

Creating a Differentiated Classroom

This poses one of the biggest challenges that confront teachers—providing reading materials on a variety of levels so all students have access to the content.

The personal anecdote (opposite), *How Failure Made a Difference*, illustrates a very simple, yet often overlooked truth about our students; they are not all the same. A committed educator not only accepts students' differences but also acts on them by differentiating his or her instructional practices. This means that differentiating instruction is not something we do on Fridays; it is what we do every day in the classroom so that every student's learning needs are met. According to well-respected DI proponent Carol Ann Tomlinson, differentiation "occurs as teachers become increasingly proficient in understanding their students as individuals, increasingly comfortable with the meaning and structure of the disciplines they teach, and increasingly expert at teaching flexibly in order to match instruction to student need with the goal of maximizing the potential of each learner in a given area."

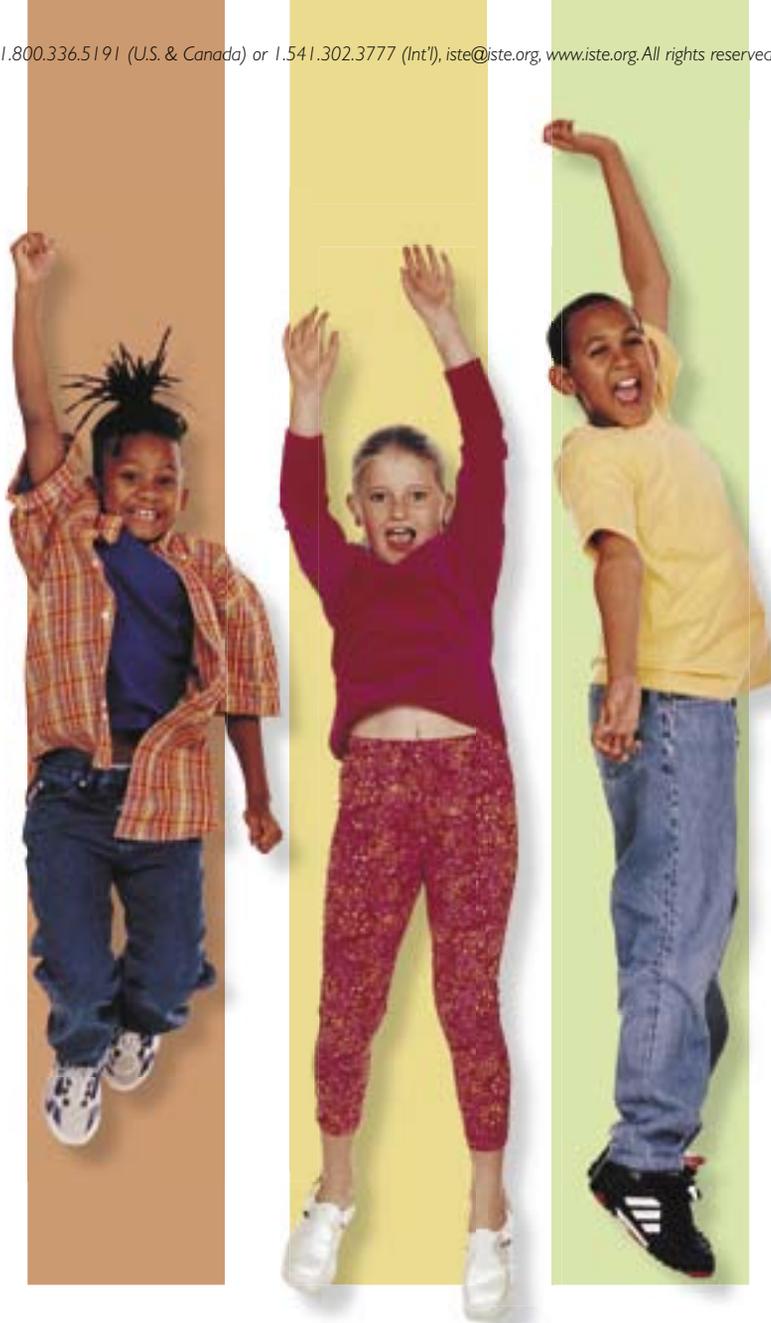
Teachers who differentiate their instruction begin by developing a broad and thorough understanding of their students, all of whom enter classrooms with varying interests, readiness levels, talents, and knowledge. Gathering this data about students and using it

to purposefully implement differentiated practices can be time consuming and cumbersome, especially as greater demands and expectations squeeze into teachers' already tight schedules. However, by promoting the focused and deliberate integration of technology supports, these challenging and sometimes difficult tasks can become both practical and increasingly more manageable in the differentiated classroom.

Technology Supporting Academic Literacy

In an effort to support local educators currently participating in a literacy

initiative, the Carbon Lehigh Intermediate Unit (CLIU), a non-profit educational service agency servicing school districts in Pennsylvania, implemented a pilot program with 12 teachers in grades 5–12, who work with students ranging from special education to gifted. Teachers in the project use the Scholastic Reading Inventory (SRI) to quickly assess their students' reading levels as well as monitor their students' progress throughout the year. SRI is a 20–30 minute computer adaptive test that provides teachers with immediate feedback on reading level, reported in Lexile, Stanine, and normative data.





How Failure Made a Difference

I will never forget Tom. During my second year as a high school English teacher, I vigilantly followed the curriculum and assigned 20 SAT words each week, reviewed the definitions on Thursday, and quizzed my students on Friday. In addition, students wrote a paragraph using at least 10 of the words to demonstrate an understanding of meaning in context. At that time, I naively believed that to prepare my students for college, we should focus on expository writing and the five-paragraph essay, with little emphasis on creativity. As a result, the paragraphs were usually dull, except Tom's. I always looked forward to reading his paragraphs because I was excited to find out what happened next. Tom's paragraphs were a continuation of a story he started at the beginning of the year about a battalion of Vietnam War soldiers. Every Thursday Tom would say, "You're going to love this one, Mrs. Keck." And I did.

At the end of the year, I reflected on my students and my instruction and wrestled with the number of children in my classes whose academic needs were minimally met. I pondered about Alex and Sara, whose brilliant minds went mostly unchallenged and about Beth, who approached writing a coherent paragraph as a daunting task. And I thought a great deal about Tom, who through his writing tried to tell me all year he wanted to be successful. But I realized it too late. How could I have allowed a creative thinker and writer like him to consistently earn Cs and Ds in English?

I wrote Tom a letter that summer and thanked him for teaching me a very valuable lesson. I learned that all students bring a variety of talents to the learning process and that I need to build upon those strengths rather than ignore them. Tom helped me redefine my role as a teacher. He inspired me to accept responsibility as an educator, embrace student diversity, and push relentlessly to move each child toward his or her academic potential. After that year, my classroom looked very different.

Determining the Lexile level of each student involved in the study provides teachers with a baseline and also with the evidence that not all students in their classes read at the same level. This poses one of the biggest challenges that confront teachers—providing reading materials on a variety of levels so all students have access to the content. To address this common situation, teachers involved in the CLIU literacy project integrated Achieve3000's KidBiz/TeenBiz into their curriculum. (*Editor's note:* For this and other URLs, see the Resources section on p. 15. Also see the review of KidBiz on p. 40). KidBiz/TeenBiz

delivers text at appropriate grade levels to students. Partnered with Reuters news service, KidBiz/TeenBiz identifies one or more current news events and uses Lexile readability measurements to convert the text into multiple articles at appropriate reading levels. Based on each student's profile, which includes reading level, second language attributes, and auditory needs, students are delivered appropriate reading materials, activities, assessments, and supports. Students are empowered, regardless of reading level or language mastery, to discuss common themes and contribute in shared discussions.

A typical heterogeneously grouped classroom consists of numerous students with a wide range of reading abilities. Cognitive abilities also vary greatly and are often inaccurately correlated to a student's reading level. A child may not be reading at grade level, but that does not mean that child is not capable of working or thinking at grade level or above. For example, Eduardo's first language is Spanish, in which he can speak, read, and write fluently. Although Eduardo is not fluent in English, this is not a determining factor in his ability to master higher-level thinking.

Students log in to their KidBiz/TeenBiz account and are greeted by an age-appropriate Web portal. Once logged in, students receive an e-mail message previewing that day's article. Students are prompted to respond, which supports the building of background knowledge and opportunities for students to make personal connections, both of which play an integral role in overall reading comprehension. What students already know about the content is one of the strongest indicators of how well they will learn new information relative to the content. Once students build background knowledge, they are guided to read that day's article, which is provided to each student at the appropriate reading level. Articles are interlaced with highlighted vocabulary words, also appropriate for each student based on his or her profile. After completion of the reading assignment, students are asked to engage in an assessment activity that includes questions aligned to various levels of Bloom's taxonomy.

Delivering materials that enable all students to access the curriculum at their appropriate level is not only a tenet of DI, but also difficult to facilitate using traditional methods. This process, however, can become manageable through the effective and purposeful use of technologies such as KidBiz3000 and TeenBiz3000. Students are empowered when they can simultaneously work on and have meaningful conversations about the same content as their classmates. They are further empowered when they can access those materials and contribute in the larger learning community of the classroom.

Supporting the Writing Process

The National Committee on Writing in its 2003 report *The Neglected "R": The Need for a Writing Revolution*, states, "Writing today is not a frill for the few, but an essential skill for the many." The report continues,

What students already know about the content is one of the strongest indicators of how well they will learn new information relative to the content.

"Although many models of effective ways to teach writing exist, both the teaching and practice of writing are increasingly shortchanged throughout the school and college years. Writing, always time consuming for student and teacher, is today hard-pressed in the American classroom. Of the three 'Rs,' writing is clearly the most neglected." Unfortunately, a typical teacher of writing may see between 120–200 students each day. A teacher assigning a simple three-page essay has also just assigned him- or herself hundreds of papers to assess and provide feedback, nearly impossible to do in a timely manner.

Another technology-based literacy tool, MY Access!, enables teachers to take this nearly unmanageable process, automate it, and promote what we know about how students learn by allowing repetition and providing immediate feedback. Students using MY Access! are delivered a writing prompt through an online Web portal. Students write to the prompt using a variety of tools integrated into the system. Classroom teachers have the ability to scaffold support as they see appropriate. Students needing additional support may have access to writing tools such as graphic organizers, checklists, and feedback mechanisms. Teachers have the ability to remove these additional supports for the more advanced writers.

Once students complete their writing assignment, they can electronically submit their essay for scoring. MY Access! uses an artificial intelligence scoring engine to score both holistically and by domain. Students' scores are immediately reported. This immediate feedback is important because of

not only its high motivational effect, but also its instructional benefit.

To differentiate, teachers can choose to assign prompts in a variety of ways. For example, in a typical classroom, students' writing skills are at numerous levels. Therefore, the classroom teacher may choose to have several groups and assign struggling writers prompts appropriate for their writing level and scored accordingly. Students working above grade level may be assigned prompts that are more stringently graded. Additionally, because teachers are provided a plethora of reports, instructors can pinpoint student weaknesses and provide them with practice most applicable to them. For example, if a teacher knows that four students consistently score low in the domain of organization, he or she can limit MY Access! to provide feedback to those students only in that specific domain.

Providing both immediate feedback and the opportunity for unlimited revisions, MY Access! eliminates several of the issues teachers encounter when assigning writing. According to the publisher of MY Access!, a series of case studies support the use of this technology to increase student performance. A study in Birmingham High School, part of the Los Angeles Unified School District, showed, "School-wide, 81% of Birmingham students who used MY Access! passed the California High School Exit Examination, while only 46% of the students who did not use MY Access! passed the exam." In Pennsylvania's Parkland School District, "Using MY Access!, 91% of 709 students tested on the Pennsylvania System of School Assessment in 2003 attained scores of

Proficient and Advanced, compared to only 76% of 711 students tested in 2000 who did not use MY Access!”

Allowing repetition and providing immediate feedback during instruction are essential to develop the skills inherent to good writing. Many teachers find both of these attributes to be challenging, if not impossible at times. However, through the strategic intervention of technology, MY Access! can provide teachers a powerful tool to assist in this developmental process.

Motivating and Engaging Students through Video

The incorporation of rich media into any curricular area can significantly enhance instruction, providing another means of access to content supporting the visual and auditory modes of learning. Unitedstreaming, a video-on-demand library of more than 4,000 full-length video titles and 40,000 clips, provides teachers with instantaneous access to state standard-aligned media. Streamed through the Internet directly to a teacher’s personal computer, unitedstreaming provides engaging media to support the classroom curriculum. Additionally, individual access allows students to explore key concepts at their own pace or according to their personal interest.

Diverse classrooms pose many challenges and require teachers to develop a variety of activities to help students understand key concepts and make connections to their learning. For example, Mr. Prange teaches high school geometry. He often finds that some students enter a unit ready for more complex learning, some are on level, and others need multiple and varied learning experiences. Recently, when teaching the concept of area, Mr.

Prange found that by integrating unitedstreaming to support key concepts, he opened the door of understanding for those students who required visual supports and additional explanations beyond textbook materials and lecture.

Mr. Prange also acknowledged the need for students who already mastered the basic concepts of area to further their investigation through self-directed exploration of incrementally more complex concepts. Providing opportunities for students to accelerate their learning through both self- and teacher-selected investigations, Mr. Prange ensured these students access to content that ignited their interest and increased their engagement.

In technical terms, unitedstreaming is one example of a technology that assists teachers in differentiating content, process, and product. For example, allowing students to choose topics to explore differentiates the content or the “what” we want students to learn. Providing that content in various formats, such as video, allows students to master content through a process most meaningful for them.

Bringing It All Together

Perhaps if Tom’s interests and strengths were honored as a critical component of his learning experience, rather than giving precedence to curriculum coverage, his junior year of English may have ended much differently. Differentiation means ensuring equity in the learning process. We do this by finding ways to breathe life into the curriculum so that students connect with their learning and develop the best that is in them.

However, differentiating instruction on a daily basis is a difficult task. Imagine a single teacher attempting to

level the same newspaper article every day for each student in the classroom. Picture that same teacher monitoring as many as 150 students so closely that minor progress changes immediately result in appropriate adjustments in student reading levels. Imagine a writing teacher being able to assign essays as often as desired while still providing immediate diagnostic feedback. Furthermore, envision that teacher with the ability to instantaneously produce reports on student writing either individually or by class. Although these tasks may seem outside the realm of possibility for most teachers, by strategically implementing technology in support of teaching and learning, educators can provide students with multiple paths to academic success. Discuss this article with the authors and weigh in on other educational issues by visiting <http://discoveryeducation.typepad.com/>.

Resources

KidBiz/TeenBiz: <http://www.achieve3000.com>
MY Access!: <http://www.gomyaccess.com>



Susan Keck has more than 15 years of educational experience. Prior to joining the Carbon Lehigh Intermediate Unit, Susan coordinated professional development programs and trainings for the Penn State

Lehigh Valley Writing Project, earning her Writing Project Fellow status in 2000. Susan continues to develop, coordinate, and present various training sessions. Currently, she leads numerous local initiatives including Adolescent Literacy, Literacy Leadership, and Teacher Leadership.



Scott C. Kinney has more than a decade of experience integrating technology into the educational setting. Before becoming the director of educational technologies at the Carbon Lehigh Intermedi-

ate Unit, Scott served as the assistant director of curriculum and instruction & instructional media services. Scott continues to work with educators across the country examining ways technology can support curricular initiatives and instructional practices.

This immediate feedback is important because of not only its high motivational effect, but also its instructional benefit.