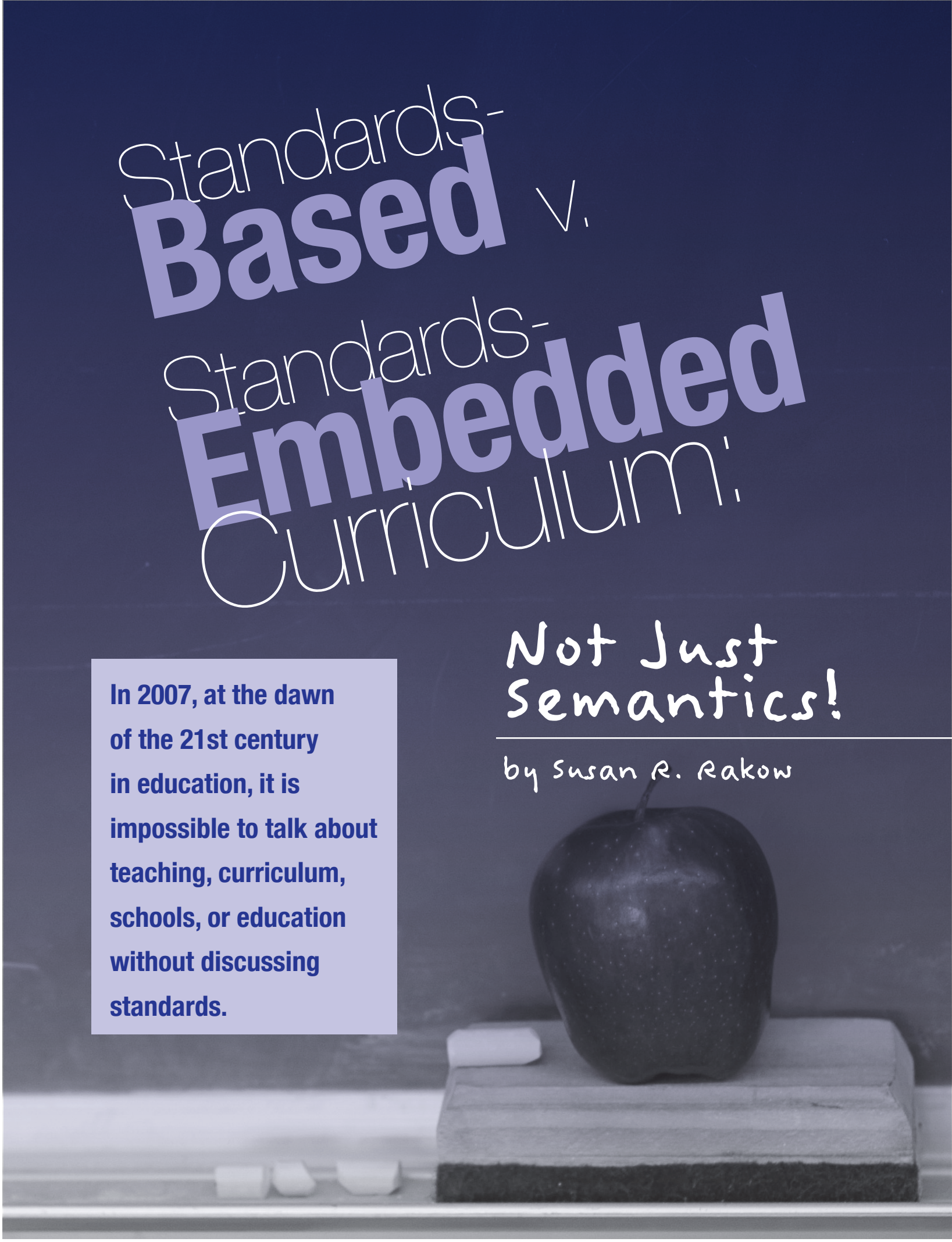
Standards-Based v. Standards-Embedded Curriculum:

Not Just Semantics!

by Susan R. Rakow

In 2007, at the dawn of the 21st century in education, it is impossible to talk about teaching, curriculum, schools, or education without discussing standards.



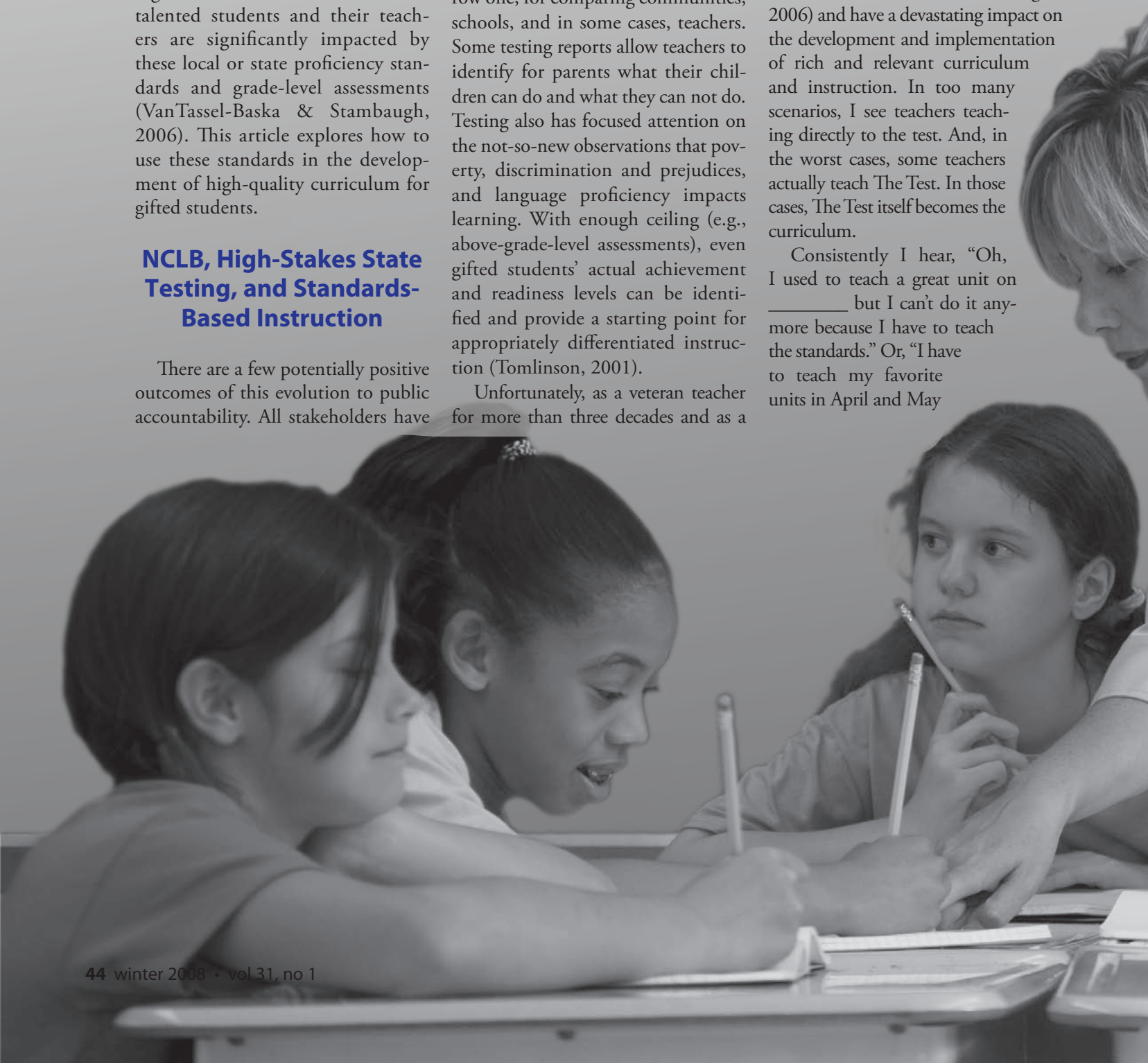
We are in an age of accountability where our success as educators is determined by individual and group mastery of specific standards demonstrated by standardized test performance. Even before No Child Left Behind (NCLB), standards and measures were used to determine if schools and students were successful (McClure, 2005). But, NCLB has increased the pace, intensity, and high stakes of this trend. Gifted and talented students and their teachers are significantly impacted by these local or state proficiency standards and grade-level assessments (VanTassel-Baska & Stambaugh, 2006). This article explores how to use these standards in the development of high-quality curriculum for gifted students.

NCLB, High-Stakes State Testing, and Standards-Based Instruction

There are a few potentially positive outcomes of this evolution to public accountability. All stakeholders have had to ask themselves, "Are students learning? If so, what are they learning and how do we know?" In cases where we have been allowed to thoughtfully evaluate curriculum and instruction, we have also asked, "What's worth learning?" "When's the best time to learn it?" and "Who needs to learn it?" Even though state achievement tests are only a single measure, citizens are now offered a yardstick, albeit a narrow one, for comparing communities, schools, and in some cases, teachers. Some testing reports allow teachers to identify for parents what their children can do and what they can not do. Testing also has focused attention on the not-so-new observations that poverty, discrimination and prejudices, and language proficiency impacts learning. With enough ceiling (e.g., above-grade-level assessments), even gifted students' actual achievement and readiness levels can be identified and provide a starting point for appropriately differentiated instruction (Tomlinson, 2001).

Unfortunately, as a veteran teacher for more than three decades and as a teacher-educator, my recent observations of and conversations with classroom and gifted teachers have usually revealed negative outcomes. For gifted children, their actual achievement level is often unrecognized by teachers because both the tests and the reporting of the results rarely reach above the student's grade-level placement. Assessments also focus on a huge number of state standards for a given school year that create "overload" (Tomlinson & McTighe, 2006) and have a devastating impact on the development and implementation of rich and relevant curriculum and instruction. In too many scenarios, I see teachers teaching directly to the test. And, in the worst cases, some teachers actually teach The Test. In those cases, The Test itself becomes the curriculum.

Consistently I hear, "Oh, I used to teach a great unit on _____ but I can't do it anymore because I have to teach the standards." Or, "I have to teach my favorite units in April and May



after testing." If the outcomes can't be boiled down to simple "I can . . ." statements that can be posted on a school's walls, then teachers seem to omit potentially meaningful learning opportunities from the school year. In many cases, real education and learning are being trivialized. We seem to have lost sight of the more significant purpose of teaching and learning: individual growth and development. We also have surrendered much of the joy of learning, as the incidentals, the tangents, the "bird walks" are cut short or eliminated because teachers hear the constant ticking clock of the countdown to the state test and feel the pressure of the way-too-many standards that have to be covered in a mere 180 school days. The accountability movement has pushed us away from seeing the whole child: "Students are not machines, as the standards movement suggests; they are volatile, complicated, and paradoxical" (Cookson, 2001, p. 42).

How does this impact gifted children? In many heterogeneous classrooms, teachers have retreated to traditional subject delineations and traditional instruction in an effort to ensure direct standards-based instruction even though "no solid basis exists in the research literature for the ways we currently develop, place, and align educational standards in school curricula" (Zenger & Zenger, 2002, p. 212). Grade-level standards are often particularly inappropriate for the gifted and talented whose pace of learning, achievement levels, and depth of knowledge are significantly beyond their chronological peers.

A broad-based, thematically rich, and challenging curriculum is the heart of education for the gifted. Virgil Ward, one of the earliest voices for a differential education for the gifted, said, "It is insufficient to consider the curriculum for the gifted in terms of traditional subjects and instructional processes" (Ward, 1980, p. 5). VanTassel-Baska

and Stambaugh (2006) described three dimensions of successful curriculum for gifted students: content mastery, process and product, and epistemological concept, "understanding and appreciating systems of knowledge rather than individual elements of those systems" (p. 9). Overemphasis on testing and grade-level standards limits all three and therefore limits learning for gifted students. Hirsch (2001) concluded that "broad general knowledge is the best entrée to deep knowledge" (p. 23) and that it is highly correlated with general ability to learn. He continued, "the best way to learn a subject is to learn its general principles and to study an ample number of diverse examples that illustrate those principles" (Hirsch, 2001, p. 23). Principle-based learning applies to both gifted and general education children.

In order to meet the needs of gifted and general education students, curriculum should be differentiated in ways that are relevant and engaging. Curriculum content, processes, and products should provide challenge, depth, and complexity, offering multiple opportunities for problem solving, creativity, and exploration. In specific content areas, the curriculum should reflect the elegance and sophistication unique to the discipline. Even with this expanded view of curriculum in mind, we still must find ways to address the current reality of state standards and assessments.

Standards-Embedded Curriculum

How can educators address this challenge? As in most things, a change of perspective can be helpful. Standards-based curriculum as described above should be replaced with standards-embedded curriculum. Standards-embedded curriculum begins with broad questions and topics, either discipline specific or interdisciplinary. Once teachers have given thoughtful consideration to relevant, engaging, and important content and the connections that support meaning-making (Jensen, 1998), they next select standards that are relevant to this content and to summative assessments. This process is supported by the backward planning advocated in *Understanding by Design* by Wiggins and McTighe (2005) and its predecessors, as well as current thinkers in other fields, such as Covey (Tomlinson & McTighe, 2006). It is a critical component of differentiating instruction for advanced learners (Tomlinson, 2001) and a significant factor in the Core Parallel in the Parallel Curriculum Model (Tomlinson et al., 2002).

Teachers choose from standards in multiple disciplines at both above and below grade level depending on the needs of the students and the classroom or program structure. Preassessment data and the results of prior instruction also inform this process of embedding appropriate standards. For gifted students, this formative assessment will result in "more advanced curricula available at younger ages, ensuring that all levels of the standards are traversed in the process" (VanTassel-Baska & Little, 2003, p. 3).

Once the essential questions, key content, and relevant standards are selected and sequenced, they are embedded into a coherent unit design and instructional decisions (grouping, pacing, instructional methodology) can be made. For gifted students, this includes the identification of appropriate resources, often including advanced texts, mentors, and independent research, as appropriate to the child's developmental level and interest.

Applying Standards-Embedded Curriculum

What does this look like in practice? In reading the possible classroom applications below, consider these three Ohio Academic Content Standards for third grade:

1. Math: "Read thermometers in both Fahrenheit and Celsius scales" ("Academic Content Standards: K–12 Mathematics," n.d., p. 71).
2. Social Studies: "Compare some of the cultural practices and products of various groups of people who have lived in the local community including artistic expression, religion, language, and food. Compare the cultural practices and products of the local community with those of other communities in Ohio, the United States, and countries of the world" (Academic Content Standards: K–12 Social Studies, n.d., p. 122).
3. Life Science: "Observe and explore how fossils provide evidence about animals that lived long ago and the nature of the environment at that time" (Academic Content Standards: K–12 Science, n.d., p. 57).

When students are fortunate to have a teacher who is dedicated to helping all of them make good use of their time, the gifted may have a preassessment opportunity where they can demonstrate their familiarity with the content and potential mastery of a standard at their grade level. Students who pass may get to read by themselves for the brief period while the rest of the class works on the single outcome. Sometimes more experienced teachers will create opportunities for gifted and advanced students

to work on a standard in the same domain or strand at the next higher grade level (i.e., accelerate through the standards). For example, a student might be able to work on a Life Science standard for fourth grade that progresses to other communities such as ecosystems. These above-grade-level standards can provide rich material for differentiation, advanced problem solving, and more in-depth curriculum integration.

In another classroom scenario, a teacher may focus on the math standard above, identifying the standard number on his lesson plan. He creates or collects paper thermometers, some showing measurement in Celsius and some in Fahrenheit. He also has some real thermometers. He demonstrates thermometer use with boiling water and with freezing water and reads the different temperatures. Students complete a worksheet that has them read thermometers in Celsius and Fahrenheit. The more advanced students may learn how to convert between the two scales. Students then practice with several questions on the topic that are similar in structure and content to those that have been on past proficiency tests. They are coached in how to answer them so that the standard, instruction, formative assessment, and summative assessment are all aligned. Then, each student writes a statement that says, "I can read a thermometer using either Celsius or Fahrenheit scales."

Both of these examples describe a standards-based environment, where the starting point is the standard. Direct instruction to that standard is followed by an observable student behavior that demonstrates specific mastery of that single standard. The standard becomes both the starting point and the ending point of the curriculum. Education, rather than opening up a student's mind, becomes a series of closed links in a chain. Whereas the above lessons may be differentiated to some extent, they have no context; they may relate only to the next standard on the list, such as, "Telling time to the nearest minute and finding elapsed time using a calendar or a clock."

How would a "standards-embedded" model of curriculum design be different? It would begin with the development of an essential question such as, "Who or what lived here before me? How were they different from me? How were they the same? How do we know?" These questions might be more relevant to our contemporary highly mobile students. It would involve place and time. Using this intriguing line of inquiry, students might work on the social studies standard as part of the study of their hometown, their school, or even their house or apartment. Because where people live and what they do is influenced by the weather, students could look into weather patterns of their area and learn how to measure temperature using a Fahrenheit scale so they could see if it is similar now to what it was a century ago. Skipping ahead to consideration of the social studies standard, students could then choose another country, preferably one that uses Celsius, and do the same investigation of fossils, communities, and the like. Students could complete a weather comparison, looking at the temperature in Celsius as people in other parts of the world, such as those in Canada, do. Thus, learning is contextualized and connected, demonstrating both depth and complexity.

This approach takes a lot more work and time. It is a sophisticated integrated view of curriculum development and involves in-depth knowledge of the content areas, as well as an understanding of the scope and sequence of the standards in each discipline. Teachers who develop vital single-discipline units, as well as interdisciplinary teaching units, begin with a central topic surrounded by subtopics and connections to other areas. Then they connect important terms, facts, or concepts to the subtopics. Next, the skilled teacher/curriculum developer embeds relevant, multileveled standards and objectives appropriate to a given student or group of students into the unit. Finally, teachers select the instructional strategies and develop student assessments. These assessments include, but are not limited to, the types of questions asked on standardized and state assessments.

Comparing Standards-Based and Standards-Embedded Curriculum Design

Following is an articulation of the differences between standards-based and standards-embedded curriculum design. (See Figure 1.)

1. *The starting point.* Standards-based curriculum begins with the grade-level standard and the underlying assumption that every student needs to master that standard at that moment in time. In standards-embedded curriculum, the multifaceted essential question and students' needs are the starting points.
2. *Preassessment.* In standards-based curriculum and teaching, if a preassessment is provided, it covers a single standard or two. In a standards-embedded curriculum, preassessment includes a broader range of grade-level and advanced standards, as well as students' knowledge of surrounding content such as background experiences with the subject, relevant skills (such as reading and writing), and even learning style or interests.

	Standards Based	Standards Embedded
Starting Points	The grade-level standard. Whole class' general skill level	Essential questions and content relevant to individual students and groups.
Preassessment	Targeted to a single grade-level standard. Short-cycle assessments.	Background knowledge. Multiple grade-level standards from multiple areas connected by the theme of the unit. Includes annual learning style and interest inventories.
Acceleration/ Enrichment	To next grade-level standard in the same strand.	To above-grade-level standards, as well as into broader thematically connected content.
Language Arts	Divided into individual skills. Reading and writing skills often separated from real-world relevant contexts.	The language arts are embedded in all units and themes and connected to differentiated processes and products across all content areas.
Instruction	Lesson planning begins with the standard as the objective. Sequential direct instruction progresses through the standards in each content area separately. Strategies are selected to introduce, practice, and demonstrate mastery of all grade-level standards in all content areas in one school year.	Lesson planning begins with essential questions, topics, and significant themes. Integrated instruction is designed around connections among content areas and embeds all relevant standards.
Assessment	Format modeled after the state test.	Variety of assessments including questions similar to the state test format.
Teacher Role	Monitor of standards mastery. Time manager.	Facilitator of instructional design and student engagement with learning, as well as assessor of achievement.
Student Self-Esteem	"I can . . ." statements. Star Charts. Passing "the test."	Completed projects/products. Making personal connections to learning and the theme/topic.

Figure 1. Standards based v. standards-embedded instruction and gifted students.

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3. *Acceleration/Enrichment*. In a standards-based curriculum, the narrow definition of the learning outcome (a test item) often makes acceleration or curriculum compacting the only path for differentiating instruction for gifted, talented, and/or advanced learners. This rarely happens, however, because of lack of materials, knowledge, or time, and the potential political outcry of "stepping on the toes" of the next grade's teacher. Few classroom teachers have been provided with the in-depth professional development and understanding of curriculum compacting that would allow them to implement this effectively. In standards-embedded curriculum, enrichment and extensions of learning are more possible and more interesting because ideas, topics, and questions lend themselves more easily to depth and complexity than isolated skills.
4. *Language arts*. In standards-based classrooms, the language arts have been redivided into separate skills, with reading separated from writing, and writing separated from grammar. To many concrete thinkers, whole-language approaches seem antithetical to teaching "to the standards." In a standards-embedded classroom, integrated language arts skills (reading, writing, listening, speaking, presenting, and even phonics) are embedded into the study of every unit. Especially for the gifted, the communication and language arts are essential, regardless of domain-specific talents (Ward, 1980) and should be components of all curriculum because they are the underpinnings of scholarship in all areas.
5. *Instruction*. A standards-based classroom lends itself to direct instruction and sequential progression from one standard to the next. A standards-embedded classroom requires a variety of more open-ended instructional strategies and materials that extend and diversify learning rather than focus it narrowly. Creativity and differentiation in instruction and student performance are supported more effectively in a standards-embedded approach.
6. *Assessment*. A standards-based classroom uses targeted assessments focused on the structure and content of questions on the externally imposed standardized test (i.e., proficiency tests). A standards-embedded classroom lends itself to greater use of authentic assessment and differentiated

content and product. Part of the outcome may be "I learned . . ." statements that are more abstract and may be more individualized. Part also may continue to be "I can . . ." statements.

7. *Teacher role*. In a standards-based classroom, the assumption is that students who achieve success mastering the standards will have improved self-esteem, which will motivate continued learning. Thus, the teacher's role is to carefully design sequenced lessons that present a single standard at a time. Then the teacher monitors attainment of the standards and reports the results back to the student and parent or guardian. In a standards-embedded classroom, the assumption is that student engagement with intriguing and more personalized content will motivate learning and the challenging level of the achieved content will build self-esteem. Thus, the teacher's primary role is to design curriculum units and instructional strategies that engage students with challenging content in ways that are personally and intellectually relevant while also monitoring attainment of standards.
8. *Student self-esteem and pride in learning*. In the standards-based classroom, these are defined by passing test scores and reflected in "I can . . ." statements or stars on a chart next to mastered standards. Students in a standards-embedded classroom are more likely to develop self-esteem and love of learning based on opportunities for exploration of relevant thematic connections and differentiated and authentic assessment. Motivation is enhanced by completion of self-selected and creative products. Successful test scores complement the broader assessments of learning and add to students' confidence.

Transitioning to Standards-Embedded Curriculum

One of the components essential for successful transition to a standards-embedded curriculum is planning time for individual teachers and teams, such as Professional Learning Communities (PLCs). This is costly to school districts but builds both better curriculum and teacher ownership. It allows for the development of instruction and materials that suit individual communities and their students.

Although the task of embedding standards may seem daunting, it is an essential approach to creating relevant and exciting advanced curriculum for gifted and talented students. In the current environment, it allows us to uphold our essential responsibility to the unique needs of the gifted while accepting the realities of today's schools and systems. GCT

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