

Concept-Based Curriculum AND Instruction

Teaching
Beyond the Facts

H. Lynn Erickson

Foreword by Carol Ann Tomlinson



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Preface

In school districts across the United States, the tension to meet academic standards is high because the stakes are high. General views of education are fueled by the publication of school test scores in local newspapers. The legislative push for school vouchers and the creation of a plethora of private school models—from home-schooling to for-profit, business-run schools—chips away at the traditional public school model. National and state standards are developed to bring structure to the curriculum of what students should know and be able to do.

Concept-Based Curriculum and Instruction: Teaching Beyond the Facts takes a step back and considers the conventional model of curriculum design in the United States related to the issue of standards. Does “raising standards” mean learning more content, which is delineated through “objectives”? Or does it mean using critical content as a tool to understanding key concepts and principles of a discipline, and applying understanding in the context of a complex performance? From a review of national standards, it is clear that most disciplines favor the latter goal. Certainly, knowing (and often memorizing) a body of critical content knowledge is important for an educated person. But conventional models of curriculum design have focused so heavily on the information level that most teachers lack training for teaching beyond the facts. Yet the standards and newer assessments assume that students will demonstrate complex thinking, deeper understanding, and sophisticated performance.

This book extends the ideas I presented in *Stirring the Head, Heart and Soul: Redefining Curriculum and Instruction* (Corwin Press, 1995; second edition, 2002), and it discusses the essential nature of the

concept-based curriculum and instruction for the standards movement. In Chapter 1, sampling of the national content standards is reviewed through a set of concept-based questions in order to understand the differences between concept-based and topic-based design models.

The thread throughout this book is the power of a concept-based model for

- Taking thinking beyond the facts to facilitate deep understanding and the transfer of knowledge
- Systematically developing a conceptual schema in the brain to handle new information
- Meeting higher academic standards related to content knowledge, process abilities, and quality performance

The goal of this book is to raise awareness of the differences between topical and concept-based models of curriculum and instruction, and to provide some concept-based examples from different school districts around the country. This book presents components that are critical in a quality concept-process design model, but it leaves the formatting of documents up to the discretion of districts.

A discussion of the critical components for a concept-process curriculum are presented in Chapter 2 in the context of a systems design. The need for balance between process and content expectations and the requirements for each strand lead into the chapters on the integrated curriculum and instruction.

Chapter 3 presents a detailed plan for designing concept-process integrated units. Examples from school districts illustrate the role of concepts in taking thinking beyond the facts and maintaining the integrity of different disciplines in the integration process. Unit planning pages show the integral relationship between critical content, essential enduring understandings (conceptual ideas), essential questions, and student activities. The unit as a whole is coherent and focused. Instruction flows from the unit plan to engage students with higher-level thinking and understanding.

This book deals with assessment only as it pertains to the design of performance tasks and scoring guidelines for instructional units. Many books focused on assessment are currently being published that can be used to supplement the information provided in this

book. Some suggestions are *Educative Assessment: Designing Assessments to Inform and Improve Student Performance* by Grant Wiggins, 1998, Jossey-Bass; *Student-Centered Classroom Assessment* by Richard J. Stiggins, 1997, Prentice Hall; and *The High Performance Toolbox* by Spence Rogers and Shari Graham, 1997, Peak Learning Systems.

Chapter 4 considers the value of a concept-process curriculum integration model in school-to-work programs. We need a new paradigm to bridge the curriculums of academic and occupational areas. This book suggests that the bridge occurs at the level of integrating concepts, which can be understood and exemplified through the content of academic courses and the performance of occupational courses.

Finally, we hear from the teachers who break new ground in the design and implementation of idea-centered teaching and learning. Excerpts from teaching units, and observations and insights on what it means to teach conceptually, expand our understanding and raise new questions.

The intended audiences for this book include the following:

- District- and site-level administrators who are responsible for curriculum, instruction, and assessment
- Teachers in leadership positions working on standards issues related to curriculum and instruction at either the district or site level
- Teachers working in teams on the development of their own classroom units
- Staff development personnel at the local, regional, or state level
- University professors and supervisors in curriculum and instruction at the undergraduate and graduate levels of teacher training

Learning how to design a curriculum that facilitates complex thinking and deeper levels of understanding is an unfolding process. This book shares some perspectives from this point in time. Readers are invited to add their thoughts and experiences to this journey. My e-mail address is hlynn@att.net.

It is an honor to have the foreword to this book written by Carol Ann Tomlinson. Her notable work with differentiated curriculum and instruction compliments and exemplifies the principles expressed in this book. Carol Ann is an “Aunt Abigail” for educators

eager to learn how to meet the needs of all students in their classrooms.

My deepest gratitude goes to Eileen McMackin, Lake Washington School District, Redmond, Washington, for reviewing this manuscript and offering many suggestions for refinement; to Sally Lorenz-Reeves, Leanna Isaacson, Dr. Rosemarie Carroll, Dr. Lois Lanning, Dr. Carol Webb, Kathy Erickson, Dr. Mabel Schumacher, and many other friends and associates who have discussed and worked through these ideas in their districts. And finally, my biggest debt of gratitude goes to the teachers all over this country who have worked so hard to design quality concept-process units to raise the level of instruction and to take teaching and thinking beyond the facts. They are my teachers, for they challenge my thinking.

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Interpreting and Aligning National, State, and Local Standards

Why Standards?

When the United States had an economy that operated to a large extent within its borders and was based more on local industry and national corporations, the concern over education was not as pronounced. But the development of technology, transportation, and communication changed the face of business, and the national economy became a global enterprise. Suddenly, American business began to realize that workers needed higher levels of technological, academic, and work skills in order for industries to compete on the global stage. Parents, worried that their children would not be prepared for further schooling or work, joined with business in calling for higher educational standards.

Growing concern resulted in the launching of the 1990 National Education Goals under the Bush administration, followed by the America 2000 Act in 1991. Reform efforts continued under the administration of President Clinton with the passage of the Goals 2000 legislation in 1994. This legislation was the springboard for the development of national standards in almost every discipline of study. These documents, developed by broad-based committees of

experts and professionals in each field, are invaluable to state and local districts as they design and align their own curricular frameworks. To carry out this work, however, curriculum committees need to understand how national standards are organized and the degree to which they facilitate conceptual thinking and teaching beyond the facts.

This chapter reviews a sampling of national standards from a design perspective that values concept-process curricula. This design model emphasizes the development of conceptual understanding, critical content knowledge, and performance abilities. Critical content serves as a tool for developing conceptual understanding that transfers through time. Although the review will point out design weaknesses and strengths in various national standards, it is important to realize that all of the standards have made a vital contribution to the definition of curriculum content and process.

The standards are especially important to curriculum design committees at the state and local levels for the following reasons:

- The information base has expanded so rapidly that it is difficult for curriculum committees to decide what is really “essential knowledge and skills.”
- Education can be an isolated activity. It is quite easy to go into the classroom and teach from a textbook (that might well be 10 years old) and not consciously realize the depth and breadth of curricular change being demanded by a rapidly changing society.
- Designing quality curricula is a complex, intellectual task. It takes time, conceptual thinking, and design ability, as well as a thorough knowledge of a discipline. Committees made up of some of the best minds in the country developed national standards based on what students must know and be able to do in the complex, globally interdependent society of the 21st century.
- National standards provide state and local committees with a direction and focus as they undertake the critically important task of curriculum design. Key concepts and principles, critical content knowledge, and major processes and skills essential to the various disciplines are identified in the national documents.

- The national standards documents, in most cases, provide a wealth of background knowledge and information to support educators in the field as they teach essential knowledge and skills. To reconceptualize both curriculum and instruction in response to our rapidly changing society, teachers themselves need to develop deeper conceptual and content knowledge across the disciplines. The national standards are a valuable resource for teachers as they pursue a deeper understanding of their disciplines.

This chapter will review the design of a sampling of national standards through the eyes of a concept-process curriculum in order to realize the impact on classroom instruction. We will consider some review questions and then discuss the weaknesses and strengths of different standards related to higher-level conceptual thinking. We will also look briefly at a sampling of state and local standards using the same concept-based criteria and provide some design suggestions to support thinking beyond the facts. But first, we need to understand what is meant by “performance-based standards” and how this approach to assessing student work is playing out in standards documents and classroom practice.

Performance-Based Standards

Advances in brain research and knowledge of how children learn supports the notion that students must be actively engaged in learning. If knowledge is going to be retained and understood, then students must use it in a demonstration or complex performance (Caine & Caine, 1991; Perkins, 1992). This movement is a reaction against curriculum designs that list pages of objectives driven by lower-level cognitive verbs such as *list*, *define*, and *identify*. The lower-level recall does not require that students internalize knowledge to the point of being able to use it in complex performance.

As a result of this drive to engage students with performance, national standards committees addressed the question, “How can we circumscribe the essential content and processes of this discipline in a design format that will encourage performance?” But bringing theory and practice together through the design and writing of standards and curricula is a difficult task. Writing is thinking—and

the arrangement of words on paper to effect instructional improvement in the classroom is a sophisticated task.

The committees realized that they could not write a single performance joining a process skill and a critical content topic because understanding can be demonstrated across multiple types of performances, from oral presentations to visual displays to product demonstrations. So, in most cases, committees wrote the standards as statements of content or process that students should “understand,” and they followed these statements with “sample” performances; or else they fell back to traditional objectives, such as “explain” or “evaluate,” which could then be demonstrated in different ways. But either way, in most cases, the resulting standards fall short of their full potential for making an impact on student learning. Are we missing a critical design component as we encourage performance to demonstrate deep understanding? I think so.

The Missing Link in Performance-Based Theory

The idea that teachers can develop performances that demonstrate deep understanding assumes that they have consciously identified the kinds of deep understandings that the performance should demonstrate. But this skill of thinking beyond the facts has not been required in the traditional topic-based designs. Consequently, in elementary classrooms around the country, performances are more often activities (e.g., a Thanksgiving feast) related to a topic (early colonists and Indians) named in a standard. At the secondary level, instructional activities and assessments usually focus on seeking and sharing facts on the topics to be covered. Why these shallower demonstrations of understanding? Could the problem lie in the traditional curriculum design that drives instruction?

The Structure of Knowledge and the Traditional Design of a Curriculum

Figure 1.1 displays the structure of knowledge. The traditional design of a curriculum emphasizes the lower cognitive levels, centering around topics and related facts. This curriculum design, which