

Integrating Differentiated Instruction & Understanding by Design

by Carol Ann Tomlinson and Jay McTighe

UbD and DI: An Essential Partnership

What is the logic for joining the two models?

What are the big ideas of the models, and how do they look in action?

Understanding by Design and Differentiated Instruction are currently the subject of many educational conversations, both in the United States and abroad. Certainly part of the reason for the high level of interest in the two approaches to curriculum and teaching is their logical and practical appeal.

Beset by lists of content standards and accompanying “high-stakes” accountability tests, many educators sense that both teaching and learning have been redirected in ways that are potentially impoverishing for those who teach and those who learn. Educators need a model that acknowledges the centrality of standards but that also demonstrates how meaning and understanding can both emanate from and frame content standards so that young people develop powers of mind as well as accumulate an information base. For many educators, Understanding by Design addresses that need.

Simultaneously, teachers find it increasingly difficult to ignore the diversity of learners who populate their classrooms. Culture, race, language, economics, gender, experience, motivation to achieve, disability, advanced ability, personal interests, learning preferences, and presence or absence of an adult support system are just some of the factors that students bring to school with them in almost stunning variety. Few teachers find their work effective or satisfying when they simply “serve up” a curriculum—even an elegant one—to their students with no regard for their varied learning needs. For many educators, Differentiated Instruction offers a framework for addressing learner variance as a critical component of instructional planning.

That a convergence of the two models seems useful for addressing two of the greatest contemporary challenges for educators—crafting powerful curriculum in a standards-dominated era and ensuring academic success for the full spectrum of learners—is gratifying. The purpose of this book, however, is to move the conversations beyond a sense of “intuitive fit” to a more grounded exploration of why each of the models is potentially significant in today's classrooms—and why their partnership is not only reasonable but essential wherever teachers strive to help each student develop his or her maximum capacity.

With that goal in mind, we will first present a straightforward explanation of why the two models should be linked in the classroom. Then we will provide a set of axioms and corollaries that demonstrate important links between the two models. (Key theory and research that support UbD and DI can be found in the appendix.)

The Logic for Combining UbD and DI

Understanding by Design and Differentiated Instruction are not only mutually supportive of one another but in fact “need” one another. The reason is straightforward.

In effective classrooms, teachers consistently attend to at least four elements: whom they teach (students), where they teach (learning environment), what they teach (content), and how they teach (instruction). If teachers lose sight of any one of the elements and cease investing effort in it, the whole fabric of their work is damaged and the quality of learning impaired.

Understanding by Design focuses on what we teach and what assessment evidence we need to collect. Its *primary* goal is delineating and guiding application of sound principles of curriculum design. It also emphasizes how we teach, particularly ways of teaching for student understanding. Certainly the model addresses the need to teach so that students succeed, but the model speaks most fully about “what” and “how.” In other words, Understanding by Design is predominantly (although not solely) a curriculum design model.

Differentiated Instruction focuses on whom we teach, where we teach, and how we teach. Its *primary* goal is ensuring that teachers focus on processes and procedures that ensure effective learning for varied individuals. Defensible models of differentiation will *necessarily* address the imperative of differentiating quality curriculum. Nonetheless, differentiation is predominantly (although not solely) an instructional design model.

If we had at our grasp the most elegant curriculum in the world and it missed the mark for students with learning disabilities, highly advanced learners, students with limited English proficiency, young people who lack economic support, kids who struggle to read, and a whole host of others, the curriculum would fall short of its promise.

On the other hand, if we were the most effective disciples of flexible grouping, interest-based instruction, responsive environments, and a host of instructional strategies that allow us to attend to learner variance but used those approaches in the absence of powerful curriculum, our classrooms would fail to equip students with the ideas and skills necessary to make their way in the world.

Simply put, quality classrooms evolve around powerful knowledge that works for each student. That is, they require quality curriculum and quality instruction. In tandem, UbD and DI provide structures, tools, and guidance for developing curriculum and instruction based on our current best understandings of teaching and learning.

That the two models stem from current best understandings of teaching and learning—and that they are not only compatible but complementary—will become more evident as the book progresses. At the outset of that exploration, it is useful to share some “axioms” and “corollaries” that demonstrate some ways the two models interface. The axioms are fundamental principles of Understanding by Design. The corollaries demonstrate the way in which Differentiated Instruction works to ensure that each student will have access to and support for success with the axioms. Together, the axioms and corollaries illustrate some ways in which UbD and DI work in tandem toward shared goals. For each set of axioms and corollaries, we'll provide a brief classroom scenario illustrating the combined logic of UbD and DI.

Axiom 1

The primary goal of quality curriculum design is to develop and deepen student understanding.

Corollaries for Axiom 1

- All students benefit from and are entitled to curriculum that develops and deepens their understanding.
- Given variance in student ability, experience, opportunity, language, interest, and adult support, they will grow at different rates and require varied support systems to develop and deepen their understanding.

Scenario

Mr. Axelt designs his curriculum around the essential knowledge, understanding, and skill reflected in both the subject he teaches and the content standards used in his district. Right now, his U.S. history students are studying the relationship between rights and responsibilities of citizens under the U.S. Constitution. He wants all of his students to explore the enduring understanding that democracies balance the rights and responsibilities of citizens who live in them. He also wants all his students to explore the essential question, “How are rights and responsibilities under the U.S. Constitution like and different from rights and responsibilities of members in other groups with which I'm connected?”

In Mr. Axelt's class of 32, he has three students with significant learning disabilities affecting their reading and writing. He has four students with a very advanced knowledge of U.S. history. He has several students who have great difficulty staying on task, some with identified learning problems and some who have no formal label. He has two English language learners. Some of his students have always liked history, and some have previously found it dull and disconnected from their lives. There's also a wide range of students' interests and learning preferences represented in his class.

Mr. Axelt begins teaching the unit on the U.S. Constitution with two primary goals in mind. First, he has designed tasks and assessments with the intent of having all his students understand the Constitution's essential principles and relate the principles to their own lives

and experiences. Second, he is making instructional plans that use different materials, time frames, student groupings, and modes of student expression to ensure that each student will have fully supported opportunities to develop and extend the targeted understandings and skills.

Axiom 2

Evidence of student understanding is revealed when students apply (transfer) knowledge in authentic contexts.

Corollaries for Axiom 2

- Such authentic applications will reveal varying degrees of proficiency and sophistication in students' knowledge, understanding, and skill.
- The most effective teachers use the evidence of variance in student proficiency to provide opportunities and support to ensure that each student continues to develop and deepen knowledge, understanding, and skill from his or her current point of proficiency, interests, and learning preferences.

Scenario

Mr. Axelt's students will develop a charter for a group (family, team, class, club, etc.) that includes explicit and implicit indications of members' rights and responsibilities. Students will present their charter documents in a way that directly compares and contrasts their construction of rights and responsibilities with those concepts in the U.S. Constitution, and that makes a case for why their charter is at least as effective as the Constitution in addressing rights and responsibilities.

To provide for student variance in the class, students may select a group in which they have an interest for which they will develop the charter. To provide for student variance in reading sophistication, Mr. Axelt will work with the school media specialist to provide resource books and other materials, including bookmarked Web sites, at a broad range of reading levels. Students have the option of working alone on their charters or with a partner who shares an interest in the group for which the charter will be designed and a preference for collaboration. Mr. Axelt will also offer brief minisessions on various facets of the charter design and reflection process for students who want that extra support and guidance.

Axiom 3

Effective curriculum development following the principles of backward design (described in Chapter 3 and explored throughout the book) helps avoid the twin problems of textbook coverage and activity-oriented teaching in which no clear priorities and purposes are apparent.

Corollaries for Axiom 3

- *All* learners benefit from and should receive instruction that reflects clarity about purposes and priorities of content.
- Struggling learners require focus on the truly essential knowledge, understanding, and skill of a unit to ensure that their efforts are most efficient and potent in moving them forward in reliable ways.
- Advanced learners need challenge predicated on what is essential in a discipline so that their time is accorded value and their strengths are developed in ways that move them consistently toward expertise in the disciplines.

Scenario

Activities, discussions, and assessments in Mr. Axelt's class are designed to ensure that all students focus on the unit's enduring knowledge, understanding, and skills. He also uses the essential knowledge, understanding, and skill as a focal point for differentiating instruction for students who struggle to learn and for students who are advanced as learners.

Mr. Axelt's students who struggle to learn and have gaps in prior knowledge and skill still focus on the enduring understandings and skills of the unit. Mr. Axelt makes opportunities to work with students on skills they are lacking and often asks them to apply those skills to their assessment tasks. For some of these students, he may emphasize important skills and knowledge from past years rather than “nice but not imperative to know” knowledge and skill from the current unit. Whatever adaptations he makes for these students, however, their focus on the unit's enduring understandings and skills remains a constant in his planning for them.

When Mr. Axelt has evidence that students have already achieved proficiency with unit goals, he recrafts homework, sense-making activities, and key assessments to provide appropriate challenge as well as opportunity for these students to pursue interests. The adaptations continue to focus students on the unit's enduring understandings—but at a level of greater sophistication than is currently appropriate for other students.

Axiom 4

Regular reviews of curriculum and assessment designs, based on design standards, provide quality control and inform needed adjustments. Regular reviews of “results” (i.e., student achievement) should be followed by needed adjustments to curriculum and instruction.

Corollaries to Axiom 4

- Results of reviews will inevitably show variation among students in essential knowledge, understanding, and skills.
- Results-based adjustments to curriculum and instruction should be targeted to the individual as well as to the class as a whole.
- Results-based adjustments will require flexible use of time, teacher attention, materials, student groupings, and other classroom elements to ensure continued development and deepening of students' understanding.

Scenario

Mr. Axelt preassessed his students to determine their points of entry into the unit and also surveyed them regarding particular interests related to the unit. When he saw that some students already demonstrated detailed understanding of the unit's enduring understandings, he used the assessment results to think about alternative learning routes for these students. Similarly, when preassessment results suggested gaps in precursor skills and understandings for some students, he planned small-group instructional sessions and some alternate homework assignments to address these needs.

As the unit progressed, Mr. Axelt used formative or ongoing assessments to chart the progress of his students, continuing to develop small-group and individual learning plans for students who needed additional instruction and exploration in a given area and for students ready to move ahead.

This week, Mr. Axelt divided class time into thirds. He spent about a third of the class time working with all students to contrast the perspectives of various citizen groups on rights and responsibilities related to the First Amendment. He allocated about a third of class time to have students develop oral or written responses from a group of citizens to the balance of rights and responsibilities related to the Second Amendment. The final third of the class time he allotted to instruction of small groups assembled on the basis of need for work with research and writing skills, as indicated by the unit preassessment and reflection on the students' previous key assessment task.

During the direct instruction portions of the week, he presented ideas and information to the whole class, illustrated use of key skills, and engaged students in small- and whole-group consideration of one of the unit's key questions. During student sense-making time, he met with students in small groups for specific needs and moved among students to view and take notes on their work and to coach them as they worked.

Axiom 5

Teachers provide opportunities for students to explore, interpret, apply, shift perspectives, empathize, and self-assess. These six facets provide conceptual lenses through which student understanding is assessed.

Corollaries to Axiom 5

- All students should be guided and supported in thinking in complex ways.
- It is *not* the case that struggling learners must master the basics before they can engage in thinking. Rather, evidence clearly suggests that for most students, mastery and understanding come through, not after, meaningful interaction with ideas.
- Nonetheless, students will differ in the level of sophistication of their thinking and understanding at a given time.
- Teachers should be prepared to provide opportunity and support to continually develop students' understandings and capacities as thinkers.

Scenario

In the current lesson, students are examining varied contemporary perspectives in the United States on a citizen's rights and responsibilities under the Second Amendment. Mr. Axelt provided all students with three key questions to guide their thinking about the issue. Students could select a “constituency group” (e.g., law enforcement officers, hunters, a neighborhood watch group, gun manufacturers) whose perspective they are interested in investigating.

Students who have a need for support with vocabulary received a key vocabulary list of essential words and clear explanations of the words. Students who need structure in gathering data worked with a graphic organizer designed to help them categorize ideas they found. Mr. Axelt also designated resource materials at various levels of difficulty. Students could select resources designated as “straight ahead,” “uphill,” and “mountainous.” Students are accustomed to such designations (which vary from time to time in number of options and language used to describe them) and generally select resources appropriate for them. When they err, he coaches them individually to analyze their choices.

At the end of the lesson, students will meet in groups of four with members representing at least three perspectives on the topic. The groups will receive questions to guide their small-group discussions. They will then respond individually in their learning logs to a question designed to probe their thinking on how and why people's perspectives vary widely on issues like gun control. The learning log entries provide formative assessment data to guide the teacher's instructional planning as the unit moves ahead.

Axiom 6

Teachers, students, and districts benefit by “working smarter” and using technology and other vehicles to collaboratively design, share, and critique units of study.

Corollaries to Axiom 6

- Students also benefit when teachers share understandings about students' learning needs, classroom routines, and instructional approaches to ensure that each student develops knowledge, understanding, and skills as fully as possible.
- A routine part of collaboration in academically diverse classrooms should occur between teachers and specialists who have expert knowledge about student needs and instructional approaches most likely to respond effectively to those needs.
- Technology should be used to address varied learner needs and to assist the teacher in keeping track of student growth toward important curricular goals.

Scenario

Mr. Axelt and his departmental colleagues have designed their curriculum together and meet periodically to evaluate its effectiveness, suggest modifications for future consideration, and share resources. They also discuss issues related to working in

responsive classrooms. Teachers find that their varied perspectives and experiences are complementary and nearly always result in worthwhile suggestions for both curriculum and instruction. Of particular importance in these meetings is the presence of specialists who can make suggestions for differentiating unit plans for various needs—such as students who need to move around to learn, students who need reading support, students who need to work at advanced levels of challenge, and so on. Over time, the resource teachers have helped their colleagues develop a repertoire of strategies such as think-alouds, paired reading, learning contracts, compacting, expert groups, and varied modalities of exploring and expressing ideas.

Axiom 7

UbD is a way of thinking, not a program. Educators adapt its tools and materials with the goal of promoting better student understanding.

Corollaries to Axiom 7

- Differentiated instruction is a way of thinking, not a formula or recipe. Educators draw on, apply, and adapt its tools with the goal of maximizing knowledge, understanding, and skill for the full range of learners.
- Effective differentiation guides educators in thinking effectively about whom they teach, where they teach, and how they teach in order to ensure that what they teach provides each student with maximum power as a learner.

Scenario

Mr. Axelt sees himself as a learner. He is guided in his professional growth by principles of curriculum design and instructional responsiveness, but he understands that those principles are guidelines, not straightjackets. He realizes that he is like his students in needing to develop clarity about the intent of the guiding principles, but that his understanding of them will continue to deepen through each cycle of teaching a unit and each encounter with students. He continues to ask himself, “What does it mean for my students to understand this topic in ways that are relevant, are authentic, and give them power as learners?” and “What can I do to make sure each of my learners is fully supported in growing as fast and as far as possible in understanding this topic?”

Professionals in any field are distinguished by two characteristics: (1) They act on the most current knowledge that defines the field, and (2) they are client centered and adapt to meet the needs of individuals. As the book progresses, we hope you will come to see more clearly the role of Understanding by Design in ensuring that educators identify and teach the essential knowledge, skills, and enduring understandings that shape each of the disciplines and the role of Differentiated Instruction in making certain that each learner has maximum opportunity to benefit from high-quality experiences with those essentials—and their complementary roles in doing so.