

Introduction

From Potential to Performance

Educators are and I hope always will be concerned with their students' level of achievement. We believe an overarching goal in education is to help all students move from potential to performance. To this end, we have spent millions of dollars and hours conducting scientifically based research studies to find the magic answer to the age-old question: What can we do to help our students achieve? What can we do to bring students up to grade level or challenge them beyond grade-level expectations? How can we help students achieve all they can achieve?

I have come to realize that one basic problem exists. Our definition of achievement is relative: What one person says is an acceptable level of achievement another thinks is unacceptable. Sometimes a student has an exceptional personality or a singular talent, but can't achieve academically. In school, such a student is viewed as unsuccessful. The student feels like a failure. In fact, from a purely academic viewpoint, their grades and their inability or unwillingness to meet state standards verify this. In school, it is what you do academically that counts. But we cannot separate who the learner is and what the learner does, because achievement affects self-esteem and self-confidence, and self-esteem and self-confidence affect achievement. Achievement cannot be easily or narrowly defined or measured.

TRENDS IN ACHIEVEMENT

In the search for answers, many educational fads have come and gone. In the 1970s, "thinking skills" was the latest fad. Educators claimed that teachers weren't asking their students to think deeply about content. The fear was that students were learning information at a rote level, quickly forgetting what they learned or never really learning it at all. The thinking skills movement took hold and "high-level verbs" became the rage. Bloom's Taxonomy became the guiding light and teachers classified their questions accordingly.

But soon, some teachers protested: If we spend too much time focusing on thinking skills, content will be compromised. There won't be enough time to teach content. Articles began to appear in educational journals with titles such as "Content Versus Thinking Skills." The debate continued for years.

The thinking skills movement took a back seat, staff development no longer focused on thinking skill models, and teachers sometimes used Bloom's Taxonomy to address high-level thinking objectives, while others no longer thought much about it. State tests continued to focus on low-level thinking and teachers went back to targeting this level of thinking because that is what the tests were designed to evaluate. Textbook companies targeted low-level thinking in the name of reaching all students. Only their enrichment

activities focused on high-level thinking. Many teachers stopped questioning whether this level of achievement was acceptable.

When the thinking skills movement passed, the learning styles movement took its place. Researchers such as McCarthy, Dunn and Dunn, Meyers Briggs, and others were now telling us that if we just looked at the student's style of learning, we could vary our instructional strategy to accommodate it. Thus, learning styles became the key to achievement. About this time, Howard Gardner (1993) came out with his multiple intelligences. Teachers were now excited about this new way to classify learners. Teachers began to allow students to show what they knew in a variety of ways according to their intelligences. Brain research supported the notion that students learn through a variety of pathways. Neuroscience confirmed that the brain is affected by stress, emotion, and physical activity and that this also affects our ability to learn; therefore, teachers were encouraged to promote active learning rather than passive learning. The stage was set for the differentiation movement.

Among the variety of instructional strategies that became popular at this time, one that held great promise was the graphic organizer. They were easy to use and everyone liked them. They seemed to be a great aid for the many visual learners in the classroom, as well as a useful way to help all students organize and review information. A plethora of graphic organizers emerged, with formats ranging from simple to complex. Teachers liked using them because they provided students with structure. In fact, some teachers became graphic organizer junkies: They used them a lot and were always searching for a new graphic organizer to complement a lesson.

Graphic organizers were, and still are, engaging and useful tools. They enable students to be successful with information they would otherwise have struggled to learn. They've also raised awareness among teachers that students have a variety of needs that can be met through a variety of graphic tools. It became apparent that one graphic organizer will not work in all situations, just as one type of instruction will not suit all students.

DIFFERENTIATION: ANOTHER FAD?

Fast forward to the last ten years or so, when differentiation has become popular. The term originally described the types of curriculum modifications teachers made for gifted and talented students. Teachers were trained to modify the content, process, and/or product of a lesson to meet the needs of the gifted learner. Soon, however, differentiation made its way into the regular classroom, as an instructional approach that targets the needs of all students.

Excitement mounted. Could *this* be the answer to the achievement question? As many schools jumped on the differentiation bandwagon, staff development focused on changing teaching habits—and the results were mixed. Effective change in classroom practice requires careful support and ongoing staff development. After providing one- or two-day workshops or even one-week trainings, many school districts were discouraged when their teachers slipped back into old habits of whole class instruction. But in districts that had the finances and commitment to set up long-term goals and extended training programs, more teachers effected significant changes in their teaching styles and many schools experienced an overall increase in student achievement.

I believe differentiation is here to stay because the wide variety of needs of the children in our classrooms is here to stay. No longer do we have classrooms where everyone speaks English as a first language, and no longer are these students necessarily

low-performing students. Research conducted by the National Foundation for American Policy shows that 60 percent of the nation's top science students and 65 percent of the top mathematics students are children of recent immigrants (Friedman, 2005, p. 270). In an age of inclusion, no longer are students with disabilities separated from their peers. Advanced Placement classes are promoting equal access at the high school level. Different languages, different ability levels, different thinking styles, and different special needs all contribute to the general call for differentiated instruction.

THE FRAMEWORK: INTEGRATING WHAT WE KNOW

Differentiated instruction is not a passing fad, but it is difficult to do well. Differentiation requires that we modify our instructional approach, as well as the content, process, and products of the curriculum. It requires that we learn new types of questioning and interactive strategies. It requires a new approach to grouping, grading, and evaluating students. Because we continually gain knowledge about student achievement, differentiation practices need to be continually refined.

In the past, I improved my differentiation practice by developing and using tiered questions in the classroom. I integrated what I knew about learning styles into these questions. I provided options and choices for interactive activities. I tried out different systems of assessing differentiated activities and assignments. Still, I continued to search for better ways to improve my effectiveness with students. That search has culminated in this book, in which the goal is to provide teachers with tools to promote student achievement.

Why a Book About Graphic Organizers?

My first reason for writing this book is to help you raise the level of your students' academic achievement—and graphic organizers are powerful tools in promoting student performance. Research indicates that students who use them show improvement in overall achievement and in specific content areas (Institute of Advancement of Research in Education, 2003). They are effective instructional tools to use in science, social studies, reading, writing, math, and foreign language, with students who have learning disabilities, and with English Language Learners. Graphic organizers are often more effective than traditional forms of instruction, such as lecture, note taking, and question and answer.

Why Target Verbs in a Graphic Organizer Book?

My second reason for writing this book is to help you increase students' abilities to engage in critical and creative thinking, habits of mind long known to be essential to academic achievement. The three highest, roughly equivalent cognitive domains out of the six outlined in Bloom's Taxonomy (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956) are synthesis (creative thinking), analysis, and evaluation (or critical thinking). Each was associated in that groundbreaking work with certain verbs, as a way to understand the thinking processes involved at these high levels of thinking. For this book, I have chosen to target nine verbs that correlate with critical and creative thinking skills: assume, infer, analyze, prioritize, judge, brainstorm, connect, create, and elaborate.

The graphic organizers in this book can be used with students to discuss what a verb means and to describe the thinking processes or steps we go through when we use a

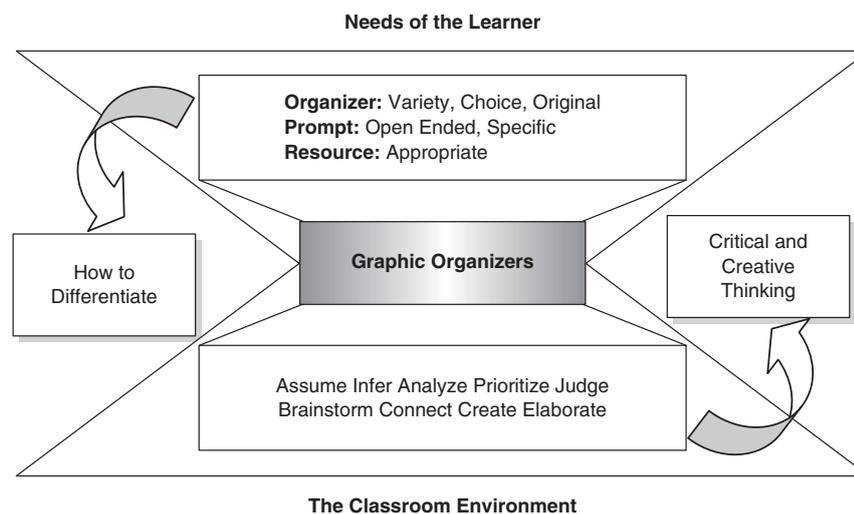
particular verb. For example: How do we analyze something or evaluate something? How do we make an inference? The shared language between teachers and students, noted in the steps on the graphic organizers, makes it clear what these words mean and how to do this type of thinking well. It is the process involved—you as the teacher modeling, what the verb means, student-teacher discussion, and practicing feedback—that appears to consistently correlate with learning improvement (Alvermann & Boothby, 1986; Anderson-Inman, Knox-Quinn, & Horney, 1996; Boyle & Weishaar, 1997; Bulgren, Schumaker, & Deshler, 1988; Carnes, Lindbeck, & Griffin, 1987; Clements-Davis & Ley, 1991; Darch, Carnine, & Kame'enui, 1986; Gardill & Jitendra, 1999; Idol & Croll, 1987; Scanlon, Deshler, & Schumaker, 1996; Willerman & Mac Harg, 1991, all cited in Strangman, Hall, & Meyer, 2003).

WHAT THIS BOOK IS ABOUT

The graphic in Figure I.1 presents the topics covered in the book. By focusing on the nine high-level verbs noted on the bottom of the figure, teachers challenge students to think critically and creatively. Using the tools in this book, teachers can meet different learners' needs by changing the organizer, prompts, or resource materials noted at the top of the figure. Above all, teachers must create a classroom environment that is safe, caring, and conducive to critical and creative thought. The elements in the figure sit on top of the classroom environment because without such an environment, a higher level of teaching and thinking cannot occur.

The book is divided into four parts. In Part I, Chapter 1, I discuss the power of graphic organizers to promote student achievement and describe how the nine verbs that are the focus of the graphic organizers were chosen. In Chapter 2, the topic is differentiation and how students' needs determine how graphic organizers are used in the classroom. Six ways to differentiate using graphic organizers are presented, including steps to create your own graphic organizers.

Figure I.1 The Content of This Book



In Parts II and III, I describe the nine cognitive graphic organizers and how to use them. The graphic organizers in Chapters 3–7 are designed to promote the critical thinking skills associated with the five verbs *assume*, *infer*, *analyze*, *prioritize*, and *judge*. Those in Chapters 8–11 are designed to encourage the creative thinking skills represented by the four verbs *brainstorm*, *connect*, *create*, and *elaborate*. Sample lessons demonstrate the application of the graphic organizers in a variety of content areas and grade levels. Rating scales and rubrics are specially designed for each graphic organizer and can be used to provide feedback.

Finally, in Part IV, Chapter 12, I'll show you how to put graphic organizers to good use in your classroom, whether you are following a particular curriculum model, a textbook series, or designing your own lessons. I will show you how to develop and use activity grids to plan graphic organizer activities. Chapter 13 lists some frequently asked questions and answers to help you on your path to using graphic organizers as tools to foster critical and creative thinking.

TEACHERS AS CRITICAL AND CREATIVE THINKERS

The graphic organizer designs created for this book are simple and easy to use. They are designed so that all students can be successful with any format. Although the language that goes along with each graphic organizer has been researched, of course, not all of the graphic organizers will fit all situations all of the time. If this were true, I might have found “the answer” to achievement.

Do not be afraid to look at the ideas presented in this book and think “so what,” “what if,” “what else?” This is a book that encourages critical and creative thinking! Question what you do in your lessons and what you say to your students so that you can help all of them achieve to the best of their abilities—not only in your classroom but also in the classroom we call life, where strong thinking skills will help them on their journeys.