# *Reconfiguring Learning Through Curriculum Renewal**

# By

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# Introduction

In classrooms all over the country, teachers are concerned that their students remember little from previous years and require relearning of important procedures, concepts, knowledge and skills in order for them to proceed with new learning. These concerns are often the result of a curriculum that focuses on "coverage", routine memorization of facts, and repetitive practice of skills that have little meaning or real life connections for students. Because there is so little emphasis on teaching meaningful subject matter in the early grades, such as social studies, science and literature, and because there are so many learning goals and topics of study in content standards at the upper grades, students often are shortchanged in the early grades by learning discrete skills over and over again through worksheets and basal readers, or teachers at higher grade levels often feel as if they need to rush through the chapters in a textbook, even if many students have not learned previous material. Little thought is often given to the goal of building understanding and critical processes across **all** grade levels. The end result is that many graduating students have not learned critical, relevant and important ideas and have not developed competence in key skills they need for future learning and work. They find little use for much of what they have learned.  Many are not really "educated" – they are unable to demonstrate an understanding of key concepts or the ability to communicate thoughtfully, conduct research, start and finish a major project, do scientific investigations, think and argue, or creatively solve problems.

Solely increasing learning time or changing the organization of the school day will not solve these problems. The more fundamental challenge is how to reconfigure the curriculum so that it is possible for teachers to promote deeper understanding of subject

matter, help students to learn and use complex 21st century processes and skills, see the connections between what they learn and the "real" world, and support the development of student talents and interests.

## Five Characteristics of a Renewed Curriculum

A curriculum that meets these challenges has a number of key characteristics that distinguish it from the usual, more traditional curriculum. It is:

### *Meaningful*

A meaningful curriculum includes a clear, defensible rationale for its learning goals based on a vision of what students need to understand and be able to do in a 21st century world. Fundamental ideas from the subject areas, such as human rights, mathematical variables, scientific investigation, or timeless issues in great literature become meaningful "must" learning goals. Fundamental processes and skills – effective communication, information literacy and research, scientific investigation, creative thinking, critical reasoning, problem solving – are targeted. Some learning goals are determined by student needs - for example, giving students choices as to what they read, developing technological skills or focusing on career understandings and skills in a particular field of study. The development of student talents, interests, and abilities, such as artistic and music skills, engineering applications, and sports may also help shape a meaningful curriculum.

### *Focused*

A focused curriculum does not explore too many topics or work with too many goals at the same time. Rather, it limits what is to be learned, focusing on a few key

ideas, concepts, issues, processes and skills. It allows teachers to provide extra support to students who need extra help and to create in-depth learning experiences.

### *Coherent*

In a coherent curriculum, scopes and sequences and course guides provide opportunities for students to refine and deepen "big ideas" and key processes across grade levels and subject areas. Coherence is an antidote to the typical curricular fragmentation that students perceive within and across grade levels, and within and across their classes. For example, the concept of "change" may be studied from many different perspectives – how scientific understanding develops over time, how American democratic institutions changed over time, how health and wellness practices change with new research. Instead of a hit or miss approach, research skills are taught and assessed often, in many subjects and at most grade levels. Starting from the very early grades, students continually develop a more complex understanding of the research process, build a greater ability to use research skills, and understand their place in the learning process.

A curriculum is also coherent when learning goals, assessment practices, and instructional strategies are aligned. If a school creates an in-depth learning approach in social studies, but its final exams consist of multiple-choice questions that evaluate breadth of knowledge, the curriculum is out of alignment. When schools use performance assessments in classrooms, but are required to use standardized tests that measure knowledge and skills apart from the formal curriculum, the curriculum is out of alignment. The curriculum is also out of alignment when it emphasizes learning to think creatively and conduct research, but many teachers primarily use a lecture/recitation mode of teaching.

### *Performance and Transfer Driven*

In a performance and transfer driven curriculum, students continually apply their learning to the world outside of school through such activities as research projects, letters to the editor, and real life problem-based case studies. For example, students transfer their learning about scientific investigations by developing their own science experiments. Students who learn about slavery discuss and write about whether affirmative action is a legitimate tool to use to compensate for slavery. The mathematics curriculum provides students with opportunities to learn how mathematics is applied to the world outside the classroom (such as in building a house), and may even focus mathematical learning around authentic problems[1]. In health and physical education, students create a "wellness plan" that supports their own physical health and well being over time. Performance based activities are also used as both formative and summative assessments– they help teachers evaluate student strengths and weaknesses and also assess final summative learning.

### *Engaging*

An engaging curriculum is one in which instructional strategies involve the learner in the learning process. Powerful, engaging instructional strategies include reflective journals, research projects, problem-based learning, authentic performance tasks, and small group and cooperative learning. Engaging strategies significantly help learning when they are aligned with both learning goals and assessments, appropriately used in unit and lesson designs, and tied to student developmental levels.

# Implications of the Five Characteristics on Curriculum Design

These characteristics -- meaningful, focused, coherent, performance and transfer driven, and engaging– suggest many different, practical curricular designs that begin at the very earliest years of learning. In the most common design, each subject area is focused around a few big ideas and essential questions that guide the learning process, are taught in-depth, applied to new and novel situations and problems, and revisited and refined over time. Learning goals also concentrate on a few key meaningful processes and skills, such as those described in other articles on this website – the five key skills developed over time:

- Asking questions, defining problems and challenges

- Searching for and processing information and data

- Thinking deeply and flexibly

- Drawing conclusions and applying learning

- Communicating effectively.

A technical school curriculum focuses on the big ideas of a specific occupation (such as auto repair) and not only focuses on the skills above, but also provides the conceptual understanding and problem solving skills and tasks that are associated with the occupation.

The application of these characteristics can also lead to new and powerful curricular paradigms. Many schools design interdisciplinary units and programs that promote focused, meaningful, performance driven learning across subject areas. Some schools design their curriculum units around essential questions and culminating

projects[2]. "Big Picture" schools primarily engage students through authentic research projects based on student interests and mentorships (Littky, 2004).

Although we believe that the current emphasis on standardized testing is the wrong direction for a 21st Century education, we also believe that a curriculum built around these characteristics should also help a school or district meet standardized testing and other requirements. Finding key "big ideas", knowledge and skills within content standards, and incorporating them into the curriculum, should enable students to meet standardized test expectations. Performance tasks that help students transfer learning to new situations should help students learn how to answer transfer questions on a test. A curriculum with these characteristics takes a school a long way towards high levels of achievement and success.

## Renewing the Curriculum Based On The Five Characteristics

Reshaping, reconfiguring and strengthening a curriculum require on-going curriculum renewal within a school or district. For the past twenty years, the author has worked with many schools and districts in Pennsylvania and across the United States to create, develop and implement comprehensive, on-going curriculum renewal processes (Seif, 1999). This work led to the creation of an "ideal" six-stage curriculum renewal framework, outlined in figure one below.

The first four stages provide the foundation for curriculum reconfiguration through the development of a curriculum renewal plan, the creation of a curricular vision, an analysis of the current strengths of and problems with the curriculum, and the development of a detailed plan for reforming the curriculum. Timelines for these four

# FIGURE 1 -- CURRICULUM RENEWAL STAGES

| STAGE | CRITICAL ACTIONS | RESULTS |
|---|---|---|
| 1. Plan for Curriculum Renewal | Begin analysis and determine resources, support, and committee formation. Develop a tentative plan for a curriculum renewal process.<br><br>Options: Review stages, begin program analysis, find materials and resources, and create a tentative curriculum renewal plan. | A plan for curriculum renewal |
| 2. Create a Vision | Examine ideas, issues, and trends, and then determine ideal goals and characteristics (a vision) of the curriculum program – based on meaningful goals, a focused curriculum, coherent programs, performance based and transfer tasks, and engaged students.<br><br>Options: Analyze readings and research, examine content standards, use consultants, examine other district and national programs, examine regulations and frameworks, and explore integration with other subjects. | A curriculum vision |
| 3. Analyze the Existing Program | Analyze the curriculum now in practice.<br><br>Options: Conduct surveys, map current curriculum, review assessment data, conduct program evaluations and audits, evaluate written curriculum, examine integration, and synthesize data. | An analysis of the current program |
| 4. Plan for Action | Develop recommendations for program changes.<br><br>Options: Conduct activities to examine gaps between the ideal curriculum (vision) and current curriculum in practice. | An action plan and recommendations for change |
| 5. Revise the Program | Determine ways to revise the K-12 curriculum, aspects of the curriculum, or specific courses.<br><br>Options: Revise philosophy and goals, unpack standards, redesign the curriculum map and scope and sequence, adopt an appropriate program, select resources, devise new assessment procedures, revise specific courses and units. | Curriculum revisions – a new curriculum map, scope and sequence, course guides, new program, new materials |
| 6. Implement a Revised Program | Implement revisions and changes.<br><br>Options: Institute new curriculum, communicate with parents and community, pilot and implement new programs, initiate appropriate staff development, implement new assessments, evaluate and monitor programs. | •A newly implemented program<br><br>•A plan for monitoring and evaluating the program |

stages may vary—anywhere from a summer to several years—and provide the framework for the implementation of a new curricular program in stages five and six.

A key part of curriculum renewal is the selection of curriculum materials in stage five. Unfortunately, the typical materials selection review process rarely includes criteria other than the tastes and preferences of the curriculum renewers, and usually includes a review of materials only from large commercial publishers. A strong curriculum reform effort must also include a materials selection format that uses the criteria of an effective curriculum to examine a broad selection of materials from a variety of publishers. Figure two describes a comprehensive set of materials selection criteria for analyzing curriculum resources and selecting the best curricular materials and programs[3].

## Curriculum Renewal, Instructional Change and Professional Development

The curriculum renewal stages also suggest a way to provide a seamless, continuous professional development growth model that is different from the traditional "hit or miss" professional development approach. For example, professional development sessions can acquaint the staff with the vision of the new curriculum, its general characteristics, and its specific learning goals, assessments and instructional approaches (stage two). New forms of unit and lesson design might include an explanation of new learning goals, a discussion of authentic performance tasks in the new curriculum, and the introduction of alternative, engaging instructional strategies tied to the curriculum (stage five). Also as part of stage five, teachers might examine and collect additional resources to help with curricular implementation, explore how to assess students effectively, and focus on the inclusion of innovative technologies.

# Figure 2: Criteria for Selecting Materials

**#1 –Do the materials focus on big ideas and/or essential questions?** Look for the ways in which the materials identify a limited number of big ideas – concepts, principles, themes, and issues – and include meaningful challenges, provocative, relevant essential questions, and authentic applications around which knowledge is collected and organized.

**#2 – Do the materials require learners to be thoughtful, reflective and use high-level "21st Century" skills?** Look for ample opportunities for students to be thoughtful and reflective -- to learn and to use high-level skills, such as research, scientific inquiry, strategic reading, writing, problem solving and decision-making.

**#3 – Do the materials include varied assessments- both traditional and performance based?** Look for variety and balance between traditional and performance assessments and between summative and formative assessments. Look for opportunities for students to apply and transfer learning in meaningful and varied contexts.

**#4 – Do the materials contain effective and engaging activities?** Look for activities that help students make connections, build appropriate background knowledge, inquire into essential questions, explain and demonstrate their understanding, promote interaction between teachers and students, motivate student learning, and help students construct meaning.

**#5 – Do the materials continually revisit big ideas?** Examine the coherence of the materials by determining how well they revisit, refine, and reflect on ideas and/or explore the same or similar questions over time and at many grade levels.

**#6 – Are the materials geared to the diverse abilities, interests and needs of students?** Look for the ways that the materials support the needs of students in a diverse classroom environment, including special education students. Also look for ways that the materials and strategies incorporate multiple student intelligences and learning styles.

**#7 – Is the curriculum program based on text alone, or does it include many different types of materials, including technology-based learning?** Look for multiple resources that allow for thoughtful, rigorous learning and inquiry. Look an appropriate role for technology in the learning process.

**#8 – Do the materials encourage interdisciplinary connections?** Look for ways that the materials encourage interdisciplinary connections, such as by integrating big ideas and essential questions or skills and processes across disciplines.

**#9 – Are the materials and instructional plans well organized and easy to use (teacher friendly)?** Look at whether the program is generally well organized, how well developed and organized each unit and lesson is, how assessments and multiple materials are integrated throughout the program, how accessible suggested outside materials are, and how easy it is to understand the program and adapt it to a teacher's own style.

**#10 – Are outside experiences included as part of the learning?** Look for real life, authentic learning experiences and connections to family and the community that add relevance to the program.

Once a program is implemented, professional development sessions might focus on on-going implementation problems, peer collaboration and support, coaching, feedback, and curriculum refinement (stage six). Follow-up experiences might include discussions about the problems, challenges and obstacles to program implementation, and the sharing of advanced methods and approaches developed by teachers as they work with a new program (stage six).

## Conclusion

The development of an effective 21st century curriculum, based on the five characteristics cited above, creates a different kind of educational program– one that faces the realities of a world with an overwhelming amount of information, emphasizes the teaching of critical processes and skills, and connects learning to the world outside of the classroom.  The curriculum, reshaped through on-going curriculum renewal processes, places more emphasis on teaching fewer meaningful goals, "deepening" learning to incorporate thinking, problem solving, research, and other key 21st century skills, applying learning through "real life" tasks, and engaging students in the learning process. The curriculum renewal process also provides a powerful framework for professional development, especially for seamlessly integrating instructional and technological changes into a reconfigured curriculum. The resulting coherent curriculum emphasizes greater connections between grade levels and subjects and fosters dialogue among teachers at different grade levels and those teaching different subjects. This focus on a reconfigured curriculum, one that promotes new forms of teaching and learning, can help to create new ways of schooling for a 21st century world.

# References

Littky, Dennis (2004). *The Big Picture: Education is Everyone's Business*. Alexandria VA: ASCD

*P21 Framework Definitions Document.* (2009). Washington, DC: The Partnership for 21st Century Skills.

Seif, Elliott (1999). *Curriculum Renewal: A Case Study, A Chapter of the Curriculum Handbook*. Alexandria VA: ASCD. The handbook is currently archived at ASCD's website and this chapter can be accessed through ascd.org.

# Endnotes

[1] For example, the *Integrated Mathematics Program* (IMP) uses real life problems as a catalyst for learning critical mathematical ideas in an interdisciplinary fashion.

[2] Examples include the New Tech High Schools in San Diego, California, or the Science Leadership Academy in Philadelphia, Pennsylvania.

[3] Adapted from a materials selection process developed by elementary teachers in the Neshaminy School District, Bucks County, PA under the leadership of Frank Champine.