

# The 'Silver Cup' of Differentiated Instruction

by Regina A. Kapusnick and Christine M. Hauslein

*In an inclusive environment, students at all levels of understanding can learn more effectively if teachers adjust instruction for individual learning styles and needs.*

*"Don't give up until you drink from the silver cup, you'll never know until you try."*

—Dan Peek and  
Catherine L. Peek (1974)

**T**his line from a popular '70s song described our determination at the beginning of a new school year. As elementary teachers committed to meeting students' individual needs, we were convinced that Dewey's (1915; 1916) vision of school as a caring community, actively engaging students in optimal learning experiences, was achievable. We planned to reach our goal through the "silver cup" of differentiated instruction. Our conviction and enthusiasm were tempered with the knowledge that most teachers who struggle with differentiated in-

struction eventually abandon it. They face tremendous pressure to teach an unwieldy curriculum in a relatively short time and an over-emphasis on test-performance results. It is difficult to devote much class time to individual student interests and learning styles—critical components of successfully differentiating instruction (Gardner 1991). So how can primary and middle school teachers implement differentiated instruction based on brain research principles combined with best practices?

## Why Differentiated Instruction?

Although no one in the education field would openly state that all children are the same, this assumption is embedded in the way schools are structured, leaving individual teachers the responsibility of adjusting the curriculum to accommodate individual learning styles and differences (Nehring 1992). Teacher responsiveness to individual student levels of readiness, interests, and learning profiles mandates the use of a differentiated model of instruction (Tomlinson 1999). Recent studies in the physiological workings of the human brain corroborate this assertion. When a student experiences a learning situation, the brain responds with the release of the chemical noradrenaline. Students who feel intimidated and rejected because their level of readi-

ness is over-challenged experience an overproduction of noradrenaline, causing the brain to be overstimulated. Attention is diverted from learning and focused on self-protection, resulting in misbehavior or withdrawal, with more time being spent on learning to cope rather than learning concepts. Conversely, if student readiness is beyond what is needed for a particular task, the brain is, quite literally, not engaged, releasing fewer neurochemicals. The advanced student often feels apathetic because his or her brain is understimulated (Tomlinson 1999). Diverse learning styles, interests, and abilities act as filters for student experiences, while emotional safety, challenges, and self-constructed meaning determine how students make sense of information.

## Instruction Principles

The principles of differentiated instruction are based on Howard Gardner's Theory of Multiple Intelligences. Gardner (1991; 1993) asserted that students learn better and more easily when teachers use a variety of delivery methods, providing students with learning experiences that maximize their strengths. Vygotsky's Zone of Proximal Development theory supports the notion that effective education facilitates development by assisting the progression to each stage through student-teacher interactions and opportunities to discuss



and share ideas. In Vygotskian classrooms, teachers accommodate diverse student abilities by stretching students just beyond their comfort zone but not to the point of frustration (Morelock and Morrison 1998).

The following principles char-

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acterize the differentiated classroom (Tomlinson 1995, 1999; Callahan 1999):

1. Students are appreciated for the variety of abilities and experiences they bring to the group.
2. Teachers recognize asynchronous development of their students and use information about readiness, interests, and learning styles as the basis of instruction.
3. Learning options in content, process, and product are devised based on the gathered data, with materials varied according to challenge and purpose.
4. All students participate in purposeful, valued learning activities.
5. Essential skills are used to make sense of open-ended problems designed to teach key con-

cepts and principles.

6. Teachers present information in a variety of modalities to address individual needs.
7. Students may have some choice of topics or modes of expression based on their own interests and learning styles.
8. Homework extends individual understanding and skill level.
9. There is flexibility in grouping and pacing.
10. Assessment is varied and balanced, with grades reflecting individual growth.

Differentiated instruction is an effective model for heterogeneous or homogeneous grouping and is not dependent solely on Piaget's (1950) developmental stages. Differentiation assists teachers in ef-

fectively engaging more students through acceptance of student diversity and use of this diversity to create better instruction.

## **Instruction Strategies**

The following eight strategies are the most common.

### ***Acceleration***

Students who demonstrate mastery of instructional material through pre-testing may be offered the option to proceed, on their own, at an accelerated pace. For example, in September, students take the first spelling pre-test and those scoring 100 percent would go on to the next spelling list, proceeding to master each lesson at their own pace. Ideally, the flexible pacing of the acceleration process provides a steady challenge to the advanced learner. Spelling contracts are often used as a tool for managing the student lists.

### ***Curriculum Compacting***

The process of curriculum compacting, which compresses essential learning, allows students to progress beyond material already mastered while remaining on grade level. Gifted children choose activities extending material covered in class that particularly interests them or uses their talents. The hallmark of curriculum compacting may take the form of either having elementary students spend time studying a curriculum topic in more depth and breadth than is normally available in the classroom or challenging talented gifted students to delve into an unrelated aspect of a course. Curriculum compacting might occur in the elementary math class in which a student masters all math facts relating to addition before the rest of

her class. She would then independently investigate addition's relationship to multiplication or perhaps research a real-life application, such as how math is used in the school cafeteria. It is important to work with the individual student to establish a timeline to measure progress and to give a post-test to ensure mastery of content.

### ***Independent Study***

Independent study unites the teacher and the self-motivated individual student in identifying a problem or topic of interest for the student and developing a plan for independent investigation. The student proceeds at his or her own pace once the completion date is agreed upon and the outcome (product) is identified. For example, an independent study program might allow a student to research an ancestor's Civil War unit, mapping battles fought, obtaining copies of military records, and interviewing family members for stories that have been passed through the generations about the war. An outcome product might be a scrapbook. During independent study, the teacher provides structure and pacing guidance through regular conferencing; the student must meet established benchmarks to ensure success.

### ***Flexible Grouping***

Flexible-grouping assignments ensure that all students have the opportunity to work with students that have both similar and different abilities and interest levels. Teachers can implement flexible grouping by task, outcome, interest level, background knowledge, or social readiness. In language arts, flexible grouping could be used when reading short stories,

especially at the middle school level. Each group of four students (teacher selected) with mixed abilities has the task of reading a short story, answering 3–4 questions, and then presenting their story to the class. When using flexible grouping, the teacher must provide and continually reinforce clear guidelines covering intragroup dynamics, outcome products, and time frames.

### ***Independent-Learning Centers***

Independent-learning centers can provide enriching and reinforcement by offering opportunities to explore topics in more depth. Through learning centers, students can engage in meaningful activities that enhance understanding of curricular topics and constructively use time when assigned classwork is completed. The centers also encourage development of reflective, self-monitoring students capable of independent problem solving. Each center should entice the learners' multiple intelligences through curiosity, varying levels of complexity, and choices for end products. Primary-grade teachers might use *The Polar Express* (VanAllsburg 1995) as a learning center by focusing on the author. Four stations would be set up for students to read or listen to *The Polar Express* and one other book by Chris VanAllsburg. Students could then construct a graphic organizer comparing and contrasting the books, write personal reflections on the comparison of the books, and complete a judgment sheet telling which book the student preferred and why. With checklists, the teacher periodically records student progress through the stations. These checklists might require students to read the book(s) or listen to the tape(s),

draw a picture, write a comment, and put all their work in a language folder. Once learning centers are established, the teacher's role is to monitor student accomplishments, understanding, and record keeping, and to adjust the complexity as required.

### **Complex Questions**

In a differentiated classroom, the teacher asks complex questions that are open-ended, appeal to higher-order thinking skills, allow adequate wait time for answers (more than the traditional 1–3 seconds), and provide opportunities for peer discussions and follow-up questions. For example, while reading *Maniac Magee* (1990), the teacher might ask students to judge the best decision for the title character regarding a home. Students would be required to justify their decision using examples from the book. This activity engages students in lively discussion and exchange of ideas while demonstrating story analysis and synthesis, both higher-order thinking skills.

### **Tiered Activities**

Tiered activities promote success because the student chooses his or her own level of accomplishment. The teacher develops a tiered activity by first focusing on a curricular concept that must be understood by all students. Once the concept is identified, the teacher describes tasks of varied complexity, number of steps, and outcome products. Students are encouraged to select the outcome product they wish to reach from rubrics delineating product requirements at each task level. In celebration of the Olympic Games, language arts teachers at any level could design a decathlon that in-

cludes reading, writing, art, research, and grammar skills. Students could work for a bronze (5 tasks completed), silver (7 tasks), or gold (all 10 tasks) medal, earning certificates at the end of the Games.

### **Contracts**

Essentially agreements between teachers and students, contracts are useful in giving students both the freedom to choose how they will complete tasks and the responsibility for completing them. Acting as a mentor, the teacher should ensure that the contract describes both skills and content, is appropriately challenging based on the skills and readiness of the student, and has a realistic time frame. In an upper elementary science class, for instance, a contract could be developed for a student to explore the human genome project. The project could include research on DNA and its ramifications with an outcome of an oral report.

### **Successfully Using Differentiated Instruction**

Reforms in teaching have shifted the instructional paradigm from adult-dominated pedagogy to child-centered, constructivist theories and methodologies. School administrators implementing differentiated instruction recognize that considerable time and combined efforts with teachers and parents are essential for success. Classroom teachers must reconcile the demands of curriculum, pacing, and readiness with cultural diversity, high-pressure testing, and accountability. Tomlinson (1998) noted that teachers are generally positive about the feasibility of providing instructional adaptations but are unlikely to make them due to lack of training and support.

To organize learning opportunities effectively, teachers must be comfortable with the framework for differentiation and confident in their abilities to manage the individual processes, content, and products of students. Preservice and inservice instruction in the principles of differentiation and continuous support and commitment of administrators is essential. The most influential factors for student success are the importance teachers place on meeting individual needs and their attitudes toward changing traditional teaching practices. For us, the "silver cup" is reaching all our students through differentiated instruction.

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### **References**

- Dewey, J. 1915. *The school and society*. Chicago: University of Chicago Press.
- Dewey, J. 1916. *Democracy and education: An introduction to the philosophy of education*. New York: Macmillan.
- Gardner, H. 1991. *The unschooled mind: How children think and how schools should teach*. New York: Basic Books.
- Gardner, H. 1993. *Multiple intelligences: The theory in practice*. New York: Basic Books.
- Kronberg, R., J. York-Barr, K. Arnold, S. Gombos, S. Truex, B. Vallejo, and J. Stevenson. 1997. Differentiated teaching & learning in heterogeneous classrooms: Strategies for meeting the needs of all students. ERIC ED 418 538.
- Morelock, M. J., and K. Morrison. 1999. Differentiating 'developmentally appropriate': The multidimensional curriculum model for young gifted children. *Roper Review* 21(3): 195–200.
- Nehring, J. 1992. *The schools we have: The schools we want*. San Francisco: Jossey-Bass.
- Piaget, J. (trans. M. Piery and D. E. Berlyne) 1950. *The psychology of intelligence*. London, England: Routledge & K. Paul.
- Spinelli, J. 1990. *Maniac Magee: A novel*. Boston: Little, Brown.
- Tomlinson, C. A. 1996. How to differentiate instruction in mixed-ability classrooms. Reston, Va.: Association for Supervision and Curriculum Development. ERIC ED 386 301.
- Tomlinson, C. A. 1999. Leadership for a differentiated classroom. *School Administrator* 56(9): 11.
- Tomlinson, C. A., M. Kalbfleisch, and M. Layne. 1998. Teach me, teach my brain: A call for differentiated classrooms. *Educational Leadership* 56(3): 52–55.
- VanAllsburg, C. 1995. *The polar express*. Boston: Houghton-Mifflin.