



# Teaching All Students to High Standards in Mixed-Ability Classrooms

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## Introduction

In helping all students attain high standards of learning and college readiness, high school teachers must attend to a variety of student needs. Not only do students come from different cultural, racial and socioeconomic backgrounds, but some also are formally or informally labeled gifted and talented, while others require individual education plans to address specific needs. Teachers also must work with students who enter high school classrooms with literacy and numeracy skills that range from elementary to postsecondary grade levels.

Combining all of these differences within each classroom forces teachers to seek strategies that enable them to teach all students effectively in mixed-ability classrooms. Adapting instruction to each student's skills and needs while advancing learning for all students is no small feat. The demands are particularly acute in high schools that target underserved, urban populations, such as those supported by the Bill & Melinda Gates Foundation.

The foundation's evaluation of its high school initiatives has found that, among other teaching strategies, differentiated instruction has emerged as one important practice for addressing these challenges. As is true with the entire array of instructional practices available to teachers, differentiated instruction is not a silver-bullet remedy. However, it enables teachers to address the needs of mixed-ability classrooms of students in their efforts to make all students college ready.

## What Is Differentiated Instruction?

Differentiated instruction is a strategy by which teachers adapt instruction to meet students' varied learning needs. Differentiated instruction does not involve specific requirements or formal models but rather operates within a set of general guidelines that continually encourage teachers to adapt what they teach, how they teach it and how they gauge students' learning. For example, one observation from the field is that teachers can differentiate curricular content by manipulating the complexity and depth of topics taught. The differentiation is based on formal and informal assessments to determine students' skill

levels, interests and unique learning needs. Effective differentiation of content occurs by structuring the key concepts, ideas and skills within each discipline in ways that ensure they connect with the skills, interests and needs of diverse students.

A variety of different teaching strategies and grouping techniques also can be employed to differentiate how instruction occurs. For example, teachers can engage in student-centered teaching that allows students to explore topics in depth based on their various interests. Project-based learning, for instance, is one example of this practice. In terms of grouping techniques, teachers can employ whole-class, small-group or one-on-one teaching or any combination of the three, depending on student needs and the subject at hand. Assignments and methods for assessing student learning also can be differentiated. Students can be asked to write a news report, teach a lesson, design an experiment, submit a story to a magazine, create a slide show, or draw a diagram or graph, just to name a few assessment methods.

It should be noted that although differentiated instruction seeks to challenge all students academically and work with students' unique interests and needs, to be effective, teachers must recognize that students enter high schools at different levels of preparation and prior academic achievement. Differentiated instruction must work to address the specific needs and academic background each student brings to the schooling experience without lowering the academic bar or expectation that all students should graduate ready for college, work and responsible citizenship.

## Differentiated Instruction Strategies

When attempting to incorporate differentiated instruction in the classroom, it is helpful for teachers to ask themselves a broad set of questions to help guide their adaptations of diagnostic assessments, curricular content, instructional practices and student products. The following questions are just a sample of those that can help teachers evaluate the appropriateness of their instruction for the diverse learners in their classrooms. While the benefits of vesting teachers in the control of the school and curricula are numerous,

*This research brief is based on information from the American Institutes of Research database, 2006.*

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<b>Diagnostic Assessment</b>	<ul style="list-style-type: none"> <li>• How can I assess the range of student skills, interests and learning needs in this class?</li> <li>• Have I been informed of any students' special needs?</li> <li>• How many distinct levels exist in this class and by what measure?</li> <li>• Does this assessment accurately gauge student preparation, skill sets and content knowledge?</li> </ul>
<b>Curricular Content</b>	<ul style="list-style-type: none"> <li>• Are the nature and scope of content appropriate for all students in this class?</li> <li>• How can content be adapted to engage all students?</li> <li>• What resources and strategies are available?</li> </ul>
<b>Instructional Practices</b>	<ul style="list-style-type: none"> <li>• What points of entry can I offer to engage students initially?</li> <li>• Do my instructional plans advance each student's understanding to a new level?</li> <li>• Am I still holding all students to high expectations?</li> </ul>
<b>Student Products</b>	<ul style="list-style-type: none"> <li>• Do I allow for a range of student products to demonstrate mastery?</li> <li>• What types of products will best demonstrate subject mastery for each student, while still holding all students to high expectations of new content knowledge?</li> <li>• Am I facilitating and assessing skill development in addition to testing content comprehension?</li> </ul>

there is a price teachers pay in expenditure of their time and energy. At both new and redesigned schools, the challenges of running a newly formed school and simultaneously maintaining academic standards in the classroom fall upon the shoulders of a small number of pioneer staff, and teachers often see an increase in their daily work requirements. Schools are finding that they must balance the increased buy-in and educational expertise that teachers bring to school governance and curriculum design with the potential for burnout that exists when teachers take on too many responsibilities.

The diagnostic assessments reveal students' current skill levels, which help teachers tailor content, practices and products. Inherent in differentiated instruction is the need to serve struggling students not only through tailoring content, practices and products, but also through other academic enrichment programs and strategies to assist with making them college ready. With this understanding of differentiated instruction in mind, the following table describes a handful of strategies through which differentiated instruction can come to life in the classroom. The strategies below are general enough to be adapted to multiple subjects while the examples demonstrate how these strategies can emerge in specific classes.

### **Implementation of Differentiated Instruction in Foundation-Supported Schools**

Classrooms in two foundation-supported schools offer glimpses into how differentiated instruction plays

a role in day-to-day teaching and learning. In one school's math class, the teacher chooses to pretest (diagnostic assessment) students on fractions, exponents and square roots. Her lesson plan prior to the pretest included moving beyond these topics and into their functions within quadratics and polynomials. However, her suspicion that some students might not have mastered the content proves true. Her pretest reveals that some students need further instruction on those topics. Her quick-turnaround analysis provides the opportunity to choose strategies such as tiered assignments and compacting (content) and flexible grouping (practices) as she separates the students into two groups: those who have mastered the concept and those who have not. Students who have mastered the material engage in a group project (product) to "expand their understanding" and push each other's thinking in small groups. Students who have not mastered the material are given time to review the concepts with more direct instruction provided by the teacher. Most important, all students in the class are held to the same high standard of mastery of the concepts.

In another school, a social studies teacher uses project-based learning to attend to students' different needs. The teacher's mock trial project includes directions to students to conduct research on issues related to the first amendment and determine how they would have the court rule on those issues. As the teacher explains, there are five court cases included in the project, and he assigns students to each of the cases. The top students are assigned to the "hardest case,

<b>Strategy: Tiered Assignments</b>	
<p><b>Definition:</b> Tiered assignments are designed to instruct students on essential skills that are provided at different levels of complexity, abstractness and open-endedness. The curricular content and objective(s) are the same, but the process and/or product vary according to the student's level of readiness.</p>	<p><b>Example:</b> Language arts: Students read a novel with a lens toward understanding the concept of theme. Struggling students develop presentations to explain how the theme arose throughout the novel. Advanced students develop presentations to compare and contrast theme in this novel with a novel previously read in class.</p>
<b>Strategy: Compacting</b>	
<p><b>Definition:</b> Compacting is the process of adjusting instruction based on prior student mastery of learning objectives. It is a three-step process: (1) assess the student's level of knowledge and determine what he or she still needs to master; (2) create plans for what the student needs to know, avoiding study of what he or she already knows; and (3) create plans for freed-up time to be spent in enriched or accelerated study.</p>	<p><b>Example:</b> Math: A class is preparing to work with quadratics. Diagnostics indicate that a handful of students are still too weak with the fractions related to the work to begin quadratics. These students complete a review of fractions, while the students at mastery level conduct an enrichment project to apply their mastery.</p>
<b>Strategy: Interest Groups</b>	
<p><b>Definition:</b> Interest groups are set up so that learning experiences are directed toward a specific learner interest. Allowing students to choose a topic can motivate them.</p>	<p><b>Examples:</b> Math: Students can work in small groups to research a math topic of interest, such as how geometry applies to architecture or how math is used in art.  Science: Students can work in small groups to prepare and debate issues surrounding the origin of the universe.</p>
<b>Strategy: Flexible Grouping</b>	
<p><b>Definition:</b> Students work as part of many different groups depending on the task and/or content. Sometimes students are placed in groups based on readiness; other times they are placed based on interest and/or learning profile. Groups can be assigned by the teacher or chosen by the students. Students can be assigned purposefully to a group or assigned randomly. This strategy allows students to work with a wide variety of peers and keeps them from being labeled as advanced or struggling.</p>	<p><b>Examples:</b> Math: The teacher may assign groups based on readiness for direct instruction on algebraic concepts and allow students to choose their own groups for projects that investigate famous mathematicians.  Science: The teacher may assign groups based on student characteristics for a lab in which each group member must take on a specific role. For example, a student who is a strong writer might take notes, while a student who enjoys public speaking might present the group's findings. Students may choose their groups for another lab.</p>
<b>Strategy: Learning Contracts</b>	
<p><b>Definition:</b> Learning contracts begin with an agreement between the teacher and the student. The teacher specifies the skills the student is expected to learn and the required components of the assignment, while the student identifies methods for completing the tasks. This strategy (1) allows students to work at an appropriate pace; (2) can target learning needs; and (3) helps students work independently, learn planning skills and eliminate unnecessary skill practice.</p>	<p><b>Examples:</b> Math: A student follows a football team over a two-month period and makes inferences about players' performances based on their scoring patterns and physical characteristics. The student, with teacher guidance, develops a plan for collecting and analyzing the data. The student gives the class a PowerPoint presentation of his or her findings.  Language arts: A student chooses to research a particular author. With support from the teacher, the student designs a strategy for conducting research and presenting the information. For example, the student might decide to write a paper and present a poster to the class. The learning contract sets dates for completing each step of the project.</p>

Source: Web site of The Access Center, a national technical assistance center funded by the U.S. Department of Education's Office of Special Education Programs ([www.k8accesscenter.org/default.asp](http://www.k8accesscenter.org/default.asp)). Data were downloaded on Aug. 8, 2005. Examples received from The Access Center (8/05) and American Institutes for Research/SRI International evaluation database of foundation-supported schools.

*“We give each other feedback and talk about it. It’s really kind of like we introduced some ideas, then we challenged everybody to go and somehow incorporate them into their teaching. Then we took turns to look at each other.”*

— A teacher

the one with the most difficult language.” Students in this group are tasked with reading the entire court case text along with the court’s ruling. Students in the other four groups are tasked with reading “edited-down” versions of the cases (content). The teacher takes into account students’ current reading and comprehension levels while making group assignments (diagnostic assessment). Some top students are assigned to one of the other four cases because they work well with other students who are not as strong in reading or comprehension (practices). The teacher also notes that additional readings (content) can be given to top students to keep them challenged.

This second example illustrates differentiated instruction while providing some lessons to learn from when trying to meet all students’ needs. Given the teacher’s diagnostic assessment of students’ reading and comprehension levels, strategically assigning students to the groups most appropriate for their levels while keeping all students engaged in the same content is a necessary first step to engage students and complete the project. However, by itself this strategy results in another form of tracking over time, in which some students are held to higher standards than others. For this reason, the school also needs supplementary strategies to remediate students at the low end of the skills distribution. Strategies such as extra class time or extra time during the school day focused on literacy or after-school tutoring are some common ways to help struggling readers raise their reading and comprehension skills. Effective differentiated instruction, which helps all students better prepare for college, requires that all students read and comprehend the material, engage in discussion and debate, and be held to the same college-ready standards. Done correctly, differentiated instruction provides strategies to adapt instruction to meet varied learning needs while ensuring that the academic bar is not lowered for any students.

### **Supports for Implementation of Differentiated Instruction**

In foundation-supported schools, the establishment of supportive personal relationships among students and teachers has been recognized as a key factor in facilitating differentiated instruction. By knowing students well and assessing their abilities on a day-to-day basis, teachers are able to gain insights into academic skills that need to be developed and projects that might best serve the students. As teachers at foundation-supported schools have discovered, differentiated instruction can help motivate students by

challenging them with higher standards, building on their strengths, and allowing them to focus on topics they find especially interesting and engaging.

The strategies employed at several foundation-supported schools help identify factors that contribute to the successful implementation of differentiated instruction. For example, in addition to literacy, one school involved in redesign activities has made differentiated instruction the school’s focus. The principal voiced strong support for differentiated instruction, talking with staff about how it would strengthen teachers’ professional capabilities and broaden learning opportunities for their heterogeneous classrooms of students. The school then initiated a combination of ongoing professional development activities, including financial support for attending conferences and a review of literature on differentiated instruction. In addition, the school implemented an unprecedented opening of teachers’ classroom doors to allow other teachers to view and critique their work as professional colleagues. Starting slowly and without threat of sanctions, teachers began to engage one another professionally about how their lesson plans and classroom management styles could be improved. Internal professional development activities also arose as venues for teachers to share lesson plans, including their proposed attempts to differentiate instruction in the classrooms. According to the campus principal, early-release professional development days provide time for these meetings, and teachers meet in pairs, roundtables and whole-group sessions to discuss differentiated instruction in their individual classrooms.

### **Conclusion**

Differentiated instruction is a strategy to address the teaching challenges of working with mixed-ability classrooms of students. Lessons from foundation-supported schools indicate that the success of differentiated instruction involves a strong degree of buy-in from school leadership and teachers and ongoing professional development opportunities for staff to learn, practice and share effective strategies. Learning to differentiate instruction takes time and practice, and teachers should not be discouraged when good intent does not, at first, meet desired outcomes. In addition to the examples included in this brief, the following list of resources is a starting point for researching differentiated instruction and working to incorporate it into classrooms.

## Resources

***The Access Center: Improving Outcomes for All Students K–8*** ([www.k8accesscenter.org/default.asp](http://www.k8accesscenter.org/default.asp)). Works to improve educational outcomes for students with disabilities and build the capacity of technical assistance systems, states, districts and schools to help students with disabilities learn from the general education curriculum.

***“Differentiating instruction: Finding manageable ways to meet individual needs,”*** S. Willis and L. Mann, *Curriculum Update*, Association for Supervision and Curriculum Development, 2000 ([www.ascd.org/ed\\_topics/cu2000win\\_willis.html](http://www.ascd.org/ed_topics/cu2000win_willis.html)). Provides nine differentiated instruction strategies, including stations, compacting, agendas, complex instruction, orbital studies, entry points, problem-based learning, choice boards and 4MAT.

***Differentiation in Practice: A Resource Guide for Differentiating Curriculum,*** C.C. Edison and C.A. Tomlinson, Association for Supervision and Cur-

riculum Development, 2000 ([www.ascd.org/publications/books/2003a\\_tomlinson/2003a\\_tomlinsontoc.html](http://www.ascd.org/publications/books/2003a_tomlinson/2003a_tomlinsontoc.html)). Collection of differentiated teaching for grades 9–12. Includes annotated lesson plans with correlations to state standards; support materials such as worksheets, assignments, rubrics and homework handouts; and teacher comments to help adapt units in curricula.

***Educating Everyone’s Children: Diverse teaching strategies for diverse learners,*** R. Cole, Association for Supervision and Curriculum Development (<http://shop.ascd.org/productdisplay.cfm?productid=195024>). A comprehensive book with nearly 90 instructional strategies for all students, especially those who are at risk of academic failure. Features specific teacher-tested methods for increasing achievement in reading, writing, mathematics and oral communication.

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