

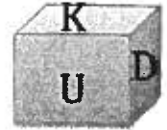
Concept-Based Curriculum and Instruction for the Thinking Classroom

H. Lynn Erickson, 2007

Thinking Classrooms employ concept-based curriculum and instruction design models. These models are inherently more sophisticated than traditional models because they are as concerned with intellectual development as they are with gaining knowledge.

Concept-based curricular and instructional designs are *three-dimensional* – that is, curriculum and instruction is focused on what students will...

- Know (factually),
- Understand (conceptually), and
- be able to Do (skillfully).



Traditionally, curriculum and instruction has been more *two-dimensional* in design (know and able to do) – resting on a misguided assumption that knowing facts is evidence of deeper, conceptual understanding.

The following performance indicators, for example, are typical expectations across state history standards:

- Identify economic differences among different regions of the United States
- Compare changes in technology (past to present).

These performance indicators are written in the traditional format of content “objectives,” with a verb followed by the topic. It is assumed that the ability to carry out these objectives is evidence of understanding; but as written, they fail to take students to the third dimension of *conceptual understanding* where the deeper lessons of history reside. Students will research and memorize facts about the economic differences in regions of the United States, but the thinking stops there. Try this task to reach the third dimension. Complete the sentences by extrapolating transferable understandings (timeless ideas supported by the factual content):

- Identify economic differences among different regions of the United States in order to *understand that...*
- Compare changes in technology (past and present) in order to *understand that...*

What do you think the writers of these performance indicators for middle school expected students to understand at a level beyond the facts? Below are some possible endings:

- Identify economic difference among different regions of the United States *in order to understand that the geography and natural resources of a region shape the economy.*
- Compare changes in technology *in order to understand that advancing technologies change the social and economic patterns of a society.*

We cannot just assume that teachers reach the conceptual level of understanding with students. In fact, years of work facilitating the writing of these essential, enduring understandings with teachers has shown me that it is a skill that takes practice. Extrapolating deeper understandings from factual knowledge is not easy work. It involves thinking beyond the facts to the “So What?” – the significant and transferable understandings. It involves mentally manipulating language and syntax so that conceptual understandings are expressed with clarity, brevity, and power. Teachers across the board say, “This is hard work!” when they begin this writing process. The learning curve is steep, but with a little practice, teachers take pride in their finely honed understandings.

Becoming a three-dimensional, concept-based teacher is a journey that merges best practices in teaching and learning with a developing understanding of brain-based pedagogy. But we have much to learn. So let’s get on wit the journey.

To memorize information is lower-level cognitive work. To stimulate more sophisticated, complex thinking, we need to create a *synergy* between the simpler and more complex processing centers in the brain. This interactive synergy requires the mind to process information on two cognitive levels—the factual and the conceptual. The conceptual mind uses facts as a tool to discern patterns, connections, and deeper, transferable understandings.

But curriculum materials are seldom designed to systematically set up this intellectual synergy between the factual and conceptual levels of thinking. Though concepts are mentioned, and often defined, they appear to be “Oh, by the way . . .” afterthoughts that one might want to consider. To provide teachers with a specific strategy for creating this intellectual synergy, the next section discusses and demonstrates the use of a *conceptual lens* in curriculum design and instruction.

START**The Power of a Conceptual Lens**

Concept-based teachers know how to adapt lower-level curriculum materials to teach for deeper understanding. For example, they may use a conceptual lens to invite students to bring their own thinking to the study at hand. Janet Kaduce is teaching a unit on the Holocaust in her high school class. She invites students to consider the events in terms of the dual conceptual lens of *humanity/inhumanity*.

This lens is the vehicle that sets up a synergy between the factual and conceptual processing centers in the brain. Students think deeply because they must process the facts in terms of their relationship to the ideas of *humanity* and *inhumanity*.

The teacher uses different types of questions to extend student thinking and deepen understanding:

Factual Questions:

Why was the Holocaust a significant event in world history?

What beliefs did Hitler hold that drove his actions?

Why is Hitler's persecution of the Jewish people considered inhumane?

Conceptual Questions:

What examples of inhumanity can you cite from our world today?

What acts of humanity can you cite from our present-day world?

How are beliefs, values, and perspectives related to views of humanity and inhumanity?

Provocative (Debate, or Essential) Question:

Can one be inhumane and civilized at the same time? (Explain your answer.)

Students retain the factual information longer because the use of the conceptual lens requires them to intellectually process at a deeper level. Furthermore,

because students are invited to bring their own thinking to the factual study, they are better able to make personal meaning. This invitation involves them emotionally—they are personally invested—and the motivation for learning increases.

Figure 1.2 provides a list of potential conceptual lenses that teachers could use to engage a student’s conceptual mind. The focus a teacher wishes to bring to a study suggests a particular lens, so it is best to start with the topic and then select the lens. There are times, however, such as in literature study, when a teacher might begin with a lens, such as *tragedy* or *archetypes*, and then select the support material, but generally the link is stronger if the topic is considered first. Notice that some of the lenses in Figure 1.2 are very broad (macroconcepts), such as *system* or *change*; while others are more specific (microconcepts), such as *identity* or *heroes*. A more specific lens reflects the teacher’s particular conceptual focus. As a general rule, discipline-based studies (e.g., a literature unit) draw more on the specific lenses; interdisciplinary studies draw on the broader lenses because they can then be accessed by a variety of disciplines involved in the study.

STOP

Try this activity to experience the power of the conceptual lens:

1. Think of two specific topics from a curriculum you teach.
2. Choose potential lenses from the list in Figure 1.2 for each topic.

Notice how the lens changes the focus for thinking about the topic.

Which lens do you find most engaging (or challenging) for your topic?

Thinking reflectively (metacognitively), are you aware of how the lens invites you to bring your personal intellect to the study? Does the engagement of your personal intellect increase your motivation and interest in this study?

<i>Topics</i>	<i>Potential Lenses</i>
A. _____	_____

B. _____	_____

The Integration of Thinking

When we can rise above the facts and see the patterns and connections between the facts and related concepts, principles, and generalizations—and when we can understand the deeper, transferable significance of knowledge—then we can say our thinking is *integrated* at a conceptual level. This factual/conceptual integration of thinking should be a conscious design goal for curriculum and instruction.

