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Differentiated Instruction and Educational Standards: Is Détente Possible?

This article addresses the increasingly critical issue of how educators can reconcile standards-driven accountability imperatives with the growing need to address the individual strengths and needs of diverse learners. It argues that not only are these 2 issues reconcilable, it is imperative that educators attend to them simultaneously and consistently if continuous improvement is to occur in schools and districts. The authors respond to three essential questions at the heart of these issues: How can we address required content and grade-level performance standards while remaining responsive to individual students? Can differentiation and standards coexist? How do we maintain standards without standardization?

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ONE OF THE MOST VEXING issues facing contemporary educators involves the seemingly competing imperatives of meeting high-stakes accountability standards while addressing the individual needs and strengths of diverse learners. In light of these demands, a set of essential questions has emerged as schools and districts attempt to address growing public—and governmental—demands for increasing levels of aggregate and disaggregated student achievement results in the face of rigorous and challenging content and performance standards:

- How can teachers address required content and grade-level performance standards while remaining responsive to individual students?
- Can differentiation and standards coexist?
- How do teachers maintain standards without standardization?

As educators confront these competing priorities, they are facing the need for a kind of détente between standards and accountability versus the necessity of addressing the diversity of students' individual strengths and needs. The urgency for

establishing this balance emerges from a variety of troubling trends extending, in part, from school districts' and educators' responses to No Child Left Behind (NCLB, 2002) legislation. In many regions, state and district efforts to meet the NCLB continuous improvement targets have resulted in a variety of instructional practices at odds with what educational research confirms are requirements for promoting genuine student engagement, understanding, and longitudinal achievement progress. Such counterproductive practices include: (a) excessively broad or overloaded written curricula that fail to articulate what is core or essential for deep understanding among all learners; (b) educators' perceptions that they must cover every mandated standard within this "mile-wide, inch-deep" curriculum, in case it appears on a high-stakes accountability test; (c) one-size-fits-all worksheet-based teaching activities that model test questions and familiarize students with testing formats, frequently interrupting the true process of learning; and (d) adoption of a reductionist, "teaching to the test" approach to boost scores on standardized assessments.

Ironically, the ineffectiveness of such practices—and the necessity for a more individualized or differentiated approach to teaching and learning—is confirmed powerfully by the very standardized test data that gave birth to them. A *Washington Post* analysis of recently-published results from the Program for International Student Assessment suggested that:

> American high school students have a poorer mastery of basic math concepts than their counterparts in most other leading industrialized nations .... There are many theories on why U.S. students lag behind their peers abroad in math. They range from the teacher shortage to a lack of sufficiently challenging math courses to an over-reliance on facile standardized tests .... (Dobbs, 2004, pp. A1, A8)

Similar conclusions have been expressed in a variety of other analyses of international educational assessments, including Schmidt, McKnight, and Raizen's (1996) and Stigler and Hiebert's (1999) conclusions regarding implications of the Third International Science and

Mathematics Study (TIMSS). These, and many other, authors reinforced the necessity of educators' emphasizing the following practices: (a) identification of a guaranteed and reliable core curriculum that poses rigorous—but time-sensitive—standards for all learners; (b) ongoing use of a feedback-adjustment process that emphasizes both formative and summative assessments that provide a complete and balanced portrait of how individual students are progressing in relationship to accountability standards; (c) provision of a supported curriculum (i.e., textbooks, software, professional development) that allows teachers to individualize instruction to meet data-confirmed student strengths, interests, and learning needs within time limits and schedules available to them; and (d) consistent use of teaching and learning strategies that engage student interest, promote students' sense of relevance and authenticity, and allow, where appropriate, for differentiation of content, process, and product.

Reassuringly, a genuine balance between educational standards and individualized approaches to teaching and learning is both possible and necessary. We contend that standards-based education and differentiated instruction (DI) not only can coexist, but must function together as two sides of the same accountability coin. In this article, we describe how a backward-design planning framework (Wiggins & McTighe, 1998) can be aligned with the principles of DI (Tomlinson, 1999) to form the armature or infrastructure for building a détente between high-stakes accountability testing extending from the public demand for rigorous standards and the very real need to address the individual needs and strengths of the learner. We investigate the three essential questions posed at the beginning of this article by considering the connections between backward-design planning and DI and their shared implications for answering these questions. More specifically, we synthesize relevant research, review a three-stage backward design curriculum planning process for addressing content standards, and examine instructional and assessment practices that can enhance learning for all students within academically diverse classrooms.

Theory and Research Connections

The approach we advocate recommends that students participate in an education that addresses rigorous content while honoring differences in learners' prior knowledge, interests, and preferred learning styles. Backward design and DI also align themselves with the theoretical underpinnings of cognitive psychology (Bransford, et al., 2001) and research findings from student achievement studies, which support the following operating principles for effective instructional design:

1. Human beings construct meaning, rather than receiving it passively.

2. Learning must be guided by generalized principles to be widely applicable and appropriate for diverse populations.

3. Experts first seek to develop an understanding of problems, and this process often involves thinking in terms of core concepts or big ideas.

4. Research on expertise suggests that superficial coverage of many topics in the domain may be a poor way to help students develop subject-matter competencies.

5. Feedback is fundamental to learning, but feedback opportunities are limited in many classrooms.

6. Many assessments measure only propositional (factual) knowledge and never ask whether students know when, where, and why to use that knowledge.

7. Every person learns and achieves in different ways.

8. The brain is a survival organ that must be engaged by its learning environment rather than threatened or negated by it.

The processes of backward design and DI reinforce these research-based guidelines, confirming the powerful connection between students' achievement, and an education that focuses on teaching for understanding using the principles of differentiation. The benefits of this linkage are especially evident in research studies involving schools and districts representing student diversity, including the following: (a) achievement studies conducted in Chicago public schools (Smith, Lee, & Newmann, 2001); (b) the National Assessment of Educational Progress (2002); (c) the instructional study accompanying the TIMSS (Stigler & Hiebert, 1999); and (d) Robert Marzano's *What works in schools: Translating research into action* (2003).

Combined, these studies support four key principles for differentiated approaches to delineating learning outcomes, assessing and evaluating student achievement, and designing and implementing teaching and learning activities that reinforce student understanding of core curriculum content:

1. Curriculum standards need to be unpacked to identify conceptual organizers, that is, the big ideas that students should come to understand and revisit multiple times during the course of their education. Failure to do so can result in a fragmented curriculum of decontextual facts and skills, forcing teachers into a coverage approach to teaching and learning that almost inevitably results in a failure to maximize student achievement.

2. Students learn best when they are engaged in purposeful, active, and inquiry-driven teaching and learning activities, rather than passive variations of didactic instruction. The more learners are situated at the center of their own learning process, the greater the extent of their understanding and mastery of desired outcomes.

3. Assessments should require students' demonstrations of understanding, not just recall of information or formulaic modeling. Understanding is best revealed through multiple forms of understanding, including real-world applications, explanations involving the construction of claims and arguments supported with evidence; analysis of perspectives associated with significant debates and controversial issues; expressions of empathy, with students encouraged to walk in the shoes of others; and self-reflection, involving students' growing ability to reflect, revise, rethink, and refine.

4. Effective instruction accommodates differences in learners' readiness level(s), interests, and learning profiles. This principle, which lies at the heart of the Tomlinson (1999) model of DI, requires educators to place the learner at the center

of the teaching-learning process. Therefore, responsive teaching demands diagnostic and ongoing assessments of student progress in relationship to required content and performance standards. Through this process, teachers decrease skills and knowledge gaps, as well as accommodate individual students' demonstrated strengths, interests, and personal learning goals.

Planning With Both Content and Learners in Mind

To act on these principles, we propose the use of a three-stage curriculum design process for planning assessment and instruction (Wiggins & McTighe, 1998). A one-page design template

(Figure 1) displays the design elements and the corresponding planning questions for educators to consider. (McTighe & Wiggins, 2004)

In the next section, we examine the use of the backward-design process to enhance educators' planning with content and learners in mind.

Stage One—Desired Results

In Stage One, we identify desired results. Established goals such as content standards (placed in Row G of the Template) serve as a focal point for teaching all students. The big ideas that we want students to come to understand (Row U), and their companion essential questions (Row Q), provide intellectual richness and promote transfer of learn-
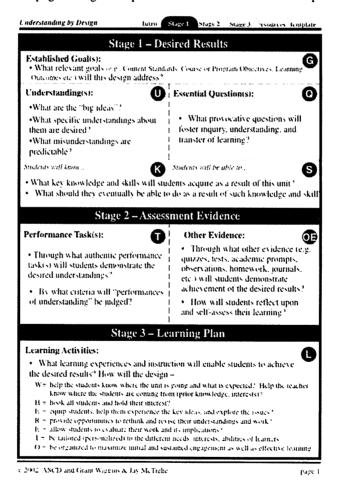

Figure 1   Design template.

ing. Like the content standards, desired understandings and questions should remain a constant target, irrespective of differences in students' background knowledge, interests, and preferred learning modalities. In other words, the big ideas and essential questions provide the conceptual pillars that anchor the various disciplines.

Teachers do not arbitrarily amend these conceptual organizers based on whom they are teaching.[1] All learners should investigate, explore, and debate these big ideas and recurrent universal questions. At the same time, the nature and needs of learners should clearly influence how educators teach individual learners and groups of students to address and engage in inquiry into those ideas and questions. In this instance, therefore, détente consists of using the same conceptual organizers to bring unity and coherence to students' experiences with the curriculum they are studying. Simultaneously, teachers can be responsive to diverse learners by differentiating the depth of content they explore, the assessments through which they demonstrate their evolving understandings, and the instructional strategies used to promote this process.

More specific knowledge and skill objectives (Boxes K and S) are linked to the desired standards and understandings—yet some differentiation may well be needed here also. Because students typically vary in their prior knowledge and skill levels—particularly at the beginning of a course of study, grading period, unit, or lesson—responsive teachers should target their instruction to address significant gaps in knowledge and skills. Such responsiveness follows from effective diagnostic assessments that reveal if such prerequisites exist within each learner. When readiness levels are appropriate, such processes as tiering, curriculum compacting, and centers can be used to extend and refine the learning of students already having requisite knowledge and skills. If gaps or deficiencies are present, however, instructors can eliminate or ease such gaps through a variety of instructional interventions, including individual coaching and tutorials, small-group instruction, and peer coaching activities. Thus, there is a place for sensitivity to student needs in Stage One, without compromising the established standards or the integrity of subject areas.

Stage Two—Assessment Evidence

The logic of backward design dictates that evidence derives from established goals. In Stage Two, teachers are asked to think like assessors to determine the assessments that will provide the evidence for the identified knowledge, skills, and understandings in Stage One. We have found it fruitful to examine the verbs in the content standard and benchmark statements, because they suggest the nature of the needed evidence.

For example, a standard that uses verbs such as "know" or "identify" implies that an objective test could provide an appropriate measure. However, a standard that expects students to apply, analyze, or explain—to thoughtfully use their knowledge and skill—demands different methods for verifying student achievement. Similarly, when one considers the big ideas teachers want students to understand, one needs to concurrently consider the evidence that will show that students truly understand them. In this regard, Wiggins and McTighe (1998) proposed that understanding is best revealed within real-world tasks and projects through various facets—when learners can *explain, interpret, apply, shift perspective, display empathy,* and *reflectively self-assess.* In other words, educators need to match the assessment measures with the goals.

Both backward design and DI emphasize the power and significance of culminating performance assessment tasks and projects. Specifically, such "respectful tasks" allow students to engage in independent decision-making, problem solving, investigation, experimental inquiry, creative expression, and related forms of higher-order thinking processes. By engaging in real-world tasks and projects, students learn to become increasingly independent and self-expressive through a variety of media and modalities. It is also within the context of work on such respectful tasks that students can be most actively involved in making decisions about product, process, and presentation of final results. In effect, the least standardized, and therefore most differentiated, type of formal assessment involves the use of such open-ended performance tasks. Given appropriate options, choices, and guidance, students are more likely to demonstrate and express

their learning in ways that capitalize on their strengths and interests.

The backward-design process recommends that performances of understanding be framed using the features suggested by the acronym "G.R.A.S.P.S." In other words, authentic tasks should include: (a) a real world Goal; (b) a meaningful Role for the student; (c) authentic (or simulated) real world Audience(s); (d) a contextualized Situation that involves real-world application; (e) student-generated culminating Products and Performances; and (f) consensus-driven performance Standards (criteria) for judging success. Performance tasks having these features provide meaningful learning targets for learners, worthy performance goals for teaching, and the kind of evidence needed to assess true understanding.

Although the needed evidence, in general, is determined by the desired results, the particulars of an assessment can, nonetheless, be tailored to accommodate the uniqueness of students. Consider a science standard that calls for a basic understanding of life cycles. Evidence of this understanding could be obtained by having students explain the concept and offer an illustrative example. Such evidence could be collected in writing, but such a requirement would be inappropriate for an ESL student with limited skills in written English. Indeed, her difficulty in expressing herself in writing could yield the incorrect inference that she does not understand life cycles. However, if she is offered flexibility with the response mode, such as explaining orally or visually, we will obtain a more valid measure of her understanding.

It is important to note that, although teachers may offer students options to show what they know and can do, they will use the same criteria in judging the response. In the previous example, a student's explanation of life cycles must be accurate, thorough, and include an appropriate illustrative example, regardless of whether the student responded orally, visually, or in writing. In other words, the criteria are derived primarily from the content goal, not the response mode. If one varies the fundamental criteria for different students, then one can no longer claim to be standards-based and criterion-referenced. Of course, feasibility must be considered. Teachers will need

to find the practical balance point between completely individualized assessments and standardized, one size fits all, measures. Nonetheless, we believe that classroom assessments can indeed be responsive to students' differences and still provide what is needed—reliable information about student learning.

In addition, the more actively the learner is involved in understanding and applying the evaluation criteria, the greater his or her internalization and ownership of those criteria will be. The processes of backward design and DI, therefore, emphasize the need for students to be continuously involved in various types of self-reflection and self-assessment. Less formalized activities can include reflective journals, think logs, and such interactive reflection activities as the listen-think-pair-share process. More formalized approaches can include peer coaching and peer response team activities, each of which involve students' application of evaluation criteria expressed in the form of scoring rubrics, analytic guides, or checklists. The more students apply the evaluation criteria through these informal and formal processes, the more they internalize them and integrate them into lifelong intellectual dispositions and habits of mind.

Stage Three—The Learning Plan (W.H.E.R.E.T.O.)

Finally, in Stage Three one develops a teaching and learning plan to help students achieve the desired results of Stage One and equip them for their performances of understanding in Stage Two. In Stage Three, responsive—and differentiated—teaching flourishes as one considers the variety in readiness, interests and preferred learning modalities of the students.

When developing a plan for learning, we propose that teachers consider a set of principles, embedded in the acronym "W.H.E.R.E.T.O." These principles provide the blueprint for instructional design in Stage Three. Its design principles reinforce rigorous core standards for all learners, and ensure sensitivity to the unique strengths and needs of every student. We have framed each of the W.H.E.R.E.T.O. principles in the form of

questions to consider. It should be noted that the design questions for each letter are posed to encourage the teacher to consider the perspective of the learner, who should always be at the heart of the teaching–learning process.

W = *How will I help learners know: Where are we going? Why we are going there? In what ways they will be evaluated as we move through this instructional episode?*

Research confirms that learners are more likely to succeed when they understand the learning goals and see them as meaningful and personally relevant. Marzano (2004) and others suggested that students must own the learning goals for which they are responsible, and demonstrate growing capacity to articulate the connectivity of what they learn to their world beyond the classroom. The "W" reminds teachers to clearly communicate the goals and help students see their relevance. In addition, learners need to know the concomitant performance expectations and assessments through which they will demonstrate their learning so they have clear learning targets and the basis for monitoring their progress toward them.

H = *How will I hook and engage the learners? In what ways will I help them connect desired learning to their experiences and interests?*

As brain researchers (e.g., Caine & Caine, 1991) have reminded us, students are constantly downshifting into lower brainwave states. Instructors, therefore, must engage and hook student interest by using up-front anticipatory set activities that stimulate students' imaginations and engage their hearts and minds. Examples of effective hooks include provocative essential questions, mysteries or counter-intuitive experiences, controversial issues, authentic problems and challenges, emotional encounters, and humor. One must be mindful, of course, of matching the hook with the content and the age and experience of the students, another area in which differentiation can be addressed.

E = *How will I equip learners through experience-based learning activities to succeed in mastering identified standards? How will I encourage them to assume an active role in their own learning process?*

Because students construct meaning and attach all new learning to previous cognitive schema (Vygotsky, 1934/1986), classrooms that promote high levels of standards mastery emphasize experiential learning activities that are both multi-sensory and sensitive to the range of learning styles and intelligences present within the student population. The more active the learner in the learning process, the higher his or her achievement of understanding. In turn, this approach ensures a far higher level of standards mastery than traditional lecture and skill-drill forms of instruction. Teachers should select an appropriate balance of constructivist learning experiences, structured activities, and direct instruction for helping students acquire the desired knowledge, skill, and understanding. In addition, instructors can plan to equip students for their culminating performance tasks, in the same way that effective coaches prepare their team members for the game.

R = *How will I encourage the learners to revisit, reflect, revise, and refine their thinking and learning process? How will I support their self-monitoring as they learn?*

One of the most frequently overlooked aspects of the teaching and learning process is the necessity of helping students become self-evaluative and self-regulating, essential components of an effectively differentiated instructional program. Students need to become more than mechanical appliers of predigested information and mechanical skills. Instead, individual learners assume responsibility for revisiting and revising their thinking and learning processes, reshaping and reforming their conclusions, judgments, and perceptions as they internalize new learning.

Few learners develop a complete understanding of abstract ideas on the first encounter. Over time, learners develop and deepen their understanding by thinking and rethinking, by examining

ideas from a different point of view, by examining underlying assumptions, and by receiving feedback and revising. Just as the quality of writing benefits from the iterative process of drafting and revising, so do understandings become more mature. The "R" encourages teachers to build in such opportunities—by design.

E = How will I promote students' self-evaluation and reflection throughout the instructional episode?

One important aspect of becoming a confident and capable learner lies in the capacity to set goals, monitor ones own progress, self-assess, and adjust as needed. Teachers support these competencies by expecting, and providing opportunities, for students to regularly self-assess. A natural way of promoting student self assessment and reflection is realized through the posing and investigation of questions such as the following:

What do you really understand about _____? What is still confusing?

How could you improve _____? What would you do differently next time?

What are you most proud of? What are you most disappointed in?

What are your strengths in _____? What are your deficiencies in _____?

How does your preferred learning style influence _____?

How does what you've learned connect to other learnings?

How has what you've learned changed your thinking?

How will you make use of what you've learned?

T = How will I tailor the learning activities and my teaching to address the different readiness levels, learning profiles, and interests of my students?

As Tomlinson (1999) has articulated consistently in her framework, helping all learners

reach required standards must inevitably involve the tailoring or differentiating of teaching and learning experiences. These tailoring approaches can differentiate content focus, process requirements, and end products depending on students' identified needs and strengths (i.e., readiness levels), as well as key elements of their individual learning profiles (e.g., modality preferences, learning styles) and interests. The range and diversity of learning activities suggested in Tomlinson's model are as varied in scope and design as the range of student readiness levels, interests, and learning profiles. Here are eight of the many practical strategies suggested by Tomlinson for tailoring teaching and learning activities to maximize student achievement, particularly students' demonstration of the previously cited six facets of understanding: (a) learning centers; (b) personalized agendas; (c) small-group activities; (d) independent studies; (e) tiered activities; (f) learning contracts; (g) compacting; and (h) choice boards.

O = How will the learning experiences be organized to move from initial construction of meaning and modeling of required knowledge and skills toward increasing levels of understanding and independent application? What sequence will work best for my students?

Finally, students' achievement of deep understanding of required standards necessitates carefully organized learning experiences. Traditional instruction typically follows a linear sequence that builds from discrete facts and skills toward more abstract concepts and processes. Although this approach may work in some circumstances, insights about learning from cognitive psychology challenge this building block approach. Rather than having students master all the basics before engaging in more authentic application, effective teachers (Stigler & Hiebert, 1999) immerse their students in meaningful and challenging tasks and problems. It is through contextualized grappling with ideas and processes that learners come to see the need for the basics, as well as the larger purpose that they serve. Understanding develops and

deepens by attempting to use knowledge in mean- ingful ways, not through decontextualized drill and practice. Instructional approaches such as problem-based learning, process writing, Socratic Seminar, the five E's in science (Explore, Equip, Experience, Evaluate, Express), and web quests, reverse the conventional "part-to-whole" se- quence in favor of more holistic experiences that require students to construct meaning for them- selves. The "Q" reminds teachers to carefully con- sider sequence as they decide the best means of reaching the desired results with the diverse group of learners they serve.

Concluding Thoughts

The controlling ideas of the three-stage back- ward design process align with the key tenets of DI. Tomlinson and McTighe (in press) concurred that every student deserves a rigorous education aligned with content and performance standards that promote understanding. In both frameworks, curriculum planning requires determining the big ideas, controlling themes, and conceptual orga- nizers that bring meaning and coherence to stu- dents' learning experiences. These two ap- proaches emphasize ongoing assessment and related feedback adjustment within the teach- ing–learning process. In both frameworks, as- sessment and instruction are inextricably linked, with ongoing modifications in classroom group- ing practices (including whole-group instruction, small group, and individualized activities) made based on the instructor's continual monitoring and responding to students' expressed strengths and needs.

An additional connection between backward design and DI centers on a shared commitment to what Tomlinson (1999) labeled respectful work. For students to achieve genuine success in both ac- ademic and real-life settings, they must achieve deep understanding of what they are studying and demonstrate a capacity for individual creativity, self-expression, and critical thinking. Respectful tasks, which parallel backward design's emphasis on performance tasks and culminating projects: (a) consider the readiness level of each student, (b)

expect all students to demonstrate continuous growth, (c) offer all students the opportunity to ex- plore important ideas and skills at escalating rates of difficulty and proficiency, and (d) offer all learners opportunities to engage in tasks that are equally interesting, equally important, and equally engaging (Tomlinson, 1999).

A river needs banks to flow. Backward design provides the structure to support flexibility in teaching and assessing, to honor the integrity of content while respecting the individuality of learners. What can we conclude, therefore, about the potential for détente between standards-driven accountability initiatives and the need for differ- entiation to accommodate individual student strengths, interests, and needs? We end by return- ing to where we began, briefly summarizing our own conclusions about our article's three essential questions:

- How can teachers address required content and grade-level performance standards while re- maining responsive to individual students?

All learners should be held to the same rigorous standards. Every student, in fact, should dem- onstrate longitudinal progress toward genuinely understanding what he or she is learning via six facets of understanding (explanation, application, interpretation, perspective, empathy, and self- knowledge). However, the pathway each student takes toward achieving understanding and related standards mastery must involve a differentiated approach to content, process, and product based on assessment and analysis of every student's readiness levels, learning profiles, and interests.

- Can differentiation and standards coexist?

We maintain our assertion that standards and differentiation not only can coexist, they must co- exist if schools and districts are to achieve the con- tinuous improvement targets imposed on them by NCLB (2002). In light of the growing diversity of our student populations, it is imperative that all ed- ucators receive the professional development they need to achieve the following: (a) understanding of their state and district content standards and re-

lated instructional implications; (b) proficiency in designing and implementing a balanced and comprehensive approach to assessing student progress, including diagnostic feedback concerning students' readiness levels and related interventions to maximize individual students' progress toward standards mastery; and (c) the ability to design and implement a variety of research-based instructional strategies and interventions that will maximize student achievement while accommodating students' individual learning profiles and personal learning goals.

● **How do we maintain standards without standardization?**

We contend that educational reform requires a process of revisiting and knowing the place for the first time among educators. High-stakes accountability measures tied to rigorous academic standards are not just a passing fad. They are part of the lifeblood of teaching and learning in the 21st century. At the same time, standards do not imply one-size-fits-all standardization of professional practice. Professional development, as well as classroom teaching and learning, must be flexible and responsive to meet the needs of the clientele teachers serve. What may work for certain learners, may not be what other learners require to succeed. Teachers must continuously revisit what they are doing and how they are doing it to ensure that every learner maximizes his or her potential. Twenty-first century learning communities are not factories built on assembly-line principles: They are places where shared goals are met by individuals and teams working together to capitalize on the talents and strengths of every member of that community.

Note

1. In cases in which Individualized Education Plans have been developed for exceptional students, then the particular goals of their plan are added to, or substituted for, the content standards.

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