one or more cultural settings. This allows for people in one culture to be just as intelligent as people in another. Problems or necessary products might vary from one culture to another. In a traditional Western culture it is understood that being able to use words and numbers is what makes a person smart. If students are not word or number smart, they, in effect, are not very intelligent by this measure. Gardner uses an example of people in the South Pacific. These people are considered smart if they are able to navigate by the stars. Numbers and words do not help them at all. Being space smart is more important to them.

Gardner has identified eight intelligences at this time, although he allows that there might be many more. Each of the defined intelligences has passed a test – eight criteria developed by Gardner and his associates. The criteria are summarised on the next page.



Theory of Multiple Intelligences (cont.)

Eight Criteria For Defining the Intelligences

- **Each of the intelligences can potentially be isolated by brain damage.** Gardner worked with people who had suffered brain damage, through accidents or illness, at the Boston Veterans' Administration. He found that in some instances, brain damage could destroy a person's ability in one intelligence area and leave the other intelligences intact.
- **Each of the intelligences exists in exceptional people (savants or prodigies).** This means that there might be people who are exceptionally musically talented but who cannot get along well with others, have difficulty communicating and have a hard time functioning in regular life experiences.
- **Each of the intelligences has a process of developing during normal child development and has a peak end-state performance.** For example, the verbal/linguistic intelligence presents itself in early childhood, while logical/mathematical intelligence peaks in adolescence and early adulthood.
- **Each of the intelligences is evidenced in species other than human beings.** We hear music and rhythm in bird songs. We find the visual/spatial intelligence in a bat's ability to navigate without eyesight. The naturalist intelligence is perhaps the most naturally prevalent.
- **Each of the intelligences has been tested using various measures not necessarily associated with intelligence.** For example, interpersonal and intrapersonal intelligences have been tested with the Coopersmith Self-Esteem Inventory. The Wechsler Intelligence Scale has been used to test logical/mathematical and linguistic/verbal abilities, as well as visual/spatial intelligence through picture arrangements in a sub-test.
- **Each of the intelligences can work without the others being present.** For instance, a student who reads well, with good comprehension, might have trouble building a model using written directions because he/she cannot make a transfer between the two intelligences (verbal/linguistic and visual/spatial).
- **Each of the intelligences has a set of identifiable operations.** Gardner compares this to a computer needing a set of operations in order to function. He suggests that each of the intelligences will one day be able to manifest itself in computer form because we can specify the steps necessary to do what each intelligence enables us to do.
- **Each of the intelligences can be symbolised or has its own unique symbol or set of symbols.** For example, bodily/kinaesthetic intelligence uses sign language. Logical/mathematical intelligence uses computer languages. Interpersonal intelligence uses gestures and facial expressions.

Theory of Multiple Intelligences (cont.)

Identified Multiple Intelligences

The intelligences identified by Gardner all meet these eight criteria. He suggests that there might be others, and that is why his theory is called *multiple* intelligences and not seven (or, more recently, *eight*) intelligences. He has left room for more to be added.

The seven original areas where intelligences have been identified are verbal/linguistic, logical/mathematical, visual/spatial, bodily/kinaesthetic, musical/rhythmic, interpersonal and intrapersonal. The eighth intelligence, naturalist, was identified later. This book focuses on the original seven.

The following is a brief description of each of the defined multiple intelligences. The original seven intelligences will be described more completely under the specific headings throughout the book.

Multiple Intelligence	Description	Learning Style
Verbal/Linguistic	This intelligence involves the use of language and words, whether written or spoken.	This type of learner likes to play with words in reading, writing and speaking.
Logical/Mathematical	This intelligence uses numbers, sequencing and patterns to solve problems.	This type of learner likes to experiment with and explore numbers and patterns.
Visual/Spatial	This intelligence pertains to the use of shape, colour and form, and the relationships among objects.	This type of learner likes to put his or her visualisations into drawing, building, designing and creating.
Bodily/Kinaesthetic	This intelligence uses the body for self-expression. Co-ordination, dexterity, flexibility and strength are all important in this intelligence.	This type of learner likes to move, touch, dance, play sport, do craft, and learn through movement and touch.
Musical/Rhythmic	This intelligence deals with pitch, tone and rhythm.	This type of learner likes to sing, hum, play instruments and generally respond to music.
Interpersonal	This intelligence is the ability to deal with other people. It involves one's ability to perceive what another person is thinking and feeling through body language and gestures.	This type of learner shares, compares, co-operates, has lots of friends, and learns with and from others.
Intrapersonal	This intelligence involves a self-knowledge, being able to identify one's own feelings and moods. Self-esteem and self-discipline are both particular to the intrapersonal intelligence.	This type of learner works alone at his or her own pace, producing original, unique work.
Naturalist	This intelligence involves an ability to understand and empathise with the natural world, including plants and animals.	This type of learner likes to spend time outside nurturing and relating to their natural surroundings. Perhaps the hardest intelligence to fit in a classroom setting!

Multiple Intelligence Assessment (cont.)

In dealing with assessment, there are ways to use the formats we are familiar and comfortable with. Changing our focus and approach might help us to move from traditional assessment to authentic assessment. Evaluate your current methods and take the following into consideration when deciding on the assessment strategies you feel ready to implement. Internalising a new definition of test might help you here.

A test or quiz structure should be considered when genuine and accurate assessment is your goal. This includes letting students know (in advance) what material they are expected to demonstrate their abilities in (to the extent of giving students a copy of the test at the beginning of the instruction period).

The testing environment should encourage the learning process instead of being the end result of learning. To do this, students should be able to explore various ways of producing the desired results. Their (test) efforts will be discussed and evaluated on an ongoing basis. They will have the opportunity to keep working on a project or list of criteria until the desired learning has taken place.

The design of the tests will demonstrate a focus on understanding, rather than mere parrot-like learning. To do this, real-life learning must take place, that is, learning beyond classroom work. There should be a connection between what is being learned in the classroom and what it is necessary to know in the real world. As such, tests can no longer be solely paper-and-pencil instruments. Students should, rather, have the opportunity to prove their knowledge and understanding through hands-on activities that demonstrate their skills. Students should have an understanding of how this learning relates to the world around them.

The evaluation of students' abilities demonstrated through their products should be in accordance with standards and goals set by the school. The evaluation of any project should be done in a way that does show priority for single intelligence areas. This might require the involvement of community members who have developed a high level of performance in the various intelligence areas. Core knowledge and understanding of the learning process, as well as the end result, should be the basis of the evaluation. Having students dialogue about their evaluations might bring clarification when necessary.

Lesson Planning Activities

The following is a list of activities that you can use when creating a logical/mathematical lesson or when you plan to strengthen this intelligence. Use these activities in combination with those listed under other intelligences to develop a well-rounded curriculum.

- Analysing
- Abstract Symbols
- Calculations
- Categorising
- Classifying
- Compare and Contrast
- Critical Thinking
- Deciphering Codes
- Experimentation
- Forcing Relationships
- Formulas
- Graphic Organisers
- Logic Games
- Numbers
- Outlining
- Patterns
- Problem Solving
- Rational Thinking
- Reasoning
- Scientific Thinking
- Sequencing
- Statistics
- Syllogisms (If ..., then ...)
- Synthesis
- Time Lines
- Venn Diagrams
- Writing Problems

Logical/Mathematical Activities Across the Year Levels

Provide students with a collection of random objects. Ask them to divide these objects into categories. These categories should be student generated. Once the items are classified, ask the students to explain how and why they grouped the objects in the ways in which they did. Model this activity by randomly selecting twelve objects from around the classroom. Have students suggest ways that some of the items might be the same. Guide them to categorise all of the items with a logical explanation.

Years P–2: For younger students you might want to make the task more manageable by careful object selection. Do not let the objects be too random. Let them fall into two or three pretty obvious categories that students will recognise.

Years 3 and 4: After students have had practice with this activity, you might decide how many categories there need to be in order to make the task more challenging. Extend the activity by asking the students to use the same objects and classify them differently.

Use the bulletin board idea on the top of page 81 to provide class wide participation in classifying objects.

Step by Step:

Activities that require students to follow step-by-step instructions to complete the project help to develop their problem-solving strategies in a systematic manner.

Priorities:

Helping students to recognise the importance of prioritising encourages them to develop a lifelong habit and involves their ability to sequence things that are important to them.

Logical Thinking:

Developing your students' abilities to use higher-order thinking helps them solve their own problems. Exercises in If ... , then ... circumstances (cause and effect) work well in these situations.

Number Sense:

Recognising numbers all around us and pointing them out to students helps them to acknowledge our use of and dependence on this intelligence area. We see numbers in shops (prices), on roads (speed limits and road names), in addresses, on the calendar, etc.

Teaching Students About the Musical/Rhythmic Intelligence

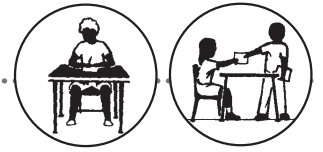
Chapter Five

One rainy weekday afternoon, Melanie and Robert were finished with their homework and were wondering what to do again. They had been having so much fun using their different ways of being smart, but they were anxious to find new things to do. They watched a program on TV about how people put movies together. There were all types of people involved – people who decided what pictures to take, people who took the pictures, people who talked about the pictures, people who put the talking and the pictures together, and people who chose music to match the talking and the pictures. This really fascinated Melanie. She loved to listen to music. Robert liked music too, but he liked music that made him jump, move and run. After the TV program was over, Melanie decided to find music that would fit different ideas that she had been putting together with her words, numbers, pictures and body. Robert saw what she was doing and decided to try to find some music of his own. Together they found some light, bubbly music to match their first snail stories. Then, Melanie wanted to find a slow, serious piece of music to show the time she had spent thinking when she was doing her scientific writing. Robert thought his science ideas were more fun than slow, serious music. He found some music that was loud and had lots of drums in it.

As they listened to different parts of the CDs their family had, they found a really low, sliding sound. Mrs Burns said the trombone made those sounds. It made Melanie and Robert laugh. Robert decided that if the big snail they had found could make a noise, it would have sounded like a trombone. Then Melanie started looking for sounds that the little tiny snail might have made. She found the right sound, but the music moved too fast to match the pace of the littlest snail. Mrs Burns said the flute made that sound. Melanie thought that someday she might like to play the flute and be able to make the flute sound like the little snail might have sounded.

They listened to all types of music. The jazz music they heard made them think of a party where a lot of people were all dressed up. They listened to some popular music that made Robert want to run, jump and move. Melanie turned that off quickly. She did not like the noise her brother made with the music. She found some music that sounded like a little stream trickling over some pebbles. That was the kind of music she wanted to play. But Robert said he would go crazy with that on all of the time. They settled on a CD that had some wild songs for Robert to sing along with and a few quieter pieces of music that could help Melanie think about all of the ways she was smart. She was making big plans to tell the students in her classroom about the ways they were smart too. She was glad there were many ways to be smart. So far they had discovered quite a few. She wondered what the next one would be.

Mrs Burns came back into the room. Melanie told her about all the music they had listened to and how she and Robert liked different kinds of music. She smiled again.



Accessing Intrapersonal Intelligence Through Interpersonal Intelligence (cont.)

Classroom Heroes:

This is a year-round bulletin board display in which students are recognised in turn for their positive behaviour.

A picture of the student being recognised for the week should be placed in the middle of the board. Student (peer)-generated cards or pieces of paper showing (in pictures or words) the positive things the star student has done can be placed around the picture.

This activity might be reinforced at the end of each day during a few minutes of sharing about what positive behaviour has been recognised among classmates.

