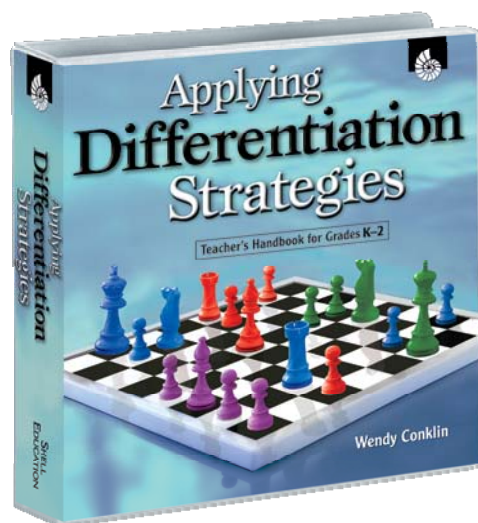




SHELL EDUCATION

## Research-Based Curriculum

### *Applying Differentiation Strategies*



## Introduction

*Applying Differentiation Strategies* is a research-based teacher's handbook with proven effective strategies to help teachers differentiate instruction in their classrooms. The provided descriptions, techniques, and sample lessons can be used in the curriculum across various content areas, and these strategies can easily be applied or adapted throughout the different grade levels.

Diversity in America's public schools is a fact. This diversity spans over many languages and cultures. "Each year, the United States becomes more ethnically and linguistically diverse, with more than 90 percent of recent immigrants coming from non-English speaking countries" (Echevarria, Vogt, and Short, 2004). There are over three million students who are English Language Learners in the classrooms of the United States (NCLB, 2001). Nearly every major city in every state in the country has multilingual, multicultural student populations (Calderon, 1997). One researcher predicted in 1992 that by the year 2056, most U.S citizens would be able to trace part of their heritage to Africa, Asia, the Hispanic countries, and the Pacific Islands – to places that were not "white Europe" (Wittmer, 1992). Many other researchers have continued to make similar predictions about the growing demographic changes in U.S. schools.

Beyond even these differences, students also vary in other areas: learning styles, ability levels, interests, family traditions, socioeconomic status, years of formal schooling, background experiences, and special needs. "The diverse student community can be conceptualized as a wonderful and exciting element of the world we live in and not as a hindrance to the educational process" (Sanchez, 1995). The answer to the diverse nature of today's schools can *not* be met with simple inclusion of multicultural days or teaching the same lessons over and again. "A total curriculum transformation needs to take place where the critical issues of diversity and multiculturalism are integrated into all aspects of students' academic achievement, social skills development and relationship with the community at large" (Sanchez, 1995).

Shell Education created this teacher guide resource to support effective differentiated instruction, provide a means for teachers to make the most of student diversity as a positive influence on overall student achievement, and close the achievement gap evidenced in schools around the country. *Applying Differentiation Strategies* offers teachers a step in the right direction for meeting the challenges of teaching toward diverse student needs. Today's effective teacher needs to have a variety of teaching tools; effective strategies, methods for delivering instruction, activities that engage students, assessment tools, and resources to use. By using these tools, teachers can help students become proficient in the required curriculum and academically successful life-long learners. With the help of *Applying Differentiation Strategies*, teachers can be prepared to start each school year holding onto the vision that each student can learn and grow and master the given curriculum.

## The Mission Statement

Mission statements for most organizations contain high expectations of what can and should happen for the people served by the organization. The Federal Government has created such a statement in their overall education policy. "In America, *no child should be left behind. Every child should be educated to his or her full potential*" (NCLB, 2001).

Content-specific educational organizations also make these types of statements. The National Council of Teachers of Mathematics (NCTM) writes in a position statement, “Every student should have equitable and optimal opportunities to learn mathematics free from bias – intentional or unintentional – based on race, gender, socioeconomic status, or language. In order to close the achievement gap, *all* students need the opportunity to learn challenging mathematics from a well-qualified teacher who will make connections to the background, needs and cultures of *all* learners” (NCTM, 2005).

School district mission statements are no different. They speak of challenging *all* students in order to help them reach their maximum capability in life. The tiny words *all* and *every* are the most provocative words of a mission statement. *All* means *all* students. Not just students who seem to like the subject matter, not just the brightest students, not just the students who are motivated to learn the topic of the month, but the mission calls for challenging *all* students.

These significant words in mission statements should lead educators to the realization that only through differentiation can they possibly strive toward fulfilling the task of meeting the challenge. While teaching *all* students may seem to be a straightforward task, each teacher enters a room with an incredibly wide array of student abilities, diversity, and backgrounds. One lesson aimed at average achieving students will not challenge the high ability students nor will it properly support the struggling students. Very seldom will one typical, undifferentiated lesson serve the needs of *all* learners! *Applying Differentiation Strategies* is a handbook in which teachers are given the foundation to begin to address the urging of these mission statements.

### **What is Differentiation?**

Every student who enters a classroom in the beginning of the school year brings his or her own set of expectations, past learning experiences, preferred learning styles, differing cultural and language backgrounds, personal goals, and concepts of self-perception. All students, regardless of each of these differences, enter a classroom with the expectation placed on them (by the federal and state government, by the public, by the district, by the teacher, by their parents, by themselves) to learn the material. Each learner has strengths that can be used as groundwork for learning. Using strengths to foster academic growth is a fundamental aspect to differentiation.

Differentiation is a set of strategies that allows a teacher to teach toward the required content standards at the same time that the teacher offers support to struggling students and extends challenging activities to higher performing students. Differentiation has multiple faces depending on the particular students and teachers involved, the outcomes of these learners, and the structure of the classroom environment (Pettig, 2000). With differentiated lessons, students are progressing at the appropriate pace for their own individual learning needs.

Carol Ann Tomlinson, the leading researcher on differentiation, says, “Differentiation is simply a teacher attending to the learning needs of a particular student or small group of students, rather than teaching a class as though all individuals in it were basically alike” (Tomlinson, 2000). Furthermore, Tomlinson (2005) says that differentiation is proactive, more qualitative than quantitative, filled with multiple approaches to content/process/product, student centered, a blend of grouping techniques, an opportunity to implement meaningful learning for everyone, and

“organic,” meaning that it is an ongoing process.

In *Applying Differentiation Strategies*, various strategies are explored that allow new and veteran teachers to begin to incorporate the effective practices substantiated by this research. The strategies provided include the use of tiered assignments, questioning, multiple intelligences, choices, inquiry based learning, and self-paced strategies. The strategies listed in this book are not meant to be an exhaustive list but rather a great foundation for teachers to build upon.

There are many misconceptions about differentiation too. Tomlinson (2005) goes on to say that differentiated instruction does not assume that each student has a separate ability level. Some students are grouped together because they have similar academic needs. Another misconception about a differentiated classroom is that they are disorderly and chaotic. Although a teacher who is differentiating instruction strives to manage a variety of activities at the same time, there are ways to establish expectations for behavior, monitor activities, and direct the learning experience in differentiated lessons (Tomlinson, 2005). *Applying Differentiation Strategies* describes helpful classroom management ideas that address these misconceptions. Included are practical suggestions for establishing rules in the classroom, keeping track of the differentiated activities, distributing differentiated work, managing a talkative classroom, and explaining this teaching method to students and parents.

### **How to Approach the Concept of Differentiation**

Differentiation encompasses what is taught, how it is taught, and the products students create to show what they have learned. Content teachers become the organizers of learning opportunities within the classroom environment. These categories are often referred to as content, process, and product. “Differentiated instruction is a teaching approach in which educational content, process, and product are adapted according to student readiness, interest, and learning profile” (Starr, 2004). Differentiating the **content** means to put various levels of depth into the curriculum through organizing the content concepts and structure of knowledge. “Content differentiation means giving the students different material to cover” (Wehrmann, 2000). Differentiating the **process** requires the use of many instructional techniques and materials to enhance and motivate learning styles of students. A teacher should make activities different and not just add more of the same types of activities – for example giving higher-achieving students twice as many problems to finish (Wehrmann, 2000). **Products** that are differentiated improve students’ cognitive development and their ability to express themselves. “Product differentiation occurs when we allow students to demonstrate their learning through different assessment formats” (Wehrmann, 2000).

“Effective differentiation is based on the foundation of good instructional principles. Without good instruction there won’t be effective differentiation” (Starr, 2004). The strategies and lessons in *Applying Differentiation Strategies* allow for teachers to differentiate content, process, and product according to students’ characteristics. If a learning experience matches closely with their skills and understanding of a topic (readiness) then they will learn better. Teachers should create assignments that allow students to complete work according to their preferences (learning styles) If a topic sparks excitement in the learners, the students will become involved in learning and better remember what was taught.

Powerful teachers adjust lesson goals and the content to meet student needs (NCSS, 1992). With the in-depth overviews and easily-used or adapted lesson examples in *Applying Differentiation Strategies*, teachers can begin to address each of these areas as they consider ways to effectively differentiate content, process and product in their own classrooms.

### **A How-To Manual**

Today, teacher's bookshelves are lined with books on differentiation. Although many teachers have attended countless workshops telling them how beneficial it is to differentiate curriculum, few teachers actually feel comfortable with implementing it in their classrooms. Moreover, research shows that teacher actions and expectations play a significant role in student achievement (NCTM, 2005). Therefore, it is essential that teachers learn how to actually apply differentiation strategies into their teaching practices.

Most teachers know what differentiation is; they just do not know how to practically apply it. Starting to use differentiation has been likened to learning to ride a bike without training wheels (Fischer, 2006) and taking baby steps (Wehrmann, 2000). Finding the maximum level of work aimed to challenge every student in a specific topic is challenging for teachers. "The aim of differentiating instruction is to maximize each student's growth by meeting each student where he or she is and helping the student to progress" (Starr, 2004).

*Applying Differentiation Strategies* is a how-to manual. It shows teachers how to differentiate lessons across the content areas using a variety of strategies, implement flexible grouping techniques, and tailor learning styles while managing a differentiated classroom. Not only is each differentiation strategy defined and described, sample lessons with student reproducibles are provided that highlight the use of each described differentiation strategy. Teachers can use the ready-made lessons or they can adapt the concepts from each section to the lesson activities that are intended for the students in their particular grade level and content area. With this guidebook, teachers can begin the process of preparing each student, regardless of individual needs and background, to continue the process of becoming independent and skillful learners through the content areas.

### **The Strategies Highlighted in the Guidebook**

One of the strategies discussed in *Applying Differentiation Strategies* is the use of *Tiered Assignments*. Similar to scaffolding, the teacher offers parallel tasks at varied levels of depth, complexity, and abstractness along with varied degrees of scaffolding, support and direction. All students work toward one goal or outcome but at different levels. The National Council for the Social Studies (NCSS) proposes in a position statement (1992) that a complete core curriculum should be available to all students in all grade levels, including gifted students, students at risk of school failure, students whose interests lie in other fields, special education students, and students who do not plan to attend college. Tiered assignments are one way to meet that challenge.

Another strategy in the guidebook is *Questioning*. Teachers vary their questioning techniques by asking students different types of questions based on their abilities. The level of questions asked by the teacher allows for student success in participating in the lesson and articulating according to their level of comprehension or language level. In effective teaching, teachers should use questions that allow students to thoughtfully examine the content, not just retrieve memorized information, and these questions should allow students to use critical or creative thinking (NCSS, 1992). This strategy can be especially effective for English Language Learners. As they are taught to determine the levels of questioning, then they can begin to independently use questions at various levels to further their own learning process (Echevarria, Vogt, and Short, 2004).

*Multiple Intelligences* are also addressed in *Applying Differentiation Strategies*.

The model on which this section is built is based on Howard Gardner's work on the multiple intelligences (1983), the "abilities or intelligences" inherent in all individuals: logical mathematical, visual spatial, verbal linguistic, rhythmic musical, bodily kinesthetic, interpersonal, and intrapersonal. Effective teachers of English Language Learners consider the multiple intelligences of students and provide a variety of assignments that span the categories (Echevarria, Vogt, Short, 2004).

The next strategy covered in *Applying Differentiation Strategies* is the use of offering *Choices*. There are a variety of ways to allow students choice in a classroom. Students often participate in learning activities where there is very little element of choice. However, when students have opportunities to choose some component of their learning process, they exhibit more motivation and interest and feel like their learning is more relevant. The use of effective teaching strategies causes students begin to care about what is happening in the world around them and to use the thinking frameworks and research skills to gather and interpret information (NCSS, 1992). Choice can be an effective component of a differentiated classroom. One significant point of the choices involved in differentiated activities is that students should be able to choose to continue onto more challenging activities if they desire (Fischer, 2006). In *Applying Differentiation Strategies*, some of the different ways that teachers can allow students the element of choice in their learning process will be explored.

Furthermore, the strategies involved in providing *Inquiry-based Learning* are discussed. Within this form of differentiation, *Applying Differentiation Strategies* gives information on how teachers can instruct students to ask questions, search for evidence and judge their findings. This overall strategy encompasses problem-based learning and discovery based learning as a means of differentiating the curriculum. Self-directed learning is beneficial to the learning process (Kaufman, 1971 as cited in De Boer, 1991). It is important for students to learn to gather and analyze pertinent information, assess the merit of any competing arguments, and make decisions (NCSS, 1992).

The final strategies covered in *Applying Differentiation Strategies* are *Self-Paced Strategies*. Providing students with the opportunity to complete self-paced activities is another way that teachers can differentiate instruction while also helping students to learn to work independently. The guidebook explores the use of learning contracts and self-regulated learning. Differentiation involves offering several different types of learning experiences in response to students' varied needs (Starr, 2004).

### **Flexible Grouping Techniques**

There are various ways to group students in a differentiated classroom. The very nature of differentiation suggests some use of grouping. Differentiation in lessons should be geared toward addressing the needs of clusters of students (Starr, 2004). Some teachers only use one form of grouping in their classroom and the groups don't change for long periods of time. *Applying Differentiation Strategies* addresses the many ways that teachers can arrange grouping in the classroom to address learning needs during a particular planned activity. A teacher might choose to change the groups and the activities in order to generate an individualized learning experience that displays student interests and develops further skills (Wehrmann, 2000). *Applying Differentiation Strategies* focuses on heterogeneous groups, peer teaching, reading buddies, homogenous grouping, buddy studies, and flexible grouping. The efficient management of flexible groups is also explained.

### **The Precedent Set for Differentiation**

Using differentiation as the foundation for all school initiatives is a viable way to enhance learning for all students. As a foundation, differentiation may spawn reading instruction, math instruction, science instruction, and certainly social studies instruction at the readiness levels, learning styles and interest levels of all students.

When the parents of struggling Chinese speakers in a San Francisco school district brought their case to court in 1974, the Supreme Court found that “there is no equality of treatment merely by providing students with the same facilities, textbooks, teachers, and curriculum” (Lau vs. Nichols). While this law was dealing with language-related diversity, its precedence clearly stated that schools must take affirmative means to ensure that students have access to curriculum. Equal treatment was ruled not the same as equal education and students could not be denied meaningful opportunities to participate in their learning. Today, in the classroom, the teacher can and must take affirmative steps by offering the diverse groups of students the support and level of challenge that they need to master the required content standards.

The more we understand about how students learn, the more we understand why curriculum needs to be differentiated. According to the National Research Council (1990), students make meaning out of what is taught in classrooms based on their prior understandings, learning styles, attitudes and beliefs. Differentiated curriculum takes these into account. Research has shown that students need to be pushed just a little beyond their independence levels for real learning to take place (Csikszentmihalyi, 1990). Differentiated curriculum provides an avenue by which lessons can challenge but not overwhelm students based on their ability levels. Both emotions and movement enhance the learning process and when students have the opportunity to study their interests, their motivation for learning increases (Piaget, 1978).

A differentiated classroom takes interests into account. Teachers have the vital responsibility of teaching to the content standards and then offering differentiation strategies, as presented and exemplified in *Applying Differentiation Strategies*, to give support in ensuring that each and every student in the classroom can reach those standards.

### **Conclusion**

Researchers repeatedly find that when teachers try to apply the principles of differentiation in the classroom, they often need help incorporating a variety of effective instructional skills – including difficulty in planning lessons and adapting teaching methods (Holloway, 2000).

*Applying Differentiation Strategies* has combined effective instruction activities and suggestions for teachers to readily use in the classroom. In conclusion, the theories and strategies on which *Applying Differentiation Strategies* are based demonstrate that “one size fits all” curriculum and instruction will not serve the diverse needs of students populating our schools. With the current accountability measures in place, it is no longer a choice of whether or not to serve diverse learners but rather how to best serve diverse learners. *Applying Differentiation Strategies* is one valuable and effective resource toward effective differentiation in a classroom.

**The following references were employed in the creation of this research-based program:**

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