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Introduction

In the concentrated effort to improve academic achievement and raise the level of standards for student success, educators and politicians seem to have minimized the most important ingredient for success: the focus on the uniqueness of each student's ability to learn. To increase academic achievement in recent years a strong emphasis has been placed on two S's, *standardized testing* and academic content *standards*. A third S should be included in the complex formula for academic success—*students*. As the educational community emphasizes student accountability, there must be much more discussion about how students learn and are able actually to achieve academic success.

If one of the major goals of the educational system is to create learning environments that provide opportunities for students to achieve at higher levels, then curriculum, instruction, and assessment procedures must reflect the different and unique ways in which students learn. Students should become the central focus of all discussions regarding ways to improve academic achievement. Research over the past 10 years has provided significant information regarding the fact that students learn and process information in many different ways. This large body of research should be integrated into all efforts to improve academic achievement.

It has often been stated that all students can learn and succeed, but not in the same way and not on the same day. This is a very powerful statement that must be strongly addressed in the educational system. Most students are capable of learning and achieving higher academic expectations, but not all students are able to succeed in tasks in the exact same way and many cannot achieve at the same time. If students are not taught through methods that allow them to understand the information being presented, they may not be able to comprehend and retain that information.

There are developmental progressions in the learning process. Educators must always be sure they are providing opportunities to scaffold

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experiences for students who are at different stages in the learning process in order to build on and reinforce their learning. This can assist in ensuring that students understand and apply what they are learning to all aspects of their life.

It is important that instruction focuses on the diverse ways in which students to learn. For example, when young children are learning to read,

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write, speak, and listen, it is often the case that they are capable of learning and comprehending concepts, but may require that the information be presented in several different ways or at a different time. Some children may not hear and understand in an auditory way as they begin to read and may need to learn through music, rhythms

and rhymes, pictures, or acting things out. If the method of instruction is not presented in ways that students can understand, their learning can be delayed, which often leads to frustration. Students must experience academic success at an early age or they can become discouraged, may stop trying to learn, and begin to shut down educationally.

This book discusses some of the current issues affecting how literacy is presented in the schools and focuses on ways to teach reading skills to emergent and struggling readers and English language learners. Some of the barriers that hinder students in their efforts to learn to read will be discussed. Strategies that can assist students in overcoming these barriers so they can understand and enjoy reading will be presented. Through the vehicle of the theory of multiple intelligences, methods will be provided that represent different ways teachers can teach students to learn the complex skills necessary to become successful readers. Because educators are aware that students learn in many different ways, it is important that reading skills be taught with many different methods; students can, for example, learn to read through music, pictures and other visual media, acting things out or touching things, sequencing or processing in logical ways, and participating in both independent and group work.

This book is designed for parents, teachers, administrators, and university professors who want to learn ways to teach reading through multiple intelligences strategies, to understand the relationship of the brain to reading, and to discover methods for working effectively with new and struggling readers and English language learners. The book presents information on the processes involved in learning to read and the progression students make from reading to writing. A multifaceted, integrated approach for teaching reading that combines the critical skills

students need in order to become fluent readers is outlined as a way to effectively reach every student.

It is important that both teachers and parents provide opportunities to instill in students a joy for reading while they are developing their reading skills and enhancing their creative potential. In order to accomplish this, reading and writing must be taught through a variety of methods that assist in acquiring the different skills necessary to learn to read.

The fast-paced changes in society and technology being experienced in the 21st century have created an increasing need for individuals to be literate and able to solve problems. Often, complicated problems and situations arise that no one individual can solve alone. These complex problems have required that more collaborative partnerships involving the expertise of others be created and that higher levels of thinking be involved in order to discover solutions or design new ways for analyzing problems. Students must be taught at a very early age to be able to read, comprehend, and interpret texts and materials to enable them to become effective problem solvers.

Calaprice (1996) quotes Albert Einstein as stating that he believed the world that exists is a product of our thinking and cannot be changed unless we change our way of thinking. I encourage educators and politicians to consider changing their thinking about some of the directions being pursued in raising the level of academic achievement. There must be both a stronger emphasis on the many different ways students learn and a greater discussion of how that focus can positively affect assessment measures and higher academic achievement.

All students must learn to read, write, speak, listen, and compute in order to perform effectively and successfully in society today, but they also must learn to analyze critically and reflect on what they are thinking and learning. Students need to see how the academic content being studied can be applied to them personally.

Literacy should be integrated into all the academic content areas and provide students with the skills to think creatively, make decisions, solve problems, envision new ideas, know how they and others learn, be able to reason things out, and apply the content knowledge they are learning into realistic applications.

Bloom's taxonomy (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956)—a hierarchy of educational objectives that begins with knowledge and builds from comprehension to application, analysis, synthesis, and evaluation—should be revisited. Currently, education focuses primarily on knowledge and comprehension, which allow students to recall information on standardized tests. What is required is an increased emphasis on developing students' ability to engage in activities at all levels of the taxonomy and build progressively to the higher levels.

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In Bloom's taxonomy, the first level—knowledge—describes students' ability to recall, memorize, define, or reproduce information. Knowledge allows students to ask such questions as *who*, *where*, *when*, and *how many*. Comprehension, the second level, acknowledges an understanding of

Bloom's Taxonomy

- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

what has been read. Students with comprehension-level skills can understand, describe, review, summarize, discuss, and explain information and can be asked to "*describe in your own words*," "*give examples of . . .*," or answer the question "*What does this mean?*"

Application-level tasks provide opportunities for students to demonstrate, practice, interpret, apply, and illustrate what they know. This skill level requires students to transfer what they know to a new learning situation. Questions such as "*How would you solve this problem in your own life?*" or "*What would you have done if you were there?*" require application-level abilities to answer.

The higher-level skill of analysis requires students to see relationships and engages them in debating, questioning, classifying, categorizing, comparing, contrasting, and differentiating data. Analysis questions, such as asking students to "*explain how items are similar/different*," "*identify parts of a story that are exciting, sad, or funny*," or "*compare and contrast the two main characters in the story*," require students to analyze by categorizing or comparing and contrasting.

Synthesis builds on analysis and involves creative, original thinking. Synthesis-level tasks ask students to compose, design, construct, or assemble information in a new or different way, or to propose new solutions to problems; it focuses on having students create a whole by integrating all parts of the information presented. Such assignments as asking students to "*design X*," "*write a different ending to the story*," or "*draw pictures of the events leading to the conclusion of the story*" require students to synthesize what they know.

Evaluation, the highest skill level, provides opportunities for students to evaluate, judge, assess, measure, and justify ideas, problems, or situations. Evaluation requires students to make judgments based on specific criteria. Questions that represent evaluation-level skills include "*Could this story really have happened during this time period? Why or who not?*" or "*What do you think will happen to the two main characters? Why do you think this will happen? Provide evidence.*" These questions make students focus on the evidence presented in the readings.

Bloom's hierarchy of educational objectives assists educators in understanding that knowledge is only the beginning—students possess academic content knowledge, but they must also understand what they are learning. The more the content is presented in ways that explain to students why this information is important for them to know, the more quickly they can retain and apply that content to other situations. When students are asked to integrate prior knowledge and to analyze, evaluate, and synthesize information based on that knowledge, then they develop stronger and more in-depth skills, are able to solve problems independently, and can critically evaluate data.

It is important that educators understand how they themselves learn and how that affects the way they teach. Often, educators tend to teach in the more dominant ways in which they themselves learn. It is equally important for teachers to know and understand how their students learn. Methods for teaching and assessing students must match how the students—not the teachers—most effectively learn. This understanding is critical to the academic success of all students.

John Dewey (1902) stated that education should not be looked upon as the mere acquisition of academic subject matter, but as a part of life itself. He believed that student learning is essentially a problem-solving, active learning experience where students make sense out of their learning through activities they can understand.

When students become involved in the learning process and are active participants, they become more motivated and understand more clearly why it is important to learn. The active engagement of students is a positive way to increase academic achievement and support the philosophy that there is no one way to teach all students to read, write, speak, and listen.

Tyler (1949) stated many years ago that learning must be guided, monitored, and assessed so that students are stretched to achieve their potential. The educational system both at the university and K–12 levels must work collaboratively to ensure that teachers are properly prepared to assess and guide each student. Students must be challenged to stretch and grow, but first they need to become actively engaged in their learning, to understand how to question and reflect on their newly acquired knowledge.

Students need to be taught in a variety of ways in order to understand what they are learning.

There has been a growing trend over the past few years for some school districts to adopt a more prescriptive format for teaching reading or mathematics that ensures that teachers teach all students in a similar way. The materials in such programs are skills oriented and require

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careful documentation and specific time during the day for each activity. A more prescriptive method can be helpful for newer teachers who may not yet have the skills to teach reading or mathematics. However, documentation and monitoring by the minute may cause teachers to ignore the unique ways in which students learn because they may become so involved with the documentation process that they do not realize they need to provide augmenting activities to enhance student learning.

When districts adopt prescriptive formats for teaching reading or mathematics, they must also focus on the different ways in which students learn to read or compute and must provide continual professional development on how to augment any prescriptive programs with materials that are designed to reach every student.

Students who are learning to read need not only know how to decode words, but also to understand what they are reading in order to encode

We need to focus more on how students learn, and less on test scores and content standards.

skills into long-term memory. (I will discuss the relationship the brain has to learning to read in Chapter 3.) Students should be taught how to progress from isolated bits of information to the ability to organize content into larger

chunks or with a coherent sense of order. This process enables students to remember, retain, categorize, and apply what they are learning and to operate at higher levels of Bloom's Taxonomy.

Currently there is a trend nationally to emphasize standardized testing to assess student achievement. Because this approach focuses more on linguistic and logical-mathematical ways of learning, it can often miss the unique talents, gifts, and abilities of students who may learn more effectively through pictures, music, or acting things out. If standardized testing is the *only* vehicle used to assess students, some students may be restricted from being able to accurately demonstrate their knowledge and understanding of what they have learned. In order to accurately evaluate students' academic performance, educators must accommodate curriculum and assessment measures that reflect the diverse ways students

A greater emphasis in schools must be placed on assisting students in the learning process.

learn. This requires that students be assessed using multiple measures that allow for more innovative and creative ways of expression and that enable them to be assessed in an appropriate way.

If the educational system is to provide opportunities for all students to increase academic achievement, then both instructional and assessment processes must effectively meet the individual needs of every student,

provide opportunities for developing higher-level thinking skills, and place a greater emphasis on assisting students in the learning process.

Because society is changing so rapidly, educators must continuously adapt curriculum to meet more effectively the increasingly complex needs of today's world today. This sometimes creates a conflict in educational paradigms. Students must think creatively and critically and be able not only to understand what they are learning, but also to apply this knowledge in practical applications that often involve the use of technology.

Students must also engage in higher levels of thinking in order to solve problems and increase their academic achievement. The instructional processes being taught should allow for this to occur. Students need to understand theoretical constructs that apply to the academic content being discussed, but they also should be presented with ways to transfer the academic content knowledge into meaningful, relevant situations. They need to know how to integrate content from mathematics, science, social studies, art, language arts, and other areas into a larger context in order to solve problems and comprehend more complex issues.

Even though these expectations for students have been identified, some elementary schools are considering minimizing the teaching of art, music, science, and social studies in order to concentrate only on reading and mathematics. Is it wise to minimize these subject areas in an effort to increase academic achievement? Students need to be exposed to a rich curriculum that helps them understand the relationship of literacy and mathematics to science, history, social studies, art, and music.

Some schools have selected textbooks that focus only on content and not the applications of the content. Such a decision does not assist students who are unable to learn in the more traditional ways. Students must be taught in a rich learning environment in order to prepare them for society. It is expected that students will be able to understand art, music, history, geography, government, economics, science, languages, and technology, as well as how these subjects relate to literacy and mathematics. Can science content be deemphasized at a time when students need to develop an understanding of genetics, biology, geology, chemistry, and physics? Should social studies and geography be minimized in schools at a time when global issues and conflicts around the world and within our own country are dramatically affecting our society? Students need to gain a greater knowledge and understanding of different religious, cultural, and geographical issues as the world becomes more interconnected and interrelated.

CRYSTALLIZING AND PARALYZING EXPERIENCES

Individuals often experience what Walters and Gardner (1986) and Feldman (1980) call crystallizing and paralyzing experiences in school settings that deeply affect and influence how they respond to certain learning situations the rest of their lives. Crystallizing experiences take place when an individual is so engaged in an activity that time is erased. Csikszentmihalyi's (1990) concept of *flow* is another way to describe what occurs when performing a task is so exciting and interesting that an individual becomes deeply immersed and loses all sense of time. The experience is positive, effortless, invigorating, and energizing. Creativity can often evolve when individuals experience such crystallizing moments.

Paralyzing experiences occur when something happens in an individual's life that is dramatic and devastating. The experience can be so traumatic that an individual may stop developmental progress for a period of time in the specific area where the experience occurred. Paralyzing experiences can happen in schooling environments and affect the learning process.

I, personally, experienced a paralyzing experience when I was in the seventh grade. My art teacher told me I was the worst art student she had ever had in school. Because of this comment and because I respected what

Experiences in school settings can be

- Paralyzing
- Crystallizing

my teachers said, I stopped developing my artistic progress. I did not draw again until recently. I was also unable to see pictures at all or process visual information. The interesting thing is that, whenever I thought of this teacher, I could recall vividly every

detail of what she looked like—from the color of her hair and eyes to the color and length of her dress; however, I seemed to remain blocked to seeing any other visual images.

When I began writing books, the development of my artistic ability was reopened. As I wrote my first book, *The Multiple Intelligences School: A Place for All Students to Succeed* (1994), I met with a graphic artist to describe what I wanted the cover of the book to look like. As I described to him what I wanted, he looked at me and said, "I do not understand your words. You will have to show me what you want." So I constructed a collage of what I wanted from which he was able to design the cover. This act helped me to begin overcoming the paralyzing experience that had frozen me spatially since the seventh grade.

The interesting thing about my story is that, as I began to develop my artistic ability, the picture of that teacher faded away. Her picture had been

frozen in my mind and had blocked or paralyzed my artistic ability; once her picture was erased from my mind, I began to recreate and develop the artistic or spatial areas in my brain.

When I wrote my last book, *Rainbows of Intelligence: Exploring How Students Learn* (2000), I sat with a different graphic artist and together we designed the cover of the book on the computer. This was a crystallizing experience for me, and I was completely engaged in the creative process. I had no concept of time as we worked together. Because of these two experiences, I find now that I am able to express myself both linguistically and spatially and at times can draw to explain a concept.

Too often, students experience paralyzing experiences when they are first learning to read and become *frozen in time*. Often, it is because their teachers or parents do not understand that they are able to learn to read but may need to have information presented to them in a different way. Some children learn to read through musical rhymes or spatial, pictorial cues. Others need to experience vocabulary through acting out words, expressions, or sentences.

I would encourage readers of this book to reflect for a moment on the most powerful paralyzing and crystallizing experiences they have had in school that affected them in their life: Consider how these experiences hurt or helped academic progress. I have discovered through presenting workshops to many educators over the years that most individuals have experienced both crystallizing and paralyzing experiences in their lives. These experiences have often affected how they learn in a certain content area. Unfortunately, I have found that individuals remember more paralyzing than crystallizing experiences in the educational system. That is something that should be examined in education. Why does this have to happen so often and what can be done in education to reverse the negative approaches to learning? How can educators create more crystallizing experiences for students that reinforce the academic content being discussed?

More crystallizing—not
paralyzing—experiences
need to occur in school settings.

CHILDREN'S DEVELOPMENTAL PROGRESSIONS

Children begin the process of learning to read and write at a very early age. They begin to understand and learn to speak in a natural, developmental way. Piaget (1951) stated that thinking and learning processes develop through particular stages, at which points children think about the world in fundamentally different ways.

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I have learned in my work with students that most students in Grades K–3 are open to learning to read, write, and compute. The older they get, the less they prefer to learn in this way and the more they desire active, interpersonal, and visual ways of learning. Are we adapting our teaching methods to reflect and include the many different ways our students learn?

Several years ago, I created the *Teele Inventory for Multiple Intelligences* (Teele, 1992, 1997). This instrument is a spatial inventory that examines how students learn according to the theory of multiple intelligences (Gardner, 1983, 1993, 1999). I have conducted extensive studies of the instrument, and data has indicated that students in general process information differently at different grade levels.

The results of the inventory have indicated that students at the primary level demonstrate a much stronger preference for linguistic and logical-mathematical intelligences than do students at the middle and high school levels (Teele, 1994). In Chapter 2, I will discuss the characteristics of the different intelligences, the results of the inventory and how these findings can affect how we teach reading.

Vygotsky (1978, 1986) states that individuals have a unique *zone of proximal development* (ZPD). This is a developmental zone that encompasses the learning potential. It is a measure of an individual's potential for learning when provided a positive, supportive instructional learning environment. The ZPD is defined as the difference between the actual developmental level, as measured by an individual's ability to work independently, and the level where an individual requires assistance from others more knowledgeable.

If teachers or parents present information to students that lie outside their ZPD, they may not be able to comprehend the information they are being asked to learn. It may be that the information needs to be presented in a different way, one more compatible to the way they learn.

Educators and parents need to ask two questions as they begin to work with children: *How much can my students learn on their own?* and *How much can they learn when someone else assists them?* Teachers need to understand each student's ZPD and realize that they must move back and forth in their roles as both a teacher and a facilitator. As they assist students, they must be able to provide methods that address each student's unique ways of learning.

The framework for this book is designed to assist the reader in understanding the powerful relationship between reading and the theory of multiple intelligences. Chapter 2 presents an examination of the theory of multiple intelligences and applications of this theory to reading. Chapter 3 provides information on current brain research and how that research

affects the development of reading skills. Chapter 4 presents the history of the English language's oral and written system, as well as information on the different skills students must learn in order to be able to read and write and the different approaches to teaching reading. A multifaceted, integrated approach for teaching reading is presented as a way to more effectively assist all students in learning to read.

Chapter 5 discusses the processes that children progress through as they move from beginning readers to more fluent readers. Chapter 6 discusses comprehension and writing. Chapter 7 presents structural techniques that can assist students in more effectively comprehending texts. Chapter 8 provides strategies for integrating the theory of multiple intelligences into the teaching of reading. Chapter 9 provides methods for teaching reading to English language learners. Finally, Chapter 10 offers concluding remarks and suggestions for new directions for teaching reading in the future that can assist in overcoming the barricades to reading for all students.