The Understanding by Design Guide to Creating High-Quality Units

The Understanding by Design Guide to Creating High-Quality Units offers instructional modules on the basic concepts and elements of Understanding by Design (UbD), the "backward design" approach used by thousands of educators to create curriculum units and assessments that focus on developing students' understanding of important ideas. The eight modules are organized around the UbD Template, version 2.0, and feature components similar to what is typically provided in a UbD design workshop, including:

- Discussion and explanation of key ideas in the module;
- Guiding exercises, worksheets, and design tips;
- Examples of unit designs;
- Review criteria with prompts for self-assessment; and
- A list of resources for further information.

This guide is intended for K–16 educators—either individuals or groups—who may have received some training in UbD and want to continue their work independently; those who've read Understanding by Design and want to design curriculum units but have no access to formal training; graduate and undergraduate students in university curriculum courses; and school and district administrators, curriculum directors, and others who facilitate UbD work with staff. Users can go through the modules in sequence or skip around, depending on their previous experience with UbD and their preferred curriculum design style or approach. Unit creation, planning, and adaptation are easier than ever with the accompanying downloadable resources, including the UbD template set up as a fillable PDF form, additional worksheets, examples, and FAQs about the module topics that speak to UbD novices and veterans alike.
The Understanding by Design Guide to Creating High-Quality Units
Other ASCD books
by Grant Wiggins and Jay McTighe

Schooling by Design: Mission, Action, and Achievement
Understanding by Design Professional Development Workbook
Understanding by Design Expanded 2nd Edition
The Understanding by Design Guide to Creating High-Quality Units

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Alexandria, Virginia USA
The Understanding by Design
Guide to
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The figures in this book, as well as additional worksheets and examples, are available for download at www.ascd.org/downloads

Enter this unique key code to unlock the files:

G1659 0E67D 0AB10

If you have difficulty accessing the files, e-mail webhelp@ascd.org or call 1-800-933-ASCD for assistance.
The Understanding by Design Guide to Creating High-Quality Units is targeted to individuals and groups interested in improving their skills in designing units of study based on the Understanding by Design (UbD) framework. This guide introduces UbD unit design and directs readers through the process. It is organized around a set of modules that move from basic ideas (e.g., the three stages of “backward design”) to more complicated elements of unit design (e.g., authentic performance tasks). Figure 1 shows a graphic representation of the organization of the modules. Each module includes the following components:

- Narrative discussion of key ideas in the module
- Guiding exercises, worksheets, and design tips for unit design
- An example of an emerging design
- Review criteria (design standards) with prompts for self-assessment
- A list of resources for further information

### Figure 1
**Outline of Modules**

<table>
<thead>
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In addition to the print format, the *Guide to Creating High-Quality Units* features online resources correlated to the text. Many of the exercises and worksheets are accessible as downloads in electronic form, as are additional unit examples. The online portion includes frequently asked questions (FAQs) and will allow updates (e.g., more unit examples and new resources) to be readily accessed.

We invite users, especially beginners, to complete the exercises and worksheets to assist them in thinking through the unit design process. However, it is important to always keep the end—a coherent and well-aligned unit plan—in mind. If you find one or more exercises and worksheets unnecessary, feel free to skip them. Also, think of the exercises and worksheets as being like the training wheels on a bicycle. Eventually you’ll find that you no longer need them as your understanding of UbD deepens and your unit design skills become more effective and automatic.

The modular presentation of this material means that users need not follow the modules in the order presented. As you can see from Figure 1, the volume is organized by the logic of the three stages of backward design. This logic should not be confused with a directive about the (inherently messy) process of design. Your interests, strengths, and prior experience as a designer will inevitably dictate how you use this book and the sequence you follow.

Think of this guide, then, as a cookbook. A cookbook has chapters devoted first to recipes for appetizers, then for soups and salads, then for fish and meat, vegetables, and desserts. Similarly, the *Guide to Creating High-Quality Units* is organized by the “menu” of a unit’s parts—the elements of the unit template. But although the cookbook is organized, you need not read it from cover to cover or make all the recipes in the order in which they appear. So, too, in unit design. Like the recipe creator, you’ll find that your path is informed by the need to put the final work in a certain form, but creation is inherently more nonlinear as you try things out, alter various “ingredients,” and double-back to ensure that the end product works.

If you want more information on available products related to Understanding by Design, consult www.ascd.org. A community of people interested in UbD and additional resources are on ASCD EDge, accessible at http://groups.ascd.org/groups/detail/110884/understanding-by-design/. ASCD EDge is a professional networking community for educators.
Module A

The Big Ideas of UbD

**Purpose:** To become acquainted with the big ideas of Understanding by Design.

**Desired Results:** Unit designers will understand that

- Understanding by Design (UbD) is a curriculum-planning framework, not a prescriptive program.
- UbD focuses on helping students come to an understanding of important ideas and transfer their learning to new situations.
- UbD reflects current research on learning.

**You should work on Module A if** you are new to Understanding by Design.

**You might skim or skip Module A if** you are familiar with the basic ideas of UbD.

As its title suggests, *Understanding by Design* (UbD) reflects the convergence of two interdependent ideas: (1) research on learning and cognition that highlights the centrality of teaching and assessing for understanding, and (2) a helpful and time-honored process for curriculum writing (Wiggins & McTighe, 2005).

UbD is based on eight key tenets:

1. UbD is a way of thinking purposefully about curricular planning, *not* a rigid program or prescriptive recipe.
2. A primary goal of UbD is developing and deepening student understanding—the ability to make meaning of learning via “big ideas” and to transfer learning.
3. UbD unpacks and transforms content standards and mission-related goals into relevant Stage 1 elements and appropriate assessments in Stage 2.
4. Understanding is revealed when students autonomously make sense of and transfer their learning through authentic performance. Six facets of
understanding—the capacities to explain, interpret, apply, shift perspective, empathize, and self-assess—serve as indicators of understanding.

5. Effective curriculum is planned “backward” from long-term desired results through a three-stage design process (Desired Results, Evidence, Learning Plan). This process helps to avoid the twin problems of “textbook coverage” and “activity-oriented teaching” in which no clear priorities and purposes are apparent.

6. Teachers are coaches of understanding, not mere purveyors of content or activity. They focus on ensuring learning, 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.

7. Regular reviews of units and curriculum against design standards enhance curricular quality and effectiveness.

8. UbD reflects a continuous-improvement approach to achievement. The results of our designs—student performance—inform needed adjustments in curriculum as well as instruction; we must stop, analyze, and adjust as needed, on a regular basis.

In this module, we’ll explore two of the big ideas of UbD—understanding and design.

Understanding as an Educational Aim

The header for this section may strike readers as unnecessary. Don’t all teachers want their students to understand what they teach? Perhaps. But an examination of many classrooms reveals that instruction is often focused on superficial coverage of lots of content as specified by national, state, or provincial standards, or as contained in distended textbooks. Even in nominally successful classrooms we see an overemphasis on short-term content acquisition for simple recall instead of long-term understanding. The teaching and learning process is also influenced in unfortunate ways by the pressure associated with high-stakes accountability tests. In many schools, teachers are expected to engage in “test prep” as a means of raising test scores. At its worst, this practice encourages and results in bad teaching—a low-level and formulaic approach to learning at the expense of exploring ideas in greater depth. Ironically, high-level achievement is actually undercut by such an approach (Wiggins, 2010).

Understanding by Design proposes a sound and commonsense alternative to these prevailing methods. UbD is predicated on the idea that long-term achievement gains are more likely when teachers teach for understanding of transferable concepts and processes while giving learners multiple opportunities to apply their learning in meaningful (i.e., authentic) contexts. The requisite knowledge and skills are learned and long recalled through the process of actively constructing meaning (i.e., coming to an understanding) and in transferring learning to new situations. In short, when we treat content mastery as the
means, not the end, students learn more in the long term and can become more engaged in their work.

Support for an understanding-based approach to instruction and classroom assessment comes from research in cognitive psychology and neurology. The book *How People Learn: Brain, Mind, Experience, and School* (Bransford, Brown, & Cocking, 2000) provides a readable synthesis of the psychological research. Here are brief summaries of several key findings that provide a conceptual base for UbD’s specific instruction and assessment practices:

- Effective learning requires not an exclusive focus on diligent drill and practice but rather a balanced focus on students’ understanding and application of knowledge along with drill—much like what all good coaches do on the field or on the stage. Transfer requires learning strategy and alternate “moves” in all fields.
- To be widely applicable, learning must be guided by generalized principles. Knowledge learned at the level of rote memory rarely transfers; transfer most likely occurs when the learner understands underlying concepts and principles that can be applied to problems in new contexts. Learning with understanding is far more likely to promote transfer than simply memorizing information from a text or a lecture.
- Experts first seek to develop an understanding of problems or challenges, and this often involves thinking in terms of core concepts or big ideas (e.g., schemas, themes, models, theories, etc.). Novices’ knowledge is much less likely to be organized around big ideas; novices are more likely to approach problems by searching for correct formulas and pat answers that fit their everyday intuitions.
- Research on expertise suggests that superficial coverage of many topics in the domain is a poor way to help students develop the competencies that will prepare them for future learning and work. Curricula that emphasize breadth of knowledge may prevent effective organization of knowledge because not enough time is provided to learn anything in depth. Curricula that are “a mile wide and an inch deep” risk developing disconnected rather than connected knowledge.
- Many assessments measure only recently taught knowledge and never ask for authentic performance (conditional knowledge and skill in context)—whether students know *when*, *where*, and *why* to use what they have learned in the past. This approach leads to surprisingly poor test results, because students do not recognize prior learning in unfamiliar-looking test questions—especially when the test has no context clues and hints (as occurs when teachers immediately quiz students on recent material.) Given that performance is the goal, local assessments typically do not provide a valid measure of student understanding.
Additional validation of the principles and practices of Understanding by Design comes from the emerging research on the neuroscience of learning (see, e.g., Willingham, 2009). Judy Willis (2006), a licensed neurologist and middle school teacher, notes the following instructional implications of this research:

- Patterning is the process whereby the brain perceives and generates patterns by relating new with previously learned material or chunking material into patterns it has not used before. Whenever new material is presented in such a way that students see relationships, they generate greater brain cell activity (forming new neural connections) and achieve more successful long-term memory storage and retrieval.
- Experiential learning that stimulates multiple senses in students, such as hands-on science activities, is not only the most engaging but also the most likely to be stored as long-term memories.
- The best-remembered information is learned through multiple and varied exposures followed by authentic use of the knowledge.

Research findings such as these provide a conceptual underpinning for Understanding by Design and should guide curriculum and assessment design, as well as instructional practice.

**What Is Understanding?**

The term *understanding* is surprisingly tricky, even though it is used widely. It has many different connotations. In fact, you may be aware that Benjamin Bloom and his colleagues (1956) avoided using the term in their taxonomy of the cognitive domain because it was seen as imprecise. Yet the term intuitively stands for something important—and different from content mastery, per se.

Therefore, at the start, we invite you to stop and reflect. *What is understanding? What do we mean when we say we want students to understand the content, not just know it? What’s the difference between really “getting it” and just regurgitating back what was taught?*

If you are like most people, you identified a few clear yet different meanings of the term. Some of the meanings tend to be about ideas and inferences (e.g., making connections, seeing the big picture, grasping core concepts), and some tend to involve effective use of knowledge and skill (e.g., teach others, say it in your own words, apply learning to a real-world setting, defend your views to an audience). At this point, we merely note that the term is multifaceted, that understanding is something different from mere “knowing,” and that the goal of understanding therefore involves more sophisticated instruction and assessment than teaching and testing for knowledge and skill alone. If the goal is understanding, *by design*, we’ll need to plan mindful of these meanings.
Good Design = “Backward” Design

Teaching is a means to an end, and planning precedes teaching. The most successful teaching begins, therefore, with clarity about desired learning outcomes and about the evidence that will show that learning has occurred. Understanding by Design supports this view through a three-stage “backward-design” process used to plan curriculum units that include desired understandings and performance tasks that require transfer. Specific lessons are then developed in the context of a more comprehensive unit design.

The concept of planning curriculum backward from desired results is not new. In 1948, Ralph Tyler advocated this approach as an effective process for focusing instruction; Bloom’s Taxonomy—and its recent revision by Anderson and Krathwohl (2001)—lays out the different types of educational aims and what they require of assessment; Robert Gagné (1977) and Robert Mager (1988) have long taught people how to analyze different outcomes and what they require of learning; more recently, William Spady (1994) popularized the idea of “designing down” from exit outcomes.

Although not a novel idea, backward design as we frame it results in more clearly defined and wisely blended short-term and long-term goals, more appropriate assessments, and more purposeful teaching than typical planning. This is particularly so if you acknowledge that a primary goal of education is effective transfer of learning. The key to UbD is to understand that, just like the coach or trainer, we must design backward from complex long-term performance where content is used, not from discrete topics or skills where content need only be recalled. Such performance lies at the heart of genuine expertise.

In other words, we want understanding by design as opposed to understanding by good fortune; that is, we don’t want to just throw content and activities at the wall and hope something sticks. We need to think of unit design work as the intellectual equivalent of a GPS device in our car: by identifying a specific learning destination first, we are able to see the instructional path most likely to get us there.

This concept initially seems obvious. It turns out, however, to challenge many of our deepest habits as planners and teachers. Why? Because although we can easily say what we think should be taught and how we propose to teach it, the challenge we are proposing is different and more difficult. We don’t start with content; we start with what students are expected to be able to do with content. What would real use of the content look like? What should students ultimately be able to say and do with content if they “get it”? And if that’s what real learning looks like, what should be taught—and how—to make it most likely that the teaching leads to fluent, flexible, and lasting learning?

We trust you see that these are more difficult questions than initial impressions may have suggested. Note especially that this way of thinking backward from the desired changes in the student requires that we carefully think through what will count as evidence of real learning if we want to ensure that real learning is
achieved and not just hoped for. Here, then, is a brief summary of the three stages of backward design used in UbD.

Stage 1—Identify Desired Results
- What long-term transfer goals are targeted?
- What meanings should students make to arrive at important understandings?
- What essential questions will students keep considering?
- What knowledge and skill will students acquire?
- What established goals/standards are targeted?

Stage 2—Determine Acceptable Evidence
- What performances and products will reveal evidence of meaning-making and transfer?
- By what criteria will performance be assessed, in light of Stage 1 desired results?
- What additional evidence will be collected for all Stage 1 desired results?
- Are the assessments aligned to all Stage 1 elements?

Stage 3—Plan Learning Experiences and Instruction Accordingly
- What activities, experiences, and lessons will lead to achievement of the desired results and success at the assessments?
- How will the learning plan help students achieve transfer, and meaning and acquisition, with increasing independence?
- How will progress be monitored?
- How will the unit be sequenced and differentiated to optimize achievement for all learners?
- Are the learning events in Stage 3 aligned with Stage 1 goals and Stage 2 assessments?

Figure A.1 is a graphic representation of the logic of backward design.

Avoiding the Twin Sins of Typical Unit Planning

We have found that when teachers follow this three-stage planning process—regardless of how much they use the full template described later in this Guide to Creating High-Quality Units—they are more likely to avoid the all-too-common “twin sins” of planning and teaching. The first sin occurs more widely at the elementary and middle school levels and may be labeled activity-oriented teaching. Here, teachers plan and conduct various activities, worrying only about whether they are engaging and kid-friendly. Unfortunately, this approach often confuses
hands-on work with minds-on work. Too often, in other words, a collection of activities does not add up to coherent, focused, and generative learning. Haven’t we all seen examples of classroom activities that don’t meet these criteria? Such activities are like cotton candy—pleasant enough in the moment, but lacking long-term substance.

The second sin, more prevalent at the secondary and collegiate levels, goes by the name of content coverage. In this case, teaching consists of marching through a resource, be it a textbook or literature. With all due respect to the content-related challenges of secondary and college teaching, a teacher’s job is not to simply mention everything in a book or on a topic; our job is to prioritize, make interesting and useful, and “uncover” the content, not merely “cover” it. The textbook should serve as a resource, not the syllabus, in a focused and effective learning plan. We have found that backward design is key to helping teachers in upper-level grades better understand their priorities, how to meet them, and how to use the textbook more judiciously to achieve worthy goals.

A Reflection on the Best Learning Designs

To further consider the qualities of good curriculum design and its effect on learning, we suggest that you reflect upon a few of the best-designed learning

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Figure A.1

The Logic of Backward Design

**Purpose:** To illustrate and practice backward-design planning and thinking.

**Directions:** Sketch out a unit idea in the three stages of backward design. Use the driving example as a model. You might find it helpful to start with a simple nonacademic goal—for example, successfully “plan a trip” or “cook a meal.”

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the desired end result is for learners to . . . →</td>
<td>then you need evidence of the learners’ ability to . . . →</td>
<td>then the learning events need to . . .</td>
</tr>
<tr>
<td>Drive in heavy traffic with aggressive and inattentive drivers without accident or anger.</td>
<td>Handle real as well as simulated driving conditions in which defensive driving is required by traffic and behavior of other drivers.</td>
<td>Help novices become skilled in handling the automobile; help them learn and practice defensive driving in a variety of situations; help them learn to defuse anger using humor and different thought patterns, etc.</td>
</tr>
</tbody>
</table>
experiences you were ever involved in, and generalize from them. (If you are using this text in a class or study group, we suggest that participants reflect on, share and generalize from their experience in small groups, then as a whole group, using Figure A.5, available online.) What was the best-designed learning you ever experienced? What is in general true of good design, regardless of the course content or the style of the teacher? The answers we’ve heard most are captured in the list that follows. How does your list match up with these ideas? We bet there are quite a few matches, since effective designs for learning have common characteristics. We ask you to keep these qualities in mind as you begin your own unit design, and we’ll remind you of them as you read and work.

**Expectations.** The best learning designs

- Provide clear learning goals and transparent expectations.
- Cast learning goals in terms of specific and meaningful performance.
- Frame the work around genuine issues/questions/problems.
- Show models or exemplars of expected performance and thinking.

**Instruction.** In the best learning designs

- The teacher serves as a facilitator/coach to support and guide learner inquiry.
- Targeted instruction and relevant resources are provided to equip students for expected performance.
- The textbook serves as one resource among many (i.e., text is resource, not syllabus).
- The teacher uncovers important ideas and processes by exploring essential questions and genuine applications of knowledge and skills.

**Learning Activities.** In the best learning designs

- Individual differences (e.g., learning styles, skill levels, interests) are accommodated through a variety of activities and methods.
- There is variety in work and methods; and students have some choice (e.g., opportunities for both group and individual work).
- Learning is active/experiential to help students make sense of complex content.
- Cycles of model-try-feedback-refine anchor the learning.

**Assessment.** In the best learning designs

- There is no mystery as to performance goals or standards.
- Diagnostic assessments check for prior knowledge, skill level, and misconceptions.
- Students demonstrate their understanding through real-world applications (i.e., genuine use of knowledge and skills, tangible product, target audience).
• Assessment methods are matched to achievement targets.
• Ongoing, timely, and descriptive feedback is provided.
• Learners have opportunities for trial and error, reflection, and revision.
• Self-assessment is expected and encouraged.

**Sequence and Coherence.** The best learning designs

• Start with a hook and immerse the learner in a genuine problem/issue/challenge.
• Move back and forth from whole to part, with increasing complexity.
• Scaffold learning in doable increments.
• Teach as needed; don’t overteach all of the “basics” first.
• Revisit ideas—have learners rethink and revise earlier ideas or work.
• Are flexible (e.g., respond to student needs; are revised to achieve goals).

Note that such qualities are often missing from traditional activity-focused and coverage-focused teaching.

**Design Standards**

As responses to the exercise reveal, at the heart of the most effective learning are certain common conditions. Thus, curriculum and instructional designs should reflect and honor these conditions—that is, the conditions serve as guiding criteria for building our units. By using these general criteria (and others more specific to UbD, to be provided later), we can more purposefully review and improve our unit designs, our teaching, and student achievement.

In UbD we refer to such criteria as *design standards*. The standards reflect not only what we know from common sense but also what we know from the research about learning and best practice. It is thus wise to regularly engage in formal self-assessment and peer review of unit plans and overall curriculum designs. Such critical reviews of curricula are a centerpiece of UbD. By actively evaluating our work against established criteria, we make it far more likely that learners engage, learn, and achieve at high levels—that they understand by design, not by good luck.

Design standards specify the qualities that we strive for in our unit plans. Just as a writing rubric can inform students’ compositions and guide them as they self-assess their drafts, the UbD standards function similarly for teachers. In fact, they have a dual purpose: (1) to guide self-assessment and peer reviews to identify design strengths and needed improvements; and (2) to provide a mechanism for quality control, a means of validating curricular designs. Because effective assessment should be ongoing, not simply an event at the end of a unit, you will see self-assessment questions related to these standards included in most of the modules of this Guide. (The UbD standards can be found in Module B.)
As you work through the *Guide to Creating High-Quality Units*, you may find it helpful to keep a running record or journal of your thoughts about the big ideas of UbD—understanding, transfer, effective design, teaching for understanding, backward design, and design standards. If you are using the guide in a study group or course, these questions and ideas will make for great discussions.

Go online to see Figure A.2 UbD in a Nutshell, which shows an overview of the key ideas of UbD and backward design as described in this module. Also online you’ll find Figure A.3 What Is “Understanding”? , Figure A.4 What Is “Understanding” of Specific Topics?, Figure A.5 The Best Designs for Learning, and Figure A.6 Thinking About “Understanding.”

**Further Information on the Ideas and Issues in This Module**


*Schooling by Design* (Wiggins & McTighe, 2007). Chapter 1 discusses the mission of schooling, including a focus on understanding and transfer as fundamental educational goals. Chapter 4 presents a set of related learning principles that might guide professional actions and decisions.

“You Can Teach for Meaning” (McTighe, Seif, & Wiggins, 2004). This article provides a brief summary of research and the rationale for teaching understanding.

**References**


Module B

The UbD Template

**Purpose:** To develop a preliminary understanding of the UbD Template, version 2.0, and to review sample UbD units in this format.

**Desired Results:** Unit designers will understand that

- The UbD Template is a tool that guides backward design and focuses a unit plan on the goal of understanding (as opposed to “coverage” or activities).
- Using the three-stage design process makes it more likely that unit goals, assessments, and instructional plans are coherent and aligned.
- Backward design is a way of thinking; it is not about filling in boxes in a template.

**Unit designers will be able to**

- Review existing units through the lens of the UbD Template.
- (Eventually) design units in the full UbD Template format.

**You should work on Module B if** you have not yet developed a unit using the UbD Template, version 2.0.

**You might skim or skip Module B if** you would prefer to work on Modules C and D to better understand the goal of “understanding” and how it differs from “knowing”; or if you wish to sketch a unit in broad-brush terms rather than work in the full-blown template just yet. In either case, you could then return to Module B.

The UbD Template, version 2.0, reflects the principles of sound curriculum, provides a helpful organizer for developing effective unit plans, and helps us avoid common weaknesses in unit designs. Like any new and powerful process, though, using the full-scale template may initially feel uncomfortable or unnecessarily complicated. You may want to start your design work in Module D in which you draft a unit in a simpler version of the template. However, many teachers have
found that, with practice, it becomes a way of thinking—of clarifying learning goals and how to more likely achieve them—"by design."

Regardless of your style or interests as a designer, you will find it helpful to work through this module carefully to get the full picture of UbD and its potential to improve student learning. Figure B.1 presents the full UbD Template, version 2.0, with key questions for designers to consider.

Veterans of UbD will notice that this is a revised version of the familiar template. A summary of the changes to the template and the rationale for the changes can be found online in the Frequently Asked Questions section.

In this module we discuss each stage of the template in more detail. Examples of completed UbD unit designs are provided in the module. By reviewing these samples, you will develop a clearer sense of backward design, and get ideas to assist you with your own unit design.

**Stage 1: Clarifying Desired Results**

There are several major components to consider in Stage 1 when planning a UbD unit, reflective of the complexity of long-term academic objectives (see Figure B.1). Understanding is of course the key goal, and the template reflects this. Given our discussion of understanding in Module A, the boxes in Stage 1 should make sense. To "understand" has two general connotations: (1) applying your understandings, knowledge, and skill effectively in new situations results in successful transfer; and (2) making inferences and grasping connections, to culminate in understanding. We honor that distinction in the template: Understanding is separated into Transfer and Meaning; Meaning includes Understandings and Essential Questions.

**Transfer**

The ability to transfer is arguably the long-term aim of all education. You truly understand and excel when you can take what you have learned in one way or context and use it in another, on your own. The successful driver, soccer player, historian, or mathematician can size up a new challenge and transfer learning efficiently and effectively. Someone who learned only by rote cannot.

**Meaning**

An understanding is an idea that results from reflecting on and analyzing one’s learning: an important generalization, a new insight, a useful realization that makes sense out of prior experience or learning that was either fragmented or puzzling. An understanding is not a fact (though it may sound like one) but a “theory” in the broadest sense; it is the result of inference—the developing and
testing of ideas by learners, with teacher assistance, as needed—culminating in an idea that seems useful and illustrative to the learner.

For example, in our driving example shown later in this module, an understanding is that “The time needed to stop or react is deceptively brief, thus requiring constant anticipation and attention” (see Figure B.2). You only really “get” this idea from lots of experience and prompted reflection on that experience. Understandings are the hard-won ideas of modern expertise, whether they are about content or process, driving or physics. They can’t be “covered”; they have to be “uncovered”—explored and considered—to be understood because they are not usually obvious and are prone to misunderstanding by novices. But more colloquially, you have to own the understanding. Otherwise it is just a lifeless sentence that you once heard in class, with no apparent value to you as you drive.

Transfer depends upon such meaning-making, then. We need vital and connective ideas to help us see themes/patterns/theories by which we can make sense of new otherwise-confusing situations. Deliberate anticipation of demands and likely trouble when we are driving helps us do more than prepare for novel challenges on the road. Careful forethought is more readily transferred as a habit of mind to other kinds of challenges requiring good anticipation, including those found in athletics and interpersonal situations.

Essential questions point us in the direction of both kinds of understanding. Coming to an understanding and applying prior learning requires an active process of meaning-making on the part of the learner. This process involves the ability to ask and pursue the most helpful questions, draw inferences, create new understandings, and actively process the effects of attempted transfer. The point of school is not merely to know things but to become better at and more assertive about inquiry. Powerful questions that frame all units signal this educational aim.

Essential questions are ongoing and guiding queries by which we make clear to students that true learning is about digging deeper; it is active, not passive. If we truly engage with a topic, we pursue questions that naturally arise: Why? How? What does this mean? What of it? What is its significance? What follows? These and other vital questions kindle our own meaning-making while helping us see the meaning and value of understandings developed by “experts.”

The use of essential questions also facilitates transfer by pushing us to look for familiar patterns, connect ideas, and consider useful strategies when faced with novel challenges. A question is thus “essential” in an educational sense if it helps the learner achieve greater focus, understanding, and efficacy when dealing with new challenges. Ideally, an essential question that students initially explore eventually becomes their own and they use it to guide and organize all learning.

The first question in the driving example makes this clear: What must I anticipate and do to minimize risk and accidents when I drive? (see Figure B.2). Note, then, a fact about the template that you may not have considered: Questions are the desired result, not answers. The questions are not just setups for lessons. Learning to ask and pursue important questions on one’s own is the desired result, and arguably key to all genuine lifelong learning.
### Stage 1—Desired Results

<table>
<thead>
<tr>
<th>Established Goals</th>
<th>Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What content standards and program- or mission-related goal(s) will this unit address?</td>
<td>Students will be able to independently use their learning to . . .</td>
</tr>
<tr>
<td>What habits of mind and cross-disciplinary goal(s)—for example, 21st century skills, core competencies—will this unit address?</td>
<td>What kinds of long-term independent accomplishments are desired?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNDERSTANDINGS</strong>&lt;br&gt;Students will understand that . . .</td>
</tr>
<tr>
<td>What specifically do you want students to understand?&lt;br&gt;What inferences should they make?</td>
</tr>
<tr>
<td><strong>ESSENTIAL QUESTIONS</strong>&lt;br&gt;Students will keep considering . . .</td>
</tr>
<tr>
<td>What thought-provoking questions will foster inquiry, meaning-making, and transfer?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students will know . . .</strong></td>
</tr>
<tr>
<td>What facts and basic concepts should students know and be able to recall?</td>
</tr>
<tr>
<td><strong>Students will be skilled at . . .</strong></td>
</tr>
<tr>
<td>What discrete skills and processes should students be able to use?</td>
</tr>
</tbody>
</table>
### Stage 2—Evidence

<table>
<thead>
<tr>
<th>Code</th>
<th>Evaluative Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are all desired results being appropriately assessed?</td>
<td>What criteria will be used in each assessment to evaluate attainment of the desired results? Regardless of the format of the assessment, what qualities are most important?</td>
</tr>
<tr>
<td>PERFORMANCE TASK(S):</td>
<td>Students will show that they really understand by evidence of... How will students demonstrate their understanding (meaning-making and transfer) through complex performance?</td>
</tr>
<tr>
<td>OTHER EVIDENCE:</td>
<td>Students will show they have achieved Stage 1 goals by... What other evidence will you collect to determine whether Stage 1 goals were achieved?</td>
</tr>
</tbody>
</table>

### Stage 3—Learning Plan

<table>
<thead>
<tr>
<th>Code</th>
<th>What pre-assessments will you use to check student’s prior knowledge, skill levels, and potential misconceptions?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What’s the goal for (or type of) each learning event?</td>
<td>Student success at transfer, meaning, and acquisition depends upon...</td>
</tr>
<tr>
<td>Learning Events</td>
<td>• Are all three types of goals (acquisition, meaning, and transfer) addressed in the learning plan? • Does the learning plan reflect principles of learning and best practices? • Is there tight alignment with Stages 1 and 2? • Is the plan likely to be engaging and effective for all students?</td>
</tr>
<tr>
<td>Pre-Assessment</td>
<td>• How will you monitor students’ progress toward acquisition, meaning, and transfer, during lesson events? • What are potential rough spots and student misunderstandings? • How will students get the feedback they need?</td>
</tr>
<tr>
<td>Progress Monitoring</td>
<td></td>
</tr>
</tbody>
</table>
### Stage 1—Desired Results

<table>
<thead>
<tr>
<th>Established Goals</th>
<th>Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive the vehicle safely and responsibly.</td>
<td>Students will be able to independently use their learning to . . .</td>
</tr>
<tr>
<td>Negotiate the road correctly</td>
<td>T1 Drive courteously and defensively without accidents or needless risk.</td>
</tr>
<tr>
<td>Comply with signals, signs and road markings.</td>
<td>T2 Anticipate and adapt their knowledge of safe and defensive driving to .</td>
</tr>
<tr>
<td>Interact appropriately with other road users.</td>
<td>various traffic, road, and weather conditions.</td>
</tr>
<tr>
<td>Minimize risk when driving.</td>
<td></td>
</tr>
<tr>
<td>Learn from experience.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meanings</th>
<th>Essential Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDERSTANDINGS</td>
<td>Students will understand that . . .</td>
</tr>
<tr>
<td>Students will understand that . . .</td>
<td>Q1 What must I anticipate and do to minimize risk and accidents when .</td>
</tr>
<tr>
<td>U1 Defensive driving assumes that other drivers are not attentive and that they</td>
<td>Q2 What makes a courteous and defensive driver?</td>
</tr>
<tr>
<td>might make sudden or ill-advised moves.</td>
<td></td>
</tr>
<tr>
<td>U2 The time needed to stop or react is deceptively brief, thus requiring constant</td>
<td></td>
</tr>
<tr>
<td>anticipation and attention.</td>
<td></td>
</tr>
<tr>
<td>U3 Effective drivers constantly adapt to the various traffic, road, and weather</td>
<td></td>
</tr>
<tr>
<td>conditions.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acquisition</th>
<th>Students will be skilled at . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will know . . .</td>
<td>S1 Procedures of safe driving under varied traffic, road, and weather</td>
</tr>
<tr>
<td>K1 The driving laws of their state, province, or country.</td>
<td>conditions.</td>
</tr>
<tr>
<td>K2 Rules of the road for legal, courteous, and defensive driving.</td>
<td>S2 Signaling/communicating intentions.</td>
</tr>
<tr>
<td>K3 Basic car features, functions, and maintenance requirements (oil changes, etc.)</td>
<td>S3 Quick response to surprises.</td>
</tr>
<tr>
<td></td>
<td>S4 Parallel parking.</td>
</tr>
</tbody>
</table>

### Stage 2—Evidence

<table>
<thead>
<tr>
<th>Code</th>
<th>Evaluative Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Transfer Goals</td>
<td>• Skillful</td>
</tr>
<tr>
<td></td>
<td>• Courteous</td>
</tr>
<tr>
<td></td>
<td>• Defensive</td>
</tr>
<tr>
<td></td>
<td>• Anticipates well</td>
</tr>
<tr>
<td></td>
<td>• Responsive to varied road conditions</td>
</tr>
<tr>
<td>All Meaning Goals</td>
<td>PERFORMANCE TASK(S):</td>
</tr>
<tr>
<td></td>
<td>Students will show that they really understand by evidence of…</td>
</tr>
<tr>
<td></td>
<td>Their ability to transfer all their discrete learning into real-world (or simulated) responsive, safe, and courteous driving, under varied conditions. For example,</td>
</tr>
<tr>
<td></td>
<td>1. Task: Drive from home to school and back, with parental and teacher supervision. The goal is to demonstrate skillful, responsive, and defensive driving under real-world conditions.</td>
</tr>
<tr>
<td></td>
<td>2. Task: Same task as 1, but with rainy conditions.</td>
</tr>
<tr>
<td></td>
<td>3. Task: Same task as 1, but in rush-hour traffic.</td>
</tr>
<tr>
<td></td>
<td>4. Booklet: Driving for newbies. Write a booklet for other young drivers on the do’s and don’ts of safe and effective driving.</td>
</tr>
<tr>
<td>All Meaning Goals</td>
<td>OTHER EVIDENCE:</td>
</tr>
<tr>
<td></td>
<td>Students will show they have achieved Stage 1 goals by…</td>
</tr>
<tr>
<td></td>
<td>5. Self-assessing driving and parking in Tasks 1–3, in terms of courteous and defensive. Discuss adjustments made.</td>
</tr>
<tr>
<td></td>
<td>6. Showing evidence of discrete skills as well as overall fluency in a driving simulator and off road.</td>
</tr>
<tr>
<td></td>
<td>7. Identifying driver errors in video clips, without prompting by teacher.</td>
</tr>
<tr>
<td></td>
<td>8. Quiz on basic car parts, functions, and necessary maintenance.</td>
</tr>
<tr>
<td></td>
<td>9. Passing the written test as a measure of knowing the rules of the road and applicable laws, passing the road test as an indicator of meeting all Stage 1 skill and transfer goals.</td>
</tr>
</tbody>
</table>