

Contents

Introduction	ix
Section One: Getting Started	1
Chapter One: The Multiple Intelligences	3
<i>Gardner's Theory of Multiple Intelligences</i>	4
<i>Gardner's Multiple Intelligences</i>	6
<i>Multiple Intelligences with Centres and Projects</i>	9
Chapter Two: About Centres	11
<i>Creating Centres</i>	12
<i>Types of Centres</i>	20
<i>Moving Into and Out of Centres</i>	21
<i>Establishing Rules and Guidelines</i>	23
<i>Assessing Centre Time</i>	25
Chapter Three: Exploratory Centres	31
<i>Verbal/Linguistic Centres</i>	33
<i>Visual/Spatial Centres</i>	34
<i>Bodily/Kinesthetic Centres</i>	35
<i>Naturalist Centres</i>	36
<i>Logical/Mathematical Centres</i>	37

<i>Musical/Rhythmic Centres</i>	38
<i>Interpersonal Centres</i>	39
<i>Intrapersonal Centres</i>	40
Chapter Four: About Projects	41
<i>Creating Projects</i>	42
<i>Project Models</i>	43
<i>Working through a Project</i>	43
<i>Final Assessment</i>	58
<i>Celebrating</i>	62
Chapter Five: Picture-Essay Project	65
Section Two: Putting It All Together	73
Chapter Six: The Amazing Brain	75
<i>Centres</i>	76
<i>Projects</i>	82
Chapter Seven: Discoveries of the Deep Oceans	89
<i>Centres</i>	90
<i>Projects</i>	94
Chapter Eight: Pirate Treasures	99
<i>Centres</i>	100
<i>Projects</i>	103
Chapter Nine: Space Travel	109
<i>Centres</i>	110
<i>Projects</i>	117
Chapter Ten: Colors of Our World	123
<i>Centres</i>	124
<i>Projects</i>	132

Chapter Eleven: Creepy Critters	137
<i>Centres</i> 138	
<i>Projects</i> 149	
Afterword	153
Appendix A: Junk Box Item Suggestions	155
Appendix B: An Assortment of Recipes	157
Bibliography	163
Index	169

CHAPTER

1

The Multiple Intelligences

One of the many misconceptions about intelligence is that it is fixed—that individuals live and die with the same intelligence they were born with. According to Alfred Binet, intelligence is the ability to use language and do mathematics. Whole educational systems were built on Binet's understanding. His tests marked the student for life. From this single score, a permanent tattoo was imprinted on each student (Gardner 1993, Chapter 1).

As the inner frontier of the human brain continues to be explored, educators are drawn to its mystery. Reuven Feuerstein and his associates (1980) pioneered the work of cognitive modifiability through cognitive mediation. Roger Sperry investigated the different ways the right and left sides of the brain process. Paul MacLean provided insight into the triune brain. Robert Sternberg (1985), Stephen Ceci (1990), and David Feldman (1986) studied the different types of intelligences and asserted that intelligence can be taught. The development of each intelligence depends on how the individual is nurtured.

■ *Gardner's Theory of Multiple Intelligences*

Howard Gardner's theory of multiple intelligences holds that every individual possesses several different and independent capacities for solving problems and creating products. Intelligence, according to this theory, is defined as the ability to solve problems in a particular cultural setting. Gardner's theory of multiple intelligences includes the following four premises (Gardner 1983).

1. **There is more than one intelligence.** Gardner has named eight, but he concedes there may be more (see fig. 1.1 and the Afterword).
2. **Intelligence can be taught.** Areas of weakness and strength can be improved. Intelligences proceed in stages of development from novice to expert—for example, from the appreciator of music to the virtuoso violinist. This developmental process includes four stages: (1) the first exposure that activates the senses, (2) the opportunity to explore and strengthen the intelligence, (3) the formal training of the intelligence through the guidance of teachers and parents, and (4) the “embrace” or the mastery of the intelligence.
3. **A brain is as unique as a fingerprint.** Each person is born with all intelligences. These intelligences are developed through life's journey of learning, experiences, opportunities, influences, and schooling. Every person has areas of strength and weakness (see fig. 1.2).
4. **Intelligences are forever changing throughout life.** Ability and desire change weaknesses and strengths. Teachers must recognize this fact and expect their students to learn. They must believe that every child can learn. Not only must teachers have high expectations for their students, the students must also have a willingness to learn. It is true that “you can lead a horse to water, but you can't make him drink.” The learner has to be stimulated and motivated to understand how the new information will fit into his or her repertoire.

What Is Intelligence According to Gardner?

Gardner defines intelligence as the ability to solve problems and create products valued in a particular cultural setting. He maintains that every individual possesses several different and independent capacities for solving problems and creating products. Let's look at this idea more closely.

Intelligence Is the Ability to Solve a Problem

When two children play a board game and follow the rules step by step, they are solving a problem. People often use their strongest intelligences to solve problems. For example, a person with a strong logical/mathematical intelligence uses words and numbers to give directions. A person with a strong visual/spatial intelligence might give directions using visual cues, such as landmarks. When we use our strong intelligences, problem solving seems natural and easy.