

## CHAPTER 1

# What Is Rigorous Curriculum Design?

Before defining curriculum design in terms of *rigor*, let's first start with a fundamental definition of the general term, *curriculum*. There are varying definitions, all useful for providing an important foundational understanding of the term. Among them are the following:

According to the New Oxford American Dictionary, the origin of the word *curriculum* is from the Latin *curricle*, meaning “course, racing chariot,” and *currere*, “to run.” Loosely interpreted, a curriculum is a course to be run.

Peter Oliva (2005) defines *curriculum* as:

A number of plans, in written form and of varying scope, that delineate the desired learning experiences. The curriculum, therefore, may be a unit, a course, a sequence of courses, the school's entire program of studies ... (p. 7).

W. James Popham offers two related explanations of *curriculum*:

By curriculum, I mean the *outcomes* that educators hope to achieve with their students. The three most common kinds of outcomes sought are students' acquisition of *cognitive skills*, *bodies of knowledge*, and their *affect* (such as particular attitudes, interests, or values) (2003b, pp. 16–17).

In this time-honored definition, a curriculum represents educational *ends*. Educators hope, of course, that such ends will be attained as a consequence of instructional activities which serve as the *means* of promoting the curricular ends (2004, p. 30).

Douglas B. Reeves (2001) writes:

An effective standards-based curriculum is planned “with the end in mind.” The selection of a standards-based curriculum implies focus, discernment, and the clear exclusion of many things that are now in textbooks, lesson plans, and curricula (p. 13).

Apart from these clear and compatible definitions of the word, many broad synonyms for curriculum, often used interchangeably, include: standards, lesson plans, textbooks, scope and sequence, learning activities, and prescribed courses of study provided by the state, province, district, school division, or professional content area organizations. The result is a rather nebulous understanding of the term whenever educators use it in dialogues and discussions.

For purposes of this book, I am defining curriculum as *the high-quality delivery system for ensuring that all students achieve the desired end—the attainment of their designated grade- or course-specific standards*. My vision for designing such a curriculum is founded upon the intentional alignment between standards, instruction, and assessment.

## **The Current Need to Update and Redesign Curricula**

School systems have been working hard over the past several years to get the *means* for achieving this desired end firmly in place and accepted within their professional culture. These “means” include, but are not limited to, the effective use of standards, differentiated instructional practices, formative assessments, and corresponding data analysis.

Today, educators and leaders are well aware of the need to update and redesign their existing curricula to provide stronger links between curricula and the many professional best practices being implemented. Not only have curricula not kept pace with the updated versions of state or provincial standards and assessments, often the established curricula are reflective of only the more traditional components:

- A general listing of content and performance standards (student learning outcomes or objectives) for each content area
- A yearlong scope and sequence of what to teach and in what order
- A pacing calendar of when to teach it and how long to take in doing so
- A list of related learning activities
- A suggestion of assessments to use
- A list of required or recommended materials and resources

All of these traditional components are, of course, necessary to retain, but they need to be further clarified. In addition, other important components should be added. We must broaden our view of what we want our curricula to be and do.

Curricular architects must acknowledge that the function of a rigorous curriculum is to *raise the level of teaching* so that students are prepared for the 21st

century with skills that “drive knowledge economies: innovation, creativity, teamwork, problem solving, flexibility, adaptability, and a commitment to continuous learning” (Hargreaves and Shirley, 2009).

Think about the following *blend* of both traditional and new components for an updated and redesigned comprehensive curriculum:

- *Specific* learning outcomes students are to achieve from pre-kindergarten through grade 12 in all content areas
- *Vertical representation* of those learning outcomes (grade-to-grade, course-to-course) in curricular frameworks
- Units of study—*topical* (literary devices, character traits, narrative writing); *skills-based* (making text-to-text connections, simplifying fractions); *thematic* (patterns, ecology, composition and creativity, personal rights)
- Emphasis on standards-based skills *and* content knowledge
- Academic vocabulary specific to each discipline and pertinent to each unit of study
- Explicit linkages to state or provincial assessments and to college and career readiness
- 21st-century learning skills
- Higher-level thinking skills
- Interdisciplinary connections
- Authentic, student-centered performance tasks that engage learners in applying concepts and skills to the real world
- Ongoing assessments to gauge student understanding
- Sequencing of “learning progressions” (Popham, 2008), the conceptual and skill-based building blocks of instruction
- Research-based effective teaching strategies
- Differentiation, intervention, special education, and English Language Learner strategies to meet the needs of *all* students
- A common lexicon of terminology (curriculum glossary) to promote consistency of understanding
- Embedded use of resources and multimedia technology
- A parent communication and involvement component
- A curriculum philosophy that is compatible with or a part of the school system’s mission statement

Another factor—this one external—that is driving the need to update and redesign curricula is the curriculum audit. In some school systems where low student performance on standardized tests has identified the system as being in need of improvement, a curriculum audit administered by an outside agency examines a particular content area curriculum to evaluate its strengths and point out its omissions. Although an external audit may initially seem disciplinary, it can, upon further consideration, be looked upon as a helpful diagnostic. The findings and recommendations of the audit report can provide a specific focal point for beginning needed revision efforts.

## **Rigor for the 21st Century**

There are many definitions of the noun *rigor*, most of them related to some form of physical or mental rigidity or severity. Merriam-Webster's Online Dictionary definition of *logical* rigor—"strict precision or exactness"—seems at least relevant to the educational context. The Oxford Pocket Dictionary of Current English defines the related adjective *rigorous* as "extremely thorough." Yet neither of these definitions satisfactorily conveys the intent behind the word. To me, rigor implies *the reaching for a higher level of quality in both effort and outcome*.

In many U.S. communities, the public perceives a decline and loss of rigor in their schools. School systems with a majority of underachieving students are facing very real external accountability pressures to perform well on state assessments. The response to these pressures in some, though certainly not all, school districts has been to *lower* expectations of what their students should learn and be able to do. This "lowering of the bar" has resulted in a loss of instruction and learning rigor for *all* students in those systems. Conversely, in other school systems with a majority of *high*-performing students, the comfortable status quo—as related to rigor—may need a healthy "bump up" in terms of redefining what rigor ought to mean and look like in both instruction and student work.

School systems preparing for a partial or complete overhaul of their existing curricula to emphasize increased rigor may find support in these insightful words of Arthur L. Costa and Bena Kallik (2010): "We must ask ourselves, are we educating students for a life of tests or for the tests of life?" (p. 225).

In his article "Rigor Redefined," Tony Wagner (2008) names seven 21st-century "survival" skills students today need to "master [in order] to thrive in the new world of work: (1) critical thinking and problem solving; (2) collaboration and leadership; (3) agility and adaptability; (4) initiative and entrepreneurialism; (5) effective oral and written communication; (6) accessing and analyzing information; and (7) curiosity and imagination" (pp. 21–22).

Wagner extols an exemplary algebra II teacher he observed who carefully structured a lesson so that his students learned the academic content while *simultaneously using all seven of these skills*. In contrast, Wagner laments what he has seen in hundreds of U.S. classroom observations: the reduction of curriculum down to only one component—test preparation. He concludes, “It’s time to hold ourselves and all of our students to a new and higher standard of rigor, defined according to 21st-century criteria” (p. 24).

## ***Rigorous Curriculum Defined***

My own definition of rigor as applied to standards, instruction, and assessment began with a focus limited primarily to the revised Bloom’s Taxonomy of Educational Objectives (Anderson and Krathwohl, 2001).

In the process of “unwrapping” or deconstructing standards that I have continued to refine, educators match the skills (verbs) in the standards statements to one of the six cognitive processes in the revised taxonomy: *remember, understand, apply, analyze, evaluate, and create*. They then design assessment questions to reflect the approximate levels of the corresponding thinking skills (e.g., analyze: analysis question; interpret: interpretation question). Corresponding instruction intentionally provides students with opportunities to exercise each targeted skill at the appropriate level of rigor so they are prepared to answer the related assessment questions.

This was—and continues to be—a good starting place for making more rigorous, parallel connections between standards, assessment, and instruction.

However, when applied to curriculum design, I believe a broader definition of “rigor” must also include the *intentional inclusion of and alignment between all necessary components within that curriculum*. To design a comprehensive curriculum that intentionally aligns standards, formal and informal assessments, engaging student learning experiences, related instruction that includes a variety of strategies, higher-order thinking skills, 21st-century life skills, data analysis, and so on, is to indeed design a *rigorous* curriculum.

Keeping in mind my definition of curriculum—the *high-quality delivery system for ensuring that students achieve the desired end—the attainment of their designated grade- or course-specific standards*—along with my definition of rigor—the *reaching for a higher level of quality in both effort and outcome*, I put the two together to form a summary definition of a rigorous curriculum.

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A **rigorous curriculum** is an inclusive set of intentionally aligned components—clear learning outcomes with matching assessments, engaging learning experiences, and instructional strategies—organized into sequenced units of study that serve as both the detailed road map and the high-quality delivery system for ensuring that all students achieve the desired end: the attainment of their designated grade- or course-specific standards within a particular content area.

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## The Student-Centered Curriculum

With all the focus up to this point on redesigning the curriculum to include all of the different components the *adults* in the system determine as being necessary, let us not forget the people for whom it is constructed—the students.

A rigorous curriculum must keep students at the center of its design. Although such a curriculum is based on a preset list of necessary components, in no way does this imply that rigor should be equated to rigidity. A rigorous curriculum must remain flexible, adaptable to the diverse and continuously changing learning needs of all the students it serves. By deliberately planning and creating *engaging* classroom learning experiences, the authors of a rigorous curriculum can provide the means for both new and experienced teachers to motivate reluctant, insecure learners as well as those students who have disengaged from learning out of disinterest or outright boredom. One of the ways rigorous curriculum design can help teachers address these challenges is by offering students precise learning targets, *meaningful and relevant* lessons and activities, and multiple opportunities to succeed.

Equally vital and often lacking sufficient emphasis in curriculum design is how to meet the learning needs of *advanced* students. When developing specific units of study, curriculum designers can consider the various ways to challenge and enrich high-achieving students so they can expand and deepen their understanding related to any unit topic.

## Begin a Curriculum Glossary

As curriculum committees begin discussing the various elements related to curriculum design, participants nearly always ask for clarification about what a particular term or element means. The need to be “speaking a common language”

with regard to curriculum development emerges early. Creating a glossary or lexicon of terms during the beginning stages of organizing the process will benefit everyone involved in the actual design of the curricula as well as the educators in classrooms and instructional programs who will be implementing those curricula. Such a glossary can be expanded throughout the process to include terminology used in conjunction with all relevant, standards-based practices in general.

Near the end of this book, I have included a curriculum glossary of the terms used throughout the rigorous curriculum design model. Feel free to expand upon this glossary of terms while creating your own glossary specific to your particular context and information needs.

## **Curriculum Development Needs Assessment**

In the coming chapters, I propose a realistic approach for designing a curriculum model that achieves these ambitious—rigorous—outcomes. But first, you may want to consider conducting your own needs assessment to determine your current state of readiness for beginning this process.

Schedule an orientation session with those who will be involved in organizing the curriculum revision project to discuss the scope of the work. Conduct a corresponding needs assessment to determine your starting point. Such a needs assessment will help in clarifying why you are revising your curricula, what needs doing, and how you plan to author and implement the units of study.

Sample questions you may want to ask include:

- What is our curriculum philosophy? Does it reflect our school system's mission statement and provide the "ways and means" for fulfilling our educational mission?
- What is the current state of our existing curricula? Are all content areas in equal need of revision, or do we need to prioritize? Which ones must come first?
- Why should we consider revising or updating these curricula now?
- Do we have the necessary resources (time, personnel, budget) and the committed support of leadership (system-level and school-level) to begin the work and see it through to completion?
- What do we want our revised curricula to be and do? For example, if our curricula were indeed more rigorous, more engaging, and more relevant to *all* students, what would the impact be on their day-to-day motivation and achievement?

- What should the various components of our curricula include?
- What do we want to retain from our existing curricula? What do we want to add?
- What kind of structure, template, or framework will we use? Should it be content-area specific, or more universal, to promote consistency across the school system?

Answering these and other group-generated questions *before* beginning the actual creation of curricular units of study will provide a helpful and realistic look at current conditions and various viewpoints that organizers are wise to consider in advance of launching the project.