Criteria for Selecting Understanding Based Curriculum Materials

Adapted By Elliott Seif, UbD Cadre [1]

UbD provides a wonderful structure for developing units of study. It also can be used directly as a tool to develop a curriculum at all levels by developing overarching understandings and questions that guide the development of courses and programs.

However, the development of understanding based curricular programs is a complex process that is enhanced through many avenues of curriculum development and renewal. Unfortunately, many districts do not take the time to develop a careful process for curriculum renewal that supports understanding based teaching and learning (see for example Elliott Seif, *Curriculum Renewal: A Case Study.* A Chapter of the Curriculum Renewal Handbook, ASCD, 1998).

One of the most helpful tools to have in a curriculum renewal process is a materials and textbook selection process that promotes understanding based teaching and learning. In this, the first of several articles, Understanding by Design principles are used to develop a powerful curriculum materials/textbook selection process. Future articles will list and describe programs and materials that meet many of the criteria, as well as provide additional insights into a curriculum renewal process that supports understanding based teaching and learning.

Developing an understanding-based materials/textbook selection process is important, because curriculum materials often help to determine what teachers are able to do and are likely to do in the classroom. They can either support or undermine an understanding based approach. Understanding by Design principles suggest a number of criteria, described below, that can be used for selecting curriculum and textbook materials.

Criteria #1 –Do the materials focus on big ideas and/or essential questions?

Curriculum materials and textbooks that are understanding-based usually identify the "big ideas" developed through the materials and often include essential questions for each chapter or unit. Unfortunately, many materials have a limited focus on big ideas and/or essential questions, or write questions for each unit that are not really essential in nature (they focus on factual information).

Look for the extent to which the materials identify a limited number of big ideas – concepts, themes, issues, etc. – and include provocative essential questions around which knowledge is examined.

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[1] This materials selection process is adapted from one developed by Frank Champine, former K-12 social studies supervisor for the Neshaminy School District, and elementary and secondary teachers in the Neshaminy School District, Langhorne, Pennsylvania.

Criteria #2 – Do the materials require learners to be thoughtful, reflective, and use high level skills?

Understanding based materials constantly ask students to think and reflect – to explain their solutions to problems, to interpret data, the apply their knowledge to new situations, to explore diverse perspectives, to empathize with others, and to learn more about themselves (self-knowledge) and so on. The six facets are continually woven into the fabric of the materials through both assessments and instructional strategies.

There are also ample opportunities to both learn and use a variety of high level skills, such as research and scientific inquiry, strategic reading, the writing process, problem solving and decision making.

Look for continual instruction and assessment opportunities for students to be thoughtful and reflective through the six facets -- explain, interpret, apply, give perspectives, empathize and explore their own self-knowledge. Also look for ample opportunities to learn and to use high level skills, such as research, scientific inquiry, strategic reading, writing, problem solving and decision making.

Criteria #3 – Do the materials include valid and varied assessments - both traditional and performance-based?

Many materials vary in the nature and types of suggested assessments. However, it is rare to find many materials that incorporate both traditional multiple choice, true-false, sentence completion assessments along with more open-ended and thoughtful understanding-based assessments, such as writing prompts, performance tasks, and reflective journals. Also – many assessments included with curriculum materials are not valid in measuring the goals stated in the materials, often because a different committee from the textbook developers developed the assessments apart from the goals and text of the materials. Few materials examine how to incorporate formative assessments that help students to achieve success over time.

Look for a variety and balance between traditional and understanding-based performance assessments and between summative and formative assessments. Look for the validity of the assessments – the connections between the assessments and the goals of the materials.

Criteria #4 – Do the materials contain effective and engaging activities?

One measure of a powerful, understanding based curriculum can be found in the nature of the suggested activities. Are the activities designed to insure the successful mastery of understanding (the “effectiveness” of the activities)? Do they help students to engage in inquiry into essential questions? Do they help students to explain and explore their understanding on a regular basis? Are many of the activities “constructivist” in nature – that is, require continual interactions between teachers and students and require students

to "make meaning" through the activities? Do the activities tend to "hook" students and hold their interest?

Look for activities that help students master understanding, inquire into essential questions, explain and explore their understanding, promote interaction between teachers and students, motivate student learning, and help students make meaning.

Criteria #5 – Do the materials continually revisit big ideas?

A good understanding based curriculum revisits the same ideas and develops them over time in more complex ways. . For example, a good understanding based mathematics curriculum will examine spatial relationships in more complex ways as students progress through the grades. A good understanding based US History textbook will examine the same big idea, such as "the struggle to preserve and enlarge democracy", through multiple units so as to enhance and refine student understanding.

Look for materials that use "overarching" big ideas and questions to develop ideas in greater depth and inquire into them over time. 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.

Criteria #6: Do the materials reflect a "developmentally appropriate" approach to student learning?

Understanding based curricula appropriately challenge students and provide rigorous academic learning that are developmentally appropriate. For example, reading level formulas are not used to produce sterile reading materials below the level of student understanding. Difficult words are not taken out of the text solely because of their difficulty. Where appropriate, the materials encourage teachers and students to examine difficult ideas, enlarge concepts and vocabulary, The materials are not so difficult for students that they cannot use them – on the other hand, the materials are not so simple that they prevent significant learning.

Look for materials that support rigorous academic learning of big ideas and essential questions, but are not so far above or below the current abilities of the learner that they stifle learning.

Criteria #7 – Are the materials geared to the diverse abilities, interests and needs of students?

Good materials support the varied needs of students in a diverse classroom environment. The teacher's guide specifically notes differentiated strategies for various ability levels, such as choices and options, modifications, accommodations for varied learners, and appropriate enrichment activities. Special students of all types are capable of working

with the materials at an independent level or with limited support from regular education or special education teacher.

Also, text, materials and instructional strategies provide a variety of activities that take into account the multiple and diverse intelligences of students. The text and materials take into account different learning styles both in the way students access information and in the suggested assessments used to assure understanding and the learning of key knowledge and skills.

Look for the ways that the materials support the varied 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.

Criteria #8 – Is the curriculum program based on text alone, or does it include many different types of materials, including technology-based learning?

If the materials are built around a text, does the text play a supporting role (not a sole one) within the entire program? For example, are there supplied ancillary materials that allow for the use of primary sources, data for interpretation, etc. for inquiry and thinking and create a varied and exciting dimension to the overall learning experience. Are students enabled to utilize meaningful technology elements in learning and assessment? Does the program contain suggested Internet web sites and CD-ROM's within the program that provide a meaningful expansion of the teaching experience tied to understanding-based teaching and learning?

If there is no text, are there varied, thought-provoking, understanding-based materials that guide learning? Do the materials lend themselves to inquiry and thinking, and create a varied and exciting dimension to the overall learning experience? Are meaningful technology elements included in both learning and assessment, including the Internet and CD ROM components?

Look for whether the text is the sole source of information or whether there are multiple sources that allow for thoughtful understanding based learning and inquiry. Look at the role of technology in promoting understanding based teaching and learning.

Criteria #9 – Do the materials encourage interdisciplinary connections?

Effective materials encourage interdisciplinary connections. One way is that they may integrate big ideas and/or essential questions not only from the discipline being studied but other disciplines as well. For example, history texts might incorporate many big ideas and essential questions from economics, government, and geography. Science materials that meet this criteria include big ideas and essential questions that integrate various science disciplines, such as biology, chemistry and physics. Interdisciplinary connections are also developed through the development of processes and skills.

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

Criteria #10 – Are the materials and instructional plans well organized and easy to use (teacher friendly)?

Since teachers have so many professional functions they must perform, good organization of curriculum materials and relative ease of use are important. Good materials have clearly stated understanding-based goals throughout the program, with units, assessments, instructional plans and strategies clearly developed and organized. The teacher should not have to continually search for or find appropriate materials, but, in general, they should be supplied or be accessible. Teachers should be able to use the units, lessons, assessments, and support materials in a relatively easy fashion, and should be able to adapt them where necessary and appropriate.

Look at whether the understanding based program is well-organized, how big ideas and essential questions are clearly organized and made explicit throughout the materials, how well developed and organized is each unit and lesson, how assessments and materials are integrated throughout the program, how accessible suggested outside materials are, and how easy it is to adapt the program to a teacher's own style.

Criteria #11 – Are outside experiences, including family involvement, part of the learning experience?

The materials suggest multiple opportunities for connecting the curriculum to the outside world through authentic learning opportunities Authentic experiences such as field trips, interviews, use of real data, etc. are included throughout the program and are tied to big ideas and/or essential questions. The program is organized in such a way that parents can help their child work on homework that is tied to understanding based learning. Study guides are clear and help students use a variety of study, research and thinking processes and skills. The materials also recognize the primary educational role of the family and support parents who wish to extend and foster supplemental understanding based learning experiences with their children.

Look for authentic learning experiences to be an on-going part of the curriculum materials. Also look for many opportunities for parents to work with their children in order to supplement understanding based learning experiences. Supplemental materials, such as study guides, should also help students organize their learning and thinking.

Use the one-page summary of the key criteria, on the next page, to rate curriculum materials and determine whether they are understanding-based. In a follow-up article, I will provide a list of curriculum materials and texts that are said to be understanding based.

Understanding-Based Materials Selection Criteria

Rate materials on each criteria using a 1-5 scale:

#1 –Do the materials focus on big ideas and/or essential questions

Look for the extent to which the materials identify a limited number of big ideas – concepts, themes, issues – and include provocative essential questions around which knowledge is examined.

#2 – Do the materials require learners to be thoughtful, reflective and use high-level skills?

Look for continual instruction and assessment opportunities for students to be thoughtful and reflective through the six facets -- explain, interpret, apply, give perspectives, empathize and explore their own self-knowledge. Also look for ample opportunities 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 valid and varied assessments- both traditional and performance based?

Look for a variety and balance between traditional and understanding-based performance assessments and between summative and formative assessments. Look for the validity of the assessments – the connections between the assessments and the goals of the materials.

#4 – Do the materials contain effective and engaging activities?

Look for activities that help students master understanding, inquire into essential questions, explain and explore their understanding, promote interaction between teachers and students, motivate student learning, and help students make meaning.

#5 – Do the materials continually revisit big ideas?

Look for materials that use "overarching" big ideas and questions to develop ideas in greater depth and inquire into them over time. 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.

#6: Do the materials reflect a "developmentally appropriate" approach to student learning?

Look for materials that support rigorous academic learning of big ideas and essential questions, but are not so far above or below the current abilities of the learner that they stifle learning.

#7 – 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 the multiple student intelligences and learning styles.

#8 – Is the curriculum program based on text alone, or does it include many different types of materials, including technology-based learning

Look for whether the text is the sole source of information or whether there are multiple sources that allow for thoughtful understanding based learning and inquiry. Look at the role of technology in promoting understanding based teaching and learning.

#9 – 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.

#10 – Are the materials and instructional plans well organized and easy to use (teacher friendly)?

Look at whether the understanding based program is well-organized, how big ideas and essential questions are clearly organized and made explicit throughout the materials, how well developed and organized is each unit and lesson, how assessments and materials are integrated throughout the program, how accessible suggested outside materials are, and how easy it is to adapt the program to a teacher's own style.

#11 – Are outside experiences, including family involvement, part of the learning experience?

Look for authentic learning experiences to be an on-going part of the curriculum materials. Also look for many opportunities for parents to work with their children in order to supplement understanding based learning experiences. Supplemental materials, such as study guides, should also help students organize their learning and thinking.