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# INTRODUCTION

## THE WHYS AND WHEREFORES

The rationale supporting the idea of a holistic, integrated, interdisciplinary curriculum is fueled by a number of significant forces that are referred to here as the *winds of change*. These winds of change come from four different directions. The winds from the north and south represent the ideas of the educational *theorists* and the challenges of the school *practitioners*, while the winds from the east and west represent the concerns of *parents* and the perspectives of the *children*. From the theorists come data on teaching and the human brain; from the practitioners comes frustration with an already overcrowded curriculum; from the parents comes concern for student preparation and readiness for issues outside the classroom; and from the children comes a feeling that learning is too fractured and fragmented to apply to real-life situations. A closer look at these cross winds reveals their effect on the current climate and curriculum of our nation's schools.

## THE THEORISTS

The forceful winds of change have brought about curricula that are based on complex experiences in which students are immersed in multiple ways of learning and knowing (Kovalik, 1993; Gardner, 1983). The search for meaning is basic: the brain has memory systems for rote learning and spatial memory and performs many functions simultaneously (Caine & Caine, 1991). Each brain has a unique profile of multiple intelligences—verbal, musical, logical,

spatial, bodily, interpersonal, and intrapersonal (Gardner, 1983). These many ways of receiving information and expressing ourselves lead naturally to integrated curricula, ongoing and authentic projects, student-produced newsletters, and thematic instruction (Willis, 1991).

## THE PRACTITIONERS

Information doubles every year and a half (Burris, 1985). As one university professor told his premed students, “By the time you become acting physicians, 50 percent of what we’ve taught you will be obsolete . . . and we don’t know which 50 percent” (Fogarty & Bellanca, 1989, p. 30). Curriculum overload is a reality that kindergarten to college teachers face every day. Drug education, health and safety, AIDS awareness, consumer issues, marriage and family living, computer technology, and tech prep—there is no end to it. Subject matter content and life skills—thinking, organizing, assessing, problem solving, decision making, cooperating, collaborating, and health and fitness—inundate the schedule.

The problem of trying to cover too much material in too short a time has been aptly described by Hunter. According to Hunter, covering the curriculum is like taking a passenger to the airport. You rush around and hurry up and get to the airport on time, but you leave the passenger at home. In the flurry of curriculum coverage, some students are left behind. Therefore, the winds of change indicate that it is important to seek ways to “selectively abandon” and “judiciously include” certain material (Costa in Fogarty, 1991) by integrating the curriculum both within a single discipline and across subject matter content (Fogarty, 1991).

## THE PARENTS

A father of a thirteen-year-old commented on the fragmentation involved in a typical cellular model of schooling for the eighth grade:

thirty examples to do for math homework, twenty minutes of trombone practice, an autobiography to complete, the verbs to learn for a test, and a chapter to read in the science text.

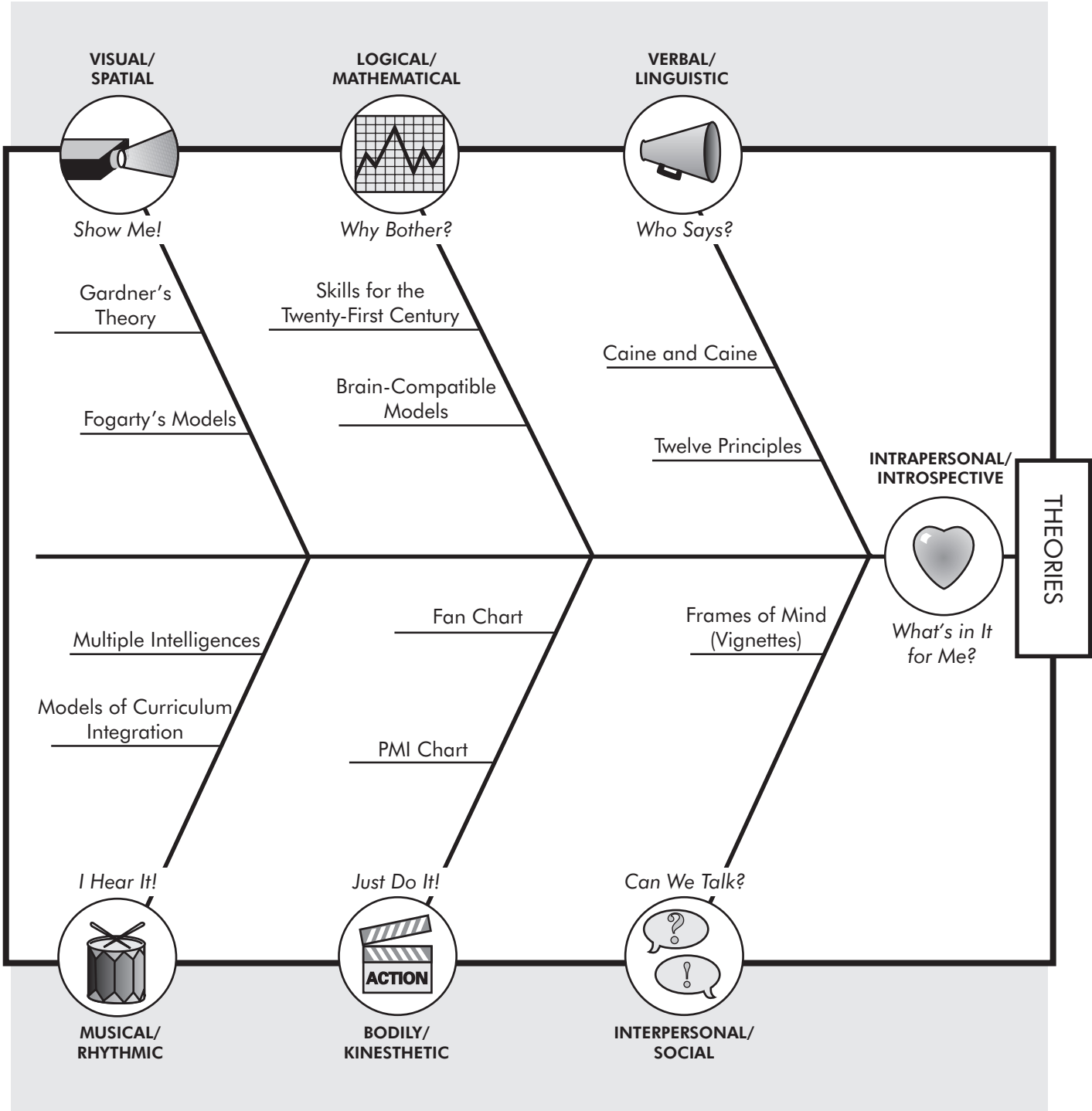
There is a need to examine what students learn under these circumstances. Life can become a treadmill. For some students, “getting through” school becomes a matter of survival. . . . Surely, we must wonder: What do we want kids to know twenty-five years from now? And, we must create organizational structures that eliminate obstacles and enable students to grow and learn. (Carbol, 1990, p. 89)

This wind of change means schooling for a lifetime, not for a test (Bellanca & Fogarty, 1991). In terms of relevant learning, one student sums it up like this: “I have a million things on my mind, and not one of them showed up on the test.”



CHAPTER 1

# Theories



# THEORIES

*Change your thoughts and you change the world.*

—Norman Vincent Peale



## Why Bother?

### WHY BOTHER?

What will students need to know and be able to do twenty-five years from now? What skills will they need for the twenty-first century? What big ideas will help them for the rest of their lives? Futurists believe that students in the twenty-first century will need greatly enhanced communication skills, including speaking, listening, and writing, and higher-order thinking skills that will allow them to be critical and creative. Other skills they will need are those of perpetual learning and accessing, researching, and organizing information. And, they will need strong, healthy self-concepts with self-management skills, self-initiating postures, and high levels of self-responsibility to ensure their health and wellness, which will help them work cooperatively with others to solve problems. Not only will students need to master all of these skills, they will also need to be able and willing to use new technologies in creative ways.

There is a distinctive link between how these skills are learned and certain brain-compatible models, such as Gardner's multiple intelligences theory (1993) and Fogarty's curriculum integration models (1991) based on Caine and Caine's (1991) findings on teaching and the human brain. This chapter elaborates on the extensive findings regarding brain research gathered by the Caines (1991). The rest of the chapter revolves around Gardner's seven intelligences and Fogarty's models of integration.