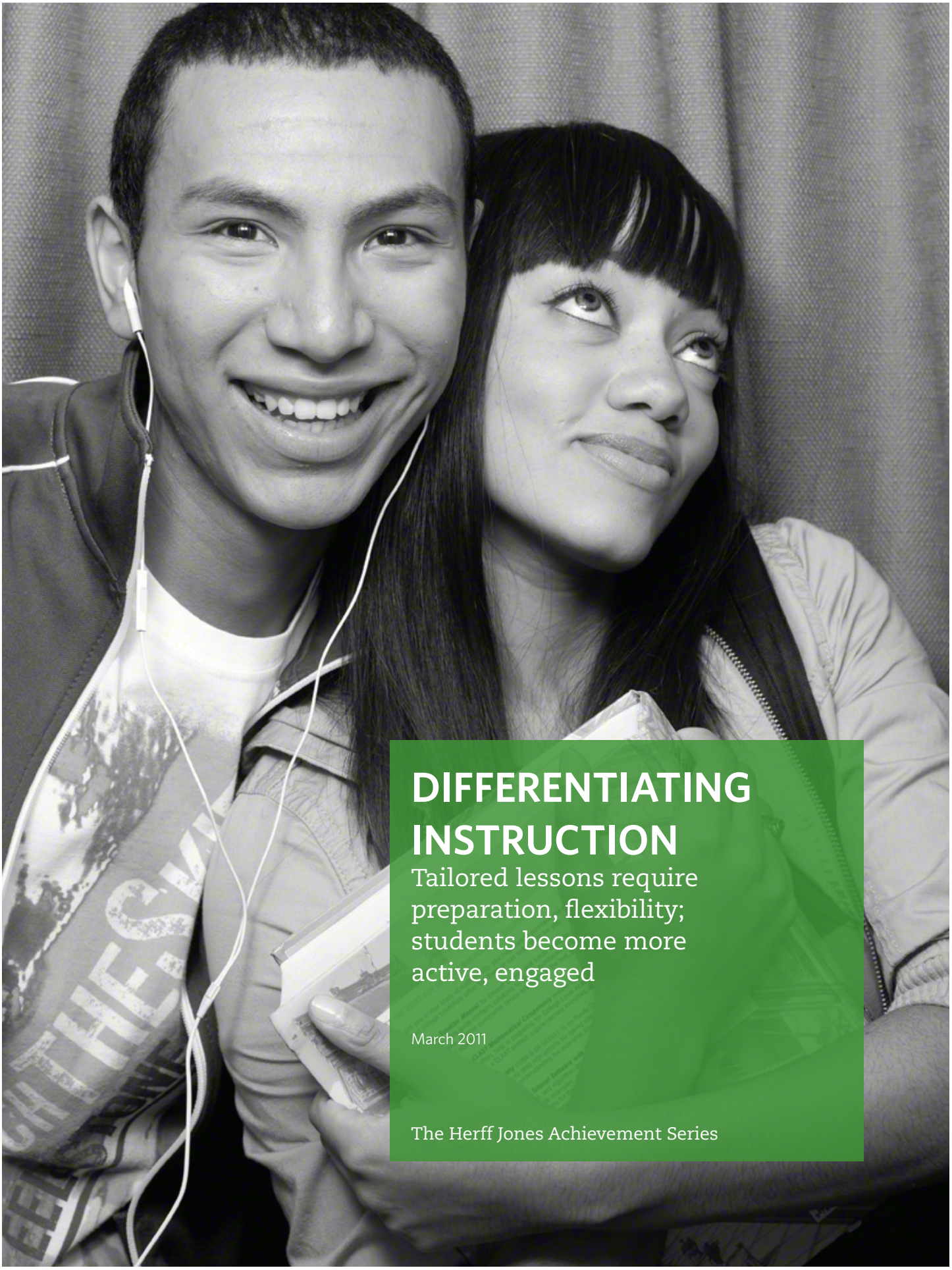

DIFFERENTIATING INSTRUCTION

Tailored lessons require preparation, flexibility; students become more active, engaged

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As teachers are increasingly expected to "mainstream" slower learners while programs serving academically gifted children fall to budget cuts or changing philosophies, classrooms must serve an ever-broader spectrum of student ability levels. The concept of "differentiated instruction" has grown in currency as a way to handle this complex orchestration and make the classroom work for all students.

The need for and benefits of differentiated instruction are well illustrated through an example provided by author Carol Ann Tomlinson in the foreword of *Leading and Managing a Differentiated Classroom*. During her fourth year of teaching, Tomlinson taught a seventh-grade language arts class that she describes as "bimodal"—nearly half of the students read at least four years above grade level and nearly half at least four years below. "There were almost no 'middle' students," Tomlinson recalls.[1]

The pair that stands out most vividly in Tomlinson's mind decades later are a boy named Golden, a 15-year-old who sheepishly acknowledged that he didn't know the entire alphabet, much less how to read; and a boy named Jonathan, whom many students turned toward expectantly when she prompted the class to properly identify and explain the concept of literary symbolism.

"The students were satisfied to know that if Jonathan had spoken, the right answer was on the table," she remembers, adding later: "[C]lassroom management is the process of figuring out how to set up and orchestrate a classroom in which students sometimes work as a whole group, as small groups and as individuals. The goal would be to have everyone work not only on things they all need to do in common, but also on things that were of particular importance for their individual growth."

DEFINING DIFFERENTIATION

On her website, citing her own prior work[2], Tomlinson defines the concept of differentiation thusly: "The idea of differentiating instruction to accommodate the different ways that students learn involves a hefty dose of common sense, as well as sturdy support in the theory and research of education. It is an approach to teaching that advocates active planning for student differences in classrooms."

The website Differentiation Central[3]—based at the Institutes on Academic Diversity, in the Curry School of Education at the University of Virginia, where Tomlinson serves as William Clay Parrish, Jr. Professor of Education—augments this definition with further words:

> Differentiation is responsive teaching rather than one-size-fits-all teaching. To put it yet another way, it means that teachers proactively plan varied approaches to what students need to learn, how they will learn it, and/or how they will show what they have learned in order to increase the likelihood that each student will learn as much as he or she can, as efficiently as possible.

GETTING STARTED

To map out the spectrum of learners within classrooms, many thinkers on the subject advocate a non-graded pre-assessment of tests, surveys and other activities at the outset of a new unit.

Associate Professor Catherine M. Brighton of the University of Virginia notes[4] that teachers can use pre-assessments to "elicit information about students' readiness to learn skills and concepts; gather information about students' preferred modes of learning (including learning styles and grouping preferences); and gather information about students' attitudes about the learning, areas of interest within the study and initial questions about the learning."

A pre-test is probably the most common way to do this, Brighton writes, but teachers also use entrance and exit cards to determine which students met their objectives, which has the advantage of requiring little preparation on the teacher's part. Brighton explains that an "entrance card" question might ask, "What is irony? Give me an example." By measuring students' knowledge on the way in the door, teachers can gauge where they need to begin. Then the "exit card," handed out as they finish a particular unit of study, measures their gains in knowledge. Interest surveys also can

SCENARIO: READING

How might differentiated instruction be used in a reading class? The Access Center[5] makes some suggestions:

- Tiered assignments can provide varying degrees of "complexity, abstractness and open-endedness" while focusing on development of the same skills. Those with average reading comprehension skills might be asked to create a story-web, for example, while those with more advanced skills could receive an assignment to re-tell the same story from the main character's vantage point. A story-web helps students map the title, author, setting, characters, conflict and solution of a story

- A reading teacher might use the compacting strategy—which provides for spending less time on skills already mastered in favor of additional time on higher-end skills—to engage students who have already mastered decoding of short vowel sounds. They could work in small groups or with individual instruction on a new phonics skill, while the remainder of the class works on the short vowel lesson

- A teacher could set up interest centers, usually used for younger students, which focus on specific skills and give examples based on a particular theme or interest like outer space or cartoon characters. Interest groups, typically aimed at older students, enable students assigned a book report to group themselves with other students who want to read the same book, for example

- Learning contracts give teachers the ability to specify skills that need to be learned and basic contours of the assignment, while students are able to choose specifics—like a particular author to be researched and how that research might be presented to the class

help gauge which topics teachers might use "as a lever to increase students' motivation."

Teachers can also gain such information informally by listening to students' conversations and engaging them in conversations. "The savvy educator systematically gathers this anecdotal information in a form that can be later used to inform learning experiences such as the construction of a simulation or providing an area of interest as context for a performance assessment," Brighton notes.

Moving forward, Differentiation Central suggests continuous assessment throughout a particular class unit via journals, questions for the day, observations and one-on-one conversations.

STEP BY STEP

The success of differentiated instruction hinges upon focused curriculum, ongoing assessments, flexible instructional arrangements and respectful tasks, according to Jennifer G. Beasley, Ph.D., student and graduate research assistant for the National Research Center on the Gifted and Talented at the University of Virginia, and author of a presentation on the subject.[6]

Beasley suggests that teachers provide directions individually to groups rather than repeating multiple sets of task directions to the whole class. Teachers should tape directions so that students can listen to them multiple times, and students should be instructed not to interrupt while the teacher is working with another group, she says. To smooth the process of assigning groups with a minimum of fuss, do so ahead of time and provide easy audio and/or visual cues like clothespins with student names or color-coding children by group, Beasley adds.

Beasley also suggests that teachers try to rearrange furniture as smoothly as possible, encourage working as quietly as possible while allowing for necessary communication, promoting on-task behavior, and finding ways to keep track of who is learning what within the context of group assignments.

PERMUTATIONS TO CONSIDER

Differentiation Central[7] encourages teachers to consider various ways in which their curricula should differentiate among students to achieve the maximum possible range of experiences. Students bring varying background knowledge, cultures, languages spoken, life experiences, learning styles and self-images, the website notes.

Activities that involve working individually, with a partner, in small groups and as a whole class are all valid configurations for delivering content, according to Differentiation Central. The concept of "flexible grouping" takes into account all of these permutations while adding the possibility of mixing students with similarities in some of the aforementioned qualities and differences in others.

USE OF TECHNOLOGY

Teachers can use technology to assess students' academic strengths and weaknesses, and "create a personal playlist of lessons, tools, and activities that deliver content in ways that align with individual needs and optimal learning methods," writes Kathleen Kennedy Manzo[8] in an *Education Week* article.

This idea of a high-tech individualized education plan might seem "more pipe dream than prospect" to many educators who face challenges in obtaining and integrating technology, but some believe such a

SCENARIO: BIOLOGY

Educational consultant Susan Winebrenner of Brooklyn, Michigan, provides specific thoughts[9] on how differentiated instruction might be used for a biology class.

The pre-assessment might explore whether the student understands the parts of a cell, how cells are instrumental building blocks of biology, the different types of cells, and how a cell's division can be observed under a microscope.

Projects could include researching a disease that stems from cells dividing out of control and hypothesize how to halt that process, investigate the ways in which gene therapy is helping research to battle diseases, or creating a visual project that shows the roles played by heredity. Students' knowledge and aptitude levels would guide the depth and comprehensiveness of such projects.

scenario is achievable in the relatively near future, Kennedy Manzo writes.

In the article, Tom Vander Ark, partner in education venture capital firm Vander Ark/Ratcliff and former executive director of education for the Bill & Melinda Gates Foundation, points to the School of One in New York City's Dr. Sun Yat Sen Middle School. There, 80 incoming seventh-graders who volunteered to participate in a five-week summer session received such individualized instruction.

"When we ask ourselves how much instruction during the course of a typical school day does each student get exactly on the skill they're working on, and in the amount that is right for them, the answer is very little," says Joel Rose, a former teacher at the center of developing and expanding the School of One concept, in the article.

GAINING STUDENT BUY-IN

Students in a differentiated classroom often work simultaneously on different tasks. But Differentiation Central[10] notes the critical importance of respectfulness among these various tasks even as they're tweaked for different ability levels, interests or learning preferences. This helps to build community among students and ensure that they treat one another respectfully and work together productively.

"If some students look like they are doing a task that is challenging, engaging and thought-provoking to them while other students work on filling in a simplistic worksheet, the activities are not effectively differentiated and will affect how students perceive their status in the classroom," the site says.

That ties into the concept of "teaching up," which Differentiation Central defines as "raising the 'ceiling' for all students. In a differentiated classroom, all students should be working at a level of complexity that is just above their individual comfort levels," the site says. "By providing each student with reasonable levels of challenge and instructional scaffolding as needed, students learn that hard work results in successful growth."

GAINING TEACHER BUY-IN

Teachers will need to shift their role to some extent, from that of "teller" of information to more of a facilitator of discovery, writes Tomlinson, in an article for the Texas Association for the Gifted and Talented.[11]

This includes "learning to manage multi-group, multi-task classrooms, learning to plan appropriately responsive lessons, dealing with issues like fairness and grading, developing skill and comfort with a range of instructional strategies that facilitate differentiation, relating other school initiatives to principles and practices of differentiation, and so on," she writes.

Making this shift requires ongoing, intensive professional development that incorporates not only interacting with experts but also with close colleagues. Teachers will need time to think, plan, collaborate and evaluate progress, Tomlinson says. They also will need a more diverse set of materials and administrative policies that support this new approach.

For example, Tomlinson writes, "It is largely pointless to push for differentiated regular classrooms while simultaneously increasing rather than decreasing classroom sizes. And differentiated instruction is made more difficult by school schedules that carve time into

SCENARIO: SECOND-GRADE MATH

Differentiation Central, which provides a host of specific classroom examples, posted a second-grade math lesson[12] called "Polygon Scavenger Hunt."

To answer the question of where polygons can be found in the everyday environment, students are each given a graphic organizer and sent down the hall to look for at least one example of a triangle, quadrilateral, pentagon, hexagon and octagon.

Students receive the same materials and complete the same activity but are asked to do so with different information—the slowest learners have the names of polygons, number of sides for each, and pictures already noted in the graphic organizer, the next tier has the names only, the next tier has none of the above, and the fastest learners are asked to complete a graph showing how many of each type of polygon they found.

small blocks that cannot be restructured as needed by the regular classroom teacher."

GIFTED KIDS AND DIFFERENTIATION

The mainstreaming of both special education and academically gifted children into the regular classroom presents challenges for educators. While addressing the needs of slower learners is mandated by law, some wonder whether the needs of gifted students can be effectively addressed.

Tomlinson[13] sees "only one acceptable answer" to this issue: "As long as regular classrooms are the mainstay of public education, the needs of gifted learners must be met in those classrooms."

When teachers are sensitive to varying needs, perform ongoing assessment, provide diverse learning options and pace of work, use flexible grouping and a broad set of instructional strategies, and assess student progress based on their own growth rather than compared to one another, gifted learners thrive, she writes.

"They accept who these learners are, reflect an awareness of the specific achievement level of the learner at any given time, and provide learning opportunities that match the child's own achievement level and interests," according to Tomlinson. "In addition, these classrooms allow a gifted student to work at an accelerated pace, or slow down when appropriate for in-depth study."

PROJECT IDEAS

Educational consultant Kathy Glass[14] provides several concepts for types of projects teachers can use to help differentiate instruction that could be applied to various grade levels and subjects.

One example Glass suggests is to make a list of "Jeopardy-style" questions and answers on a particular topic, within at least four categories and with at least eight questions per category, rated by difficulty level.

Students also could use a "project cube" to present information and pictures related to subtopics of a larger subject. For example, one could present the colonial period of American history with sides of the cube—generally an old mailing box will do—dedicated to occupations, daily living, crafts, food and music. The top side of the cube announces the overall subject.

Another idea Glass puts forth is a radio or television interview of a historical or present-day person, or even a character in a novel. The student needs to ask engaging questions and reveal important aspects of the person's life. If using video, she suggests, dress up like the character or historical figure.

SCENARIO: FOURTH-GRADE POETRY

Differentiation Central also provides an example of a learning contract for fourth-grade English/language arts around a poetry portfolio project.[15]

The pre-assessment looks at whether students can identify different types of poetry like haiku and elements within poems such as stanzas. Students of different ability levels work from somewhat different contracts. The complexity of individual poems varies by ability level, for example, and students are given room to explore their interests through a degree of variation in the types of poetry explored.

Teacher Kaleigh Klemm writes that she divided her class into groups based on ability, "and I taught the high-level group. However, even in this group, there was still a wide range of readiness. Some students were extremely gifted while others were bumped up from the middle group later on in the semester. I had students who were very descriptive in their writing and other students who wrote very simplistically."

Differentiated instruction enables teachers to actively plan for differences in students' abilities, learning styles and personal interests. Thus they can work to fully engage every student—slower learners, gifted and talented and everyone in between—rather than delivering one-size-fits-all education.

Teachers typically start with non-graded pre-assessments that can include tests, surveys and other activities, although informal listening can help to glean anecdotal details, particularly with regard to personal areas of interest that derive from background, culture, language spoken and overall life experience.

Differentiated instruction works best when teachers are flexible about instructional arrangements, allowing for individual and small-group arrangements that can morph from project to project, and when teachers plan tasks that are respectful toward all groups of students, as opposed to fully engaging some while leaving the rest feeling like afterthoughts. Technology can play a key role in all of this. To gain buy-in from students, this respectfulness toward all is critical. For teachers to become engaged with the concept, intensive professional development, additional planning time and a more diverse set of instructional materials all help to produce desired curricular results and attitudinal evolution.

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