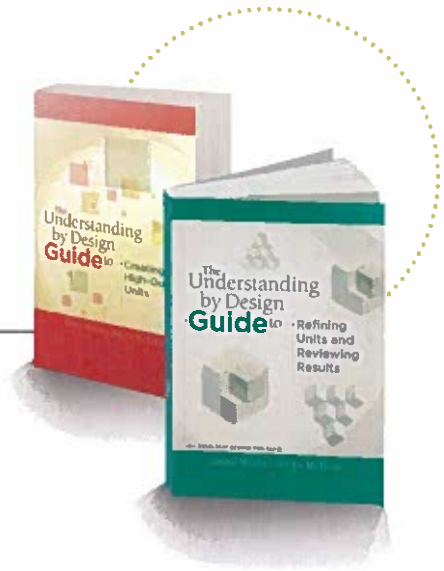

UNDERSTANDING BY DESIGN® FRAMEWORK

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INTRODUCTION: WHAT IS UbD™ FRAMEWORK?

The Understanding by Design® framework (UbD™ framework) offers a planning process and structure to guide curriculum, assessment, and instruction. Its two key ideas are contained in the title: 1) focus on teaching and assessing for understanding and learning transfer, and 2) design curriculum "backward" from those ends.

The UbD framework is based on seven key tenets:

1. Learning is enhanced when teachers think purposefully about curricular planning. The UbD framework helps this process without offering a rigid process or prescriptive recipe.
2. The UbD framework helps focus curriculum and teaching on the development and deepening of student understanding and transfer of learning (i.e., the ability to effectively use content knowledge and skill).
3. Understanding is revealed when students autonomously make sense of and transfer their learning through authentic performance. Six facets of understanding—the capacity to explain, interpret, apply, shift perspective, empathize, and self-assess—can serve as indicators of understanding.
4. Effective curriculum is planned backward from long-term, desired results through a three-stage design process (Desired Results, Evidence, and Learning Plan). This process helps avoid the common problems of treating the textbook as the curriculum rather than a resource, and activity-oriented teaching in which no clear priorities and purposes are apparent.
5. Teachers are coaches of understanding, not mere purveyors of content knowledge, skill, or activity. They focus on ensuring that learning happens, not just teaching (and assuming that what was taught was learned); they always aim and check for successful meaning making and transfer by the learner.

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6. Regularly reviewing units and curriculum against design standards enhances curricular quality and effectiveness, and provides engaging and professional discussions.
7. The UbD framework reflects a continual improvement approach to student achievement and teacher craft. The results of our designs—student performance—inform needed adjustments in curriculum as well as instruction so that student learning is maximized.

The Understanding by Design framework is guided by the confluence of evidence from two streams—theoretical research in cognitive psychology, and results of student achievement studies. A summary of the key research that undergirds UbD framework can be found at www.ascd.org under Research A Topic.

The Three Stages of Backward Design

The UbD framework offers a three-stage backward design process for curriculum planning, and includes a template and set of design tools that embody the process. A key concept in UbD framework is alignment (i.e., all three stages must clearly align not only to standards, but also to one another). In other words, the Stage 1 content and understanding must be what is assessed in Stage 2 and taught in Stage 3.

Stage 1—Identify Desired Results

Key Questions: *What should students know, understand, and be able to do? What is the ultimate transfer we seek as a result of this unit? What enduring understandings are desired? What essential questions will be explored in-depth and provide focus to all learning?*

In the first stage of backward design, we consider our goals, examine established content standards (national, state, province, and district), and review curriculum expectations. Because there is typically more content than can reasonably be addressed within the available time, teachers are obliged to make choices. This first stage in the design process calls for clarity about priorities.

Learning priorities are established by long-term performance goals—what it is we want students, in the end, to be able to do with what they have learned. The bottom-line goal of education is transfer. The point of school is not to simply excel in each class, but to be able to use one's learning in other settings. Accordingly,

Stage 1 focuses on "transfer of learning." Essential companion questions are used to engage learners in thoughtful "meaning making" to help them develop and deepen their understanding of important ideas and processes that support such transfer. Figure 1 contains sample transfer goals and Figure 2 shows sample understandings and essential questions.

FIGURE 1—SAMPLE TRANSFER GOALS

Discipline/Subject/Skill	Transfer Goals
Mathematics	• Apply mathematical knowledge, skill, and reasoning to solve real-world problems.
Writing	• Effectively write for various audiences to explain (narrative, expository), entertain (creative), persuade (persuasive), and help others perform a task (technical).
History	• Apply lessons of the past (historical patterns) to current and future events and issues. • Critically appraise historical claims.
Arts	• Create and perform an original work in a selected medium to express ideas or evoke mood and emotion.

FIGURE 2—SAMPLE UNDERSTANDINGS AND ESSENTIAL QUESTIONS

Understandings	Essential Questions
Great literature explores universal themes of human existence and can reveal truths through fiction.	How can stories from other places and times relate to our current lives?
Quantitative data can be collected, organized, and displayed in a variety of ways. Mathematical ideas can be represented numerically, graphically, or symbolically.	What's the best way of showing (or representing) _____? In what other way(s) can this be represented?
The geography, climate, and natural resources of a region influence the culture, economy, and lifestyle of its inhabitants.	How does where we live influence how we live?
The relationship between the arts and culture is mutually dependent; culture affects the arts, and the arts reflect and preserve culture.	In what ways do the arts reflect as well as shape culture?

Important knowledge and skill objectives, targeted by established standards, are also identified in Stage 1. An important point in the UbD framework is to recognize that factual knowledge and skills are not taught for their own sake, but as a means to larger ends. Acquisition of content is a means, in the service of meaning making and transfer. Ultimately, teaching should equip learners to be able to use or transfer their learning (i.e., meaningful performance with content). This is the result we always want to keep in mind.

Stage 2—Determine Assessment Evidence

Key Questions: *How will we know if students have achieved the desired results? What will we accept as evidence of student understanding and their ability to use (transfer) their learning in new situations? How will we evaluate student performance in fair and consistent ways?*

Backward design encourages teachers and curriculum planners to first think like assessors before designing specific units and lessons. The assessment evidence we need reflects the desired results identified in Stage 1. Thus, we consider in advance the assessment evidence needed to document and validate that the targeted learning has been achieved. Doing so invariably sharpens and focuses teaching.

In Stage 2, we distinguish between two broad types of assessment—performance tasks and other evidence. The performance tasks ask students to apply their learning to a new and authentic situation as means of assessing their understanding and ability to transfer their learning. In the UbD framework, we have identified six facets of understanding for assessment purposes. When someone truly understands, they

- Can **explain** concepts, principles, and processes by putting it their own words, teaching it to others, justifying their answers, and showing their reasoning.
- Can **interpret** by making sense of data, text, and experience through images, analogies, stories, and models.
- Can **apply** by effectively using and adapting what they know in new and complex contexts.
- Demonstrate **perspective** by seeing the big picture and recognizing different points of view.
- Display **empathy** by perceiving sensitively and walking in someone else's shoes.
- Have **self-knowledge** by showing meta-cognitive awareness, using productive habits of mind, and reflecting on the meaning of the learning and experience.

Keep the following two points in mind when assessing understanding through the facets:

1. All six facets of understanding need not be used all of the time in assessment. In mathematics, application, interpretation, and explanation are the most natural, whereas in social studies, empathy and perspective may be added when appropriate.

2. Performance tasks based on one or more facets are not intended for use in daily lessons. Rather, these tasks should be seen as culminating performances for a unit of study. Daily lessons develop the related knowledge and skills needed for the understanding performances, just as practices in athletics prepare teams for the upcoming game.

In addition to performance tasks, Stage 2 includes other evidence, such as traditional quizzes, tests, observations, and work samples to round out the assessment picture to determine what students know and can do. A key idea in backward design has to do with alignment. In other words, are we assessing everything that we are trying to achieve (in Stage 1), or only those things that are easiest to test and grade? Is anything important slipping through the cracks because it is not being assessed? Checking the alignment between Stages 1 and 2 helps ensure that all important goals are appropriately assessed, resulting in a more coherent and focused unit plan.

Stage 3—Plan Learning Experiences and Instruction

Key Questions: *How will we support learners as they come to understand important ideas and processes? How will we prepare them to autonomously transfer their learning? What enabling knowledge and skills will students need to perform effectively and achieve desired results? What activities, sequence, and resources are best suited to accomplish our goals?*

In Stage 3 of backward design, teachers plan the most appropriate lessons and learning activities to address the three different types of goals identified in Stage 1: transfer, meaning making, and acquisition (T, M, and A). We suggest that teachers code the various events in their learning plan with the letters T, M, and A to ensure that all three goals are addressed in instruction. Too often, teaching focuses primarily on presenting information or modeling basic skills for acquisition without extending the lessons to help students make meaning or transfer the learning.

Teaching for understanding requires that students be given numerous opportunities to draw inferences and make generalizations for themselves (with teacher support). Understanding cannot simply be told; the learner has to actively construct meaning (or misconceptions and forgetfulness will ensue). Teaching for transfer means that learners are given opportunities to apply their learning to new situations and receive timely feedback on their performance to help them improve. Thus, the teacher's role expands from solely a "sage on the stage" to a facilitator of meaning making and a coach giving feedback and advice about how to use content effectively.