Chapter 7

Thinking like an Assessor

> We recognize understanding through a flexible performance. . . . Understanding shows its face when people can think and act flexibly around what they know. In contrast, when a learner cannot go beyond rote and routine thought and action, this signals lack of understanding. . . . To understand means to be able to perform flexibly.
>
> —David Perkins, "What Is Understanding?" in Martha Stone Wiske, Ed., *Teaching for Understanding,* 1998, p. 42

> The most important method of education . . . always has consisted of that in which the pupil was urged to actual performance.
>
> —Albert Einstein, *Ideas and Opinions,* 1954/1982, p. 60

Having clarified how to frame desired results in Stage 1, we now move to the second stage of backward design. Here we consider the assessment implications of our emerging design by asking (and reasking) the assessor's questions:

- What evidence can show that students have achieved the desired results (Stage 1)?
- What assessment tasks and other evidence will anchor our curricular units and thus guide our instruction?
- What should we look for, to determine the extent of student understanding?

Figure 7.1 lists the three stages of backward design and presents the considerations and design standards that apply. Stage 2 summarizes the elements to consider when planning for the collection of evidence from assessments.

Nowhere does the backward design process depart more from conventional practice than at this stage. Instead of moving from target to teaching, we ask, What would count as evidence of successful learning? Before we plan the activities, our question must first be, What assessment of the desired results logically follows Stage 1? And, specifically, what counts as evidence of the understanding sought?

Figure 7.1

The UbD Matrix: Focus on Stage 2

Key Design Questions	Chapters of the Book	Design Considerations	Filters (Design Criteria)	What the Final Design Accomplishes
Stage 1 • What are worthy and appropriate results? • What are the key desired learnings? • What should students come away understanding, knowing, and able to do? • What big ideas can frame all these objectives?	• Chapter 3—Gaining Clarity on Our Goals • Chapter 4—The Six Facets of Understanding • Chapter 5—Essential Questions: Doorways to Understanding • Chapter 6—Crafting Understandings	• National standards • State standards • Local standards • Regional topic opportunities • Teacher expertise and interest	• Focused on big ideas and core challenges	• Unit framed around enduring understandings and essential questions, in relation to clear goals and standards
Stage 2 • **What is evidence of the desired results?** • **In particular, what is appropriate evidence of the desired understanding?**	• **Chapter 7—Thinking like an Assessor** • **Chapter 8—Criteria and Validity**	• **Six facets of understanding** • **Continuum of assessment types**	• **Valid** • **Reliable** • **Sufficient**	• **Unit anchored in credible and useful evidence of the desired results**
Stage 3 • What learning activities and teaching promote understanding, knowledge, skill, student interest, and excellence?	• Chapter 9—Planning for Learning • Chapter 10—Teaching for Understanding	• Research-based repertoire of learning and teaching strategies • Appropriate and enabling knowledge and skill	Engaging and effective, using the elements of WHERETO: • *Where* is it going? • *Hook* the students • *Explore* and *equip* • *Rethink* and *revise* • *Exhibit* and *evaluate* • *Tailor* to student needs, interests, and styles • *Organize* for maximum engagement and effectiveness	• Coherent learning activities and teaching that will evoke and develop the desired understandings, knowledge, and skill; promote interest; and make excellent performance more likely

The mantra of this and the next chapter is to think like an assessor, not a teacher. Recall the logic of backward design, as shown in Figure 7.2. The text linking the first and second column shows what thinking like an assessor means.

As the logic of backward design reminds us, we are obligated to consider the assessment evidence implied by the outcomes sought, rather than thinking about assessment primarily as a means for generating grades. Given the goals, what performance evidence signifies that they have been met? Given the essential questions, what evidence would show that the learner had deeply considered them? Given the understandings, what would show that the learner "got it"? We urge teachers to consider a judicial analogy as they plan assessment. Think of students as juries think of the accused: innocent (of understanding, skill, and so on) until proven guilty by a preponderance of evidence that is more than circumstantial. In a world of standards-based accountability, such an approach is vital.

The following true stories illustrate the problem of failing to carefully consider the evidence needed.

- A kindergarten teacher has each student bring in a poster with 100 items for the hundredth day of school. But when asked to justify the assessment, the teacher refers to the state standard that references the "idea" of number and place value. But the learner had only to glue 100 items onto the poster. The students were not required to use or to explain rows, columns, or patterns. So we really only have evidence that the learner can count to 100, which is not the same as understanding "hundredness" as a concept linked to the base-10 system and the idea of place value, as the standard expects. In fact, because the poster was prepared at home, we do not have adequate evidence that the students did the counting on their own, without parental input.
- A 7th grade general science teacher captures the energy and imagination of his students by announcing that they will have to eat the results of their next science experiment. But what is engaging is not always what is most effective or appropriate, given the time available. In this instance, making peanut brittle offers little in the way of big ideas and enduring understanding for the week of experimentation allotted.
- A college history professor prepares a final exam consisting exclusively of 100 multiple-choice and short-answer questions for a syllabus in which "doing" history with primary sources is stressed as an important goal.

All of these assessments may have some merit when viewed through the lens of the individual lessons, but each needs to align better with curriculum goals. A more rigorous backward design—from the goals, generally (and key ideas to be understood, specifically), to the related assessments they imply—would have provided that link. These mistakes are common and not isolated. In fact, over the last decade we have observed that few educators have an adequate understanding of validity, and many harbor misunderstandings about assessment more generally, as reflected in both their comments and design work.

Figure 7.2

The Logic of Backward Design

Stage 1	Stage 2
If the desired result is for learners to . . .	***Then you need evidence of the student's ability to . . .***
Meet the standards . . . (G) Standard 6—Students will understand essential concepts about nutrition and diet. 6a—Students will use an understanding of nutrition to plan appropriate diets for themselves and others. 6c—Students will understand their own eating patterns and ways in which those patterns may be improved.	• Plan a diet for different kinds of people in different kinds of settings. • Reveal an understanding that the USDA guidelines are not absolute, but "guides"—and that there are other guides (as well as contextual variables). • Carefully note and analyze the habits of others as well as oneself, and make supported inferences about why people eat the way they do.
Understand that . . . (U) • A balanced diet contributes to physical and mental heath. • The USDA food pyramid presents relative guidelines for nutrition. • Dietary requirements vary for individuals based on age, activity level, weight, and overall health. • Healthful living requires an individual to act on available information about good nutrition even if it means breaking comfortable habits.	*That suggests the need for specific tasks or tests like . . .* (T) • Planning meals for diverse groups. • Reacting to excessively rigid or loose dietary plans made by others. • Making a good survey of what people actually eat and why.
Thoughtfully consider the questions . . . (Q) • What is healthful eating? • Are you a healthful eater? How would you know? • How could a healthy diet for one person be unhealthy for another? • Why are there so many health problems in the United States caused by poor eating despite all the available information?	
Know and be able to . . . (K) (S) • Use key terms—protein, fat, calorie, carbohydrate, cholesterol. • Identify types of foods in each food group and their nutritional values. • Be conversant with the USDA food pyramid guidelines. • Discuss variables influencing nutritional needs. • Identify specific health problems caused by poor nutrition.	*Quizzes:* On the food groups and the USDA food pyramid (OE) *Prompts:* Describe health problems that could arise as a result of poor nutrition and explain how these could be avoided; reflections on one's own eating habits and those of others.

More to the point of our focus on understanding, many teacher tests tend to focus on the accuracy of knowledge and skill rather than on evidence of *transferability*, based on big ideas in how to use knowledge and skill effectively. Our earlier discussion of the six facets and the need for transferability properly alerted designers to the importance of obtaining evidence of understanding through performance assessments. But the richness and complexity of all the desired results also demand variety in the evidence we collect.

Three basic questions

Thinking like an assessor boils down to a few basic questions. The first question is *What kinds of evidence do we need* to find hallmarks of our goals, including that of understanding? Before we design a particular test or task, it's important to consider the general types of performances that are implied. For example, regardless of content, understanding is often revealed through the exercises of comparing and contrasting or summarizing key ideas. After mapping a general approach to assessment, we then develop the assessment particulars.

The second question assumes that some particular task has been developed, about which we then ask, *What specific characteristics in student responses, products, or performances should we examine* to determine the extent to which the desired results were achieved? This is where criteria, rubrics, and exemplars come into play.

The third question has to do with a test for validity and reliability of the assessment: *Does the proposed evidence enable us to infer a student's knowledge, skill, or understanding?* In other words, does the evidence (Stage 2) align with our goals (Stage 1), and are the results sufficiently unambiguous? Few teachers are in the habit of testing their designs once the assessments have been fleshed out, but such self-testing is key to better results and to fairness.

In this chapter, we consider the first of the three aspects of thinking like an assessor: considering, in general terms, the kind of evidence needed to assess a variety of learning goals generally and understanding specifically. In the following chapter, we address the other two questions, related to criteria and the issues of validity and reliability.

An unnatural process

To think like an assessor prior to designing lessons does not come naturally or easily to many teachers. We are far more used to thinking like an activity designer or teacher once we have a target. That is, we easily and unconsciously jump to Stage 3—the design of lessons, activities, and assignments—without first asking ourselves what performances and products we need to teach toward.

Backward design demands that we overcome this natural instinct and comfortable habit. Otherwise our design is likely to be less coherent and focused

Figure 7.3
Two Approaches to Thinking About Assessment

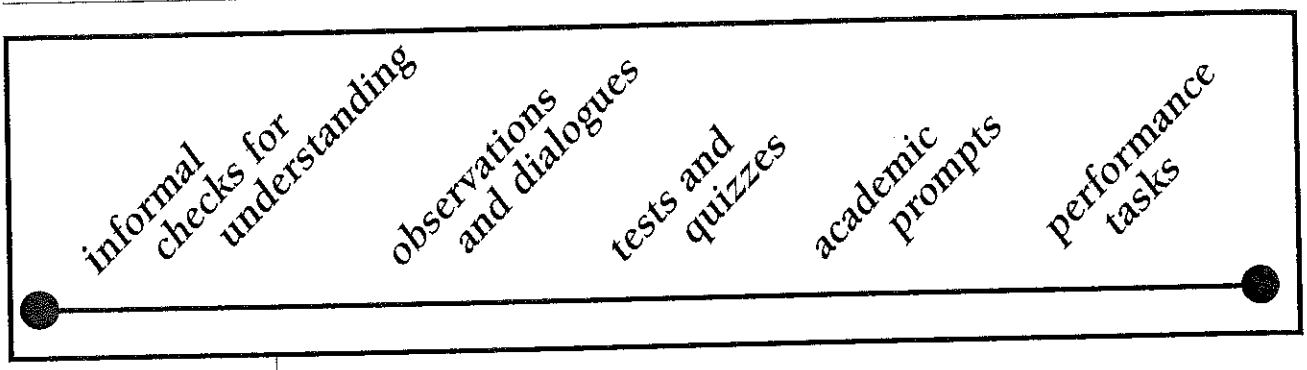
When thinking like an assessor, we ask—	When thinking like an activity designer (only), we ask—
• What would be sufficient and revealing evidence of understanding?	• What would be fun and interesting activities on this topic?
• Given the goals, what performance tasks must anchor the unit and focus the instructional work?	• What projects might students wish to do on this topic?
• What are the different types of evidence required by Stage 1 desired results?	• What tests should I give, based on the content I taught?
• Against what criteria will we appropriately consider work and assess levels of quality?	• How will I give students a grade (and justify it to their parents)?
• Did the assessments reveal and distinguish those who really understood from those who only seemed to? Am I clear on the reasons behind learner mistakes?	• How well did the activities work? • How did students do on the test?

on the desired results—and more the result of chance and the ability of students. In fact, a chief value of the UbD Template, and the backward design process more generally, is to provide tools and processes for short-circuiting this mental habit of overlooking the soundness of our assessments. Figure 7.3 summarizes how the two approaches—thinking like an assessor and thinking like an activity designer—differ.

The questions in the first column derive from the desired results and are likely to make the eventual activities and instructional strategies point toward the most appropriate assessments. The second column of questions, though sensible from the perspective of teaching and activity design, makes it far less likely that the assessments used will be appropriate. In effect, when we only think like an activity designer, we may well end up with something like the apples unit described in the Introduction. Although some students *may* develop important understandings and meet some standards as a result, it will be more by luck and happenstance than design. (See Chapter 8 for additional considerations regarding validity.)

Attention to the quality of local assessment could not be more important than it is now, when formal accountability demands assessments aligned with standards. Unless we use backward design frequently and carefully it is unlikely that the local assessment will provide the targeted feedback needed

Figure 7.4
A Continuum of Assessments



to inform teaching and enhance learning. Greater attention to self-assessment and peer review against design standards can greatly improve school-based assessments.

From snapshot to scrapbook

Effective assessment is more like a scrapbook of mementos and pictures than a single snapshot. Rather than using a single test, of one type, at the end of teaching, effective teacher-assessors gather lots of evidence along the way, using a variety of methods and formats. Thus, when planning to collect evidence of understanding, consider a range of assessment methods such as those shown in Figure 7.4.

This continuum of assessments includes checks of understanding (such as oral questions, observations, dialogues); traditional quizzes, tests, and open-ended prompts; and performance tasks and projects. They vary in terms of scope (from simple to complex), time frame (from short- to long-term), setting (from decontextualized to authentic contexts), and structure (from highly directive to unstructured). Because understanding develops as a result of ongoing inquiry and rethinking, the assessment of understanding should be thought of in terms of a collection of evidence over time instead of an "event"—a single moment-in-time test at the end of instruction—as so often happens in practice.

Given a focus on understanding, a unit or course will naturally be anchored by performance tasks or projects, because these provide evidence that students are able to use their knowledge in context. Our theory of understanding contends that contextualized application is the appropriate means of evoking and assessing *enduring* understandings. More traditional assessments (quizzes, tests, academic prompts, problem sets) round out the picture by assessing essential knowledge and skills that contribute to the culminating performances. The various types of evidence are summarized in Figure 7.5.

Figure 7.5
Types of Evidence

Performance Tasks

T

Complex challenges that mirror the issues and problems faced by adults. Ranging in length from short-term tasks to long-term, multistaged projects, they yield one or more tangible products and performances. They differ from academic prompts in the following ways:

- Involve a real or simulated setting and the kind of constraints, background "noise," incentives, and opportunities an adult would find in a similar situation (i.e., they are authentic)
- Typically require the student to address an identified audience (real or simulated)
- Are based on a specific purpose that relates to the audience
- Allow students greater opportunity to personalize the task
- Are not secure: The task, evaluative criteria, and performance standards are known in advance and guide student work

Academic Prompts

OE

Open-ended questions or problems that require the student to think critically, not just recall knowledge, and to prepare a specific academic response, product, or performance. Such questions or problems

- Require constructed responses to specific prompts under school and exam conditions
- Are "open," with no single best answer or strategy expected for solving them
- Are often "ill structured," requiring the development of a strategy
- Involve analysis, synthesis, and evaluation
- Typically require an explanation or defense of the answer given and methods used
- Require judgment-based scoring based on criteria and performance standards
- May or may not be secure
- Involve questions typically only asked of students in school

Quiz and Test Items

Familiar assessment formats consisting of simple, content-focused items that

OE

- Assess for factual information, concepts, and discrete skill
- Use selected-response (e.g., multiple-choice, true-false, matching) or short-answer formats
- Are convergent, typically having a single, best answer
- May be easily scored using an answer key or machine
- Are typically secure (i.e., items are not known in advance)

Informal Checks for Understanding

OE

Ongoing assessments used as part of the instructional process. Examples include teacher questioning, observations, examining student work, and think-alouds. These assessments provide feedback to the teacher and the student. They are not typically scored or graded.

Authentic performance—a necessity, not a frill

Understanding is revealed in performance. Understanding is revealed as transferability of core ideas, knowledge, and skill, on challenging tasks in a variety of contexts. Thus, assessment for understanding must be grounded in authentic performance-based tasks.

What do we mean by authentic tasks? An assessment task, problem, or project is authentic if it

• *Is realistically contextualized.* The task is set in a scenario that replicates or simulates the ways in which a person's knowledge and abilities are tested in real-world situations.

• *Requires judgment and innovation.* The student has to use knowledge and skills wisely and effectively to address challenges or solve problems that are relatively unstructured. Rather than a specific prompt or cue that tests a discrete piece of knowledge, realistic challenges require the learner to figure out the nature of the problem. What kind of knowledge and skill is being tapped here? How should I tackle it? Even when the goal may be quite clear, the student has to develop a plan and a procedure for solving the problem or addressing the issue.

• *Asks the student to "do" the subject.* Instead of reciting, restating, or replicating through demonstration what he was taught or already knows, the student has to carry out exploration and work in the discipline of science, history, or any other subject. The student's efforts resemble or simulate the kind of work done by people in the field.

• *Replicates key* challenging *situations in which adults are truly "tested" in the workplace, in civic life, and in personal life.* Real challenges involve specific situations with "messiness" and meaningful goals: important constraints, "noise," purposes, and audiences at work. In contrast, almost all school tests are without context (even when a writing prompt tries to suggest a sense of purpose and audience). In the real world—unlike schools—there is little if any secrecy about the goals or the criteria for success. Moreover, it is advantageous for the performer to ask questions of the "examiner" or boss, and ongoing feedback is typically available from colleagues. Students need to experience what it is like to perform tasks like those in the workplace and other real-life contexts, which tend to be complex and messy.

• *Assesses the student's ability to efficiently and effectively use a repertoire of knowledge and skill to negotiate a complex and multistage task.* Most conventional test items involve isolated bits of knowledge or elements of performance, similar to sideline drills in athletics, which differ from the integrated use of knowledge, skill, and feedback that a game requires. Although drills and tests are appropriate at times, performance is always more than the sum of the drills.

• *Allows appropriate opportunities to rehearse, practice, consult resources, and get feedback on and refine performances and products.* Although there is a role for the "secure" test that keeps questions secret and withholds resource materials from students, that type of testing must coexist with more transparent assessments of students if we are to focus their learning and improve their performance. As the apprenticeship model in the trades has proven, learning is maximized when cycles of *perform-feedback-revise-perform* guide the production of known high-quality products, judged against public performance standards. There is no room for "mystery testing" if we want students to demonstrate their understanding by using information, skills, and relevant resources to perform in context.

A call for greater authenticity in tests is not really new or inappropriate for a world of standards. Bloom and his colleagues signaled the importance of such assessments 40 years ago in the their description of *application* and in their account of synthesis: "a type of divergent thinking [in which] it is unlikely that the right solution to a problem can be set in advance" (Bloom, Madaus, & Hastings, 1981, p. 265).

An assessment approach grounded in authentic work calls for students (and teachers) to come to two important understandings: first, learning how adults in the larger world beyond the school *really* use or don't use the knowledge and skills that are taught in school; and second, how discrete lessons are meaningful, that is, how they lead to higher-quality performance or mastery of more important tasks. Just as the basketball player endures the drudgery of shooting endless foul shots and the flutist endures the monotony of playing scales—both with dreams of authentic achievement—so too must students experience that drills and quizzes have a pay-off in better performances on worthy endeavors.

Designing around problems not just exercises

Designers often find it helpful to consider the more general question implied in the basketball and flute examples to sharpen their assessments: Does the test amount to just simplified "drill" out of context? Or does the assessment require students to really "perform" wisely with knowledge and skill, in a problematic context of real issues, needs, constraints, and opportunities? To get evidence of true understanding requires that we elicit learner judgments made during genuine performance, not just seeing how they respond to easily followed cues that require mere recall and plugging in.

Put in different words, in authentic assessment we have to be sure that we have presented the learner with an *authentic problem*, to invoke an apt distinction made by Dewey almost a hundred years ago:

> *The most significant question which can be asked about any situation or experience proposed to induce [and reveal] learning is what quality of problem it involves . . . but it is indispensable to distinguish between genuine . . . or mock problems. The following questions may aid in making such a discrimination. . . . Does the question naturally suggest itself within some situation or personal experience? Or is it an aloof thing . . . ? Is it the sort of trying that would arouse observation and engage experimentation out side of school? [Or, is it] made a problem for the pupil only because he cannot get the required mark or be promoted or win the teacher's approval, unless he deals with it? (1916, p. 155)*

A variant of Dewey's distinction can be found in all the performance areas, whereby we distinguish exercises from the problems of performance. An exercise involves a straightforward execution of a "move" out of context. A problem is a demand within performance, requiring thought of the many choices and challenges that confront a performer in context. Lay-up drills in basketball

are exercises: Players form two lines, one for passers, the other for shooters, and they exchange free shots at the basket. Using that skill (shooting at or making a basket) in a game, however, requires the shooters to also work around the other team's defense.

A similar situation occurs in science. A typical science lab presents an exercise, not a problem: There is a right approach, a right answer, and thus no inherent puzzles or challenges to our understanding. By contrast, having to design and debug an effective, feasible, and cost-sensitive experiment to make sense of a puzzling phenomenon reflects true problem solving. All "doing" of a subject involves problem solving, so our assessments of understanding must be based on real problems, not just exercises requiring discrete facts and skills used in isolation.

Mathematics and history may well be the program areas in most need of thinking through this distinction. Almost every mathematics and history test in K–12 education is a set of exercises, not problems in the sense discussed: One need only respond on cue with the correct move. It doesn't matter whether the topic is adding fractions or understanding the civil rights era, the learner is invariably tested by unambiguous exercises having right answers. An authentic problem related to fractions or history must be like playing a basketball game—just shooting at the basket unhindered or just plugging in the obvious approach or facts isn't enough. The authentic problem solving requires deciding when to use which approach and which facts. Is this problem best solved by using fractions or decimals? Is the civil rights era best understood as a religious or secular movement?

To build math and history assessments out of only exercises (as we so often do) misses the essence of authentic performance in those fields. As we have said, real performance always involves transfer—that is, the flexible use of knowledge and skill in light of particular challenges. It requires puzzling out and making sense of what a situation demands, which is very different from merely responding to a highly structured exercise looking for the right response. Transferability is understanding revealed: The performers must figure out *which* knowledge and skill is needed on their own, without simplifying teacher prompts or cues, to solve the real problems of performance.

Figure 7.6 helps clarify the difference between a problem and an exercise. Note that exercises are necessary but not sufficient in developing competent performance; nor are exercises always reliable indicators of the ability to perform.

MISCONCEPTION ALERT!

Our goal in Stage 2 is appropriate evidence, not interesting projects or tasks. Although our aim should always be to make assessments interesting and thought-provoking (because we thereby evoke the best and most thorough work), that is not the main point in Stage 2. Many projects are fun and educational, but they may not provide enough evidence about the understandings sought in Stage 1—particularly if the work involves collaboration and freedom of choice in approach, content, and presentation. Many exercises are less engaging than complex performance tasks, but sometimes they yield more conclusive evidence about a specific understanding or skill. We must ensure that the project is designed backward from the evidence we need, not designed primarily with the learner's interests in mind. Beware of confusing interesting performance tasks or projects with valid evidence. This point is taken up in more detail in Chapter 8.

Figure 7.6
Problems Versus Exercises

	Problem	Exercise
The Framing of the Task	The problem statement is clear, but few if any cues or prompts are offered about how to best frame or solve the problem.	The task is either simple or made simple by specific cues or prompts as to the nature of the challenge or how to proceed in meeting it.
The Approach	Various approaches are possible. Figuring out what kind of problem this is and isn't is a key aspect of the challenge; that is, a *strategy* is needed. Some combination of logical method with trial and error will likely be required.	There is one best approach (though it might not be stated), and it is suggested by how the exercise is framed. The learner's ability to recognize and use the "right" *tactic* is a key goal of the exercise.
The Setting	Realistically "noisy" and complicated, typically involving different—sometimes *competing*—variables related to audience, purpose, criteria for judging work, and more.	Simplified to ensure that the only "variable" is the targeted skill or knowledge. (Similar to sideline drills in athletics or fingering exercises in music.)
The Solution	The goal is an appropriate *solution*, mindful of various requirements and perhaps competing variables and cost/benefit considerations. There may be a right answer, but it follows from sound reasoning and a supported argument or approach.	The goal is the right *answer*. The exercise is built to ensure that there is only one right answer, by *design*. Though it may be a puzzling challenge, there is a definite right answer that can be found via recall and plugging in of prior knowledge, with little or no modification.
Evidence of Success	The focus shifts from the answer to the justification of the approach and solution.	The accuracy of the answer and the choice of the "correct" approach.

Framing performance tasks using GRASPS

Authentic performance tasks are distinguished from other types of assessments by their particular features. Performance tasks typically present students with a problem: a real-world goal, set within a realistic context of challenges and possibilities. Students develop a tangible product or performance for an identified audience (sometimes real, sometimes simulated). And the evaluative criteria and performance standards are appropriate to the task—and known by the student in advance.

Because these elements characterize authentic assessments, we can use them during task design. We have created a design tool using the acronym GRASPS to assist in the creation of performance tasks. Each letter corresponds with a task element—Goal, Role, Audience, Situation, Performance, Standards.

Figure 7.7 presents each element with corresponding prompts to help designers construct performance tasks. Often, teachers transform existing assessments or engaging learning activities using GRASPS.

Here is an example of a performance task in science, constructed using GRASPS, for assessing understanding of multivariable experimental design:

- Goal and Role: As a scientist with a consumer research group, your task is to design an experiment to determine which of four brands of detergent will most effectively remove three different types of stains on cotton fabric.
- Audience: Your target audience is the testing department for *Consumer Research* magazine.
- Situation: You have a two-part challenge: (1) to develop an experimental design for isolating the key variables, and (2) to clearly communicate the procedure so that the staff of the testing department can conduct the experiment to determine which cleaner is most effective for each type of stain.
- Product: You need to develop a written experimental procedure (following the given format) outlining the steps in sequence. You may include an outline or graphic format to accompany the written description.
- Standards: Your experimental design needs to follow the criteria for good design accurately and completely; appropriately isolate the key variables; include a clear and accurate written description of the procedure (an outline or graphic to assist the testers is optional); and enable the testing department staff to determine which cleaner is most effective for each type of stain.

Not every performance assessment needs to be framed by GRASPS. However, we propose that at least one core performance task for assessing understanding in a major unit or course be developed in this fashion. Many teachers have observed that tasks framed this way provide students with clear performance targets as well as real-world meaningfulness not found in decontextualized test items or academic prompts.

Performance task vignettes

The following vignettes offer brief descriptions of performance tasks for possible use in assessing student understanding. Notice how they reflect the GRASPS elements.

- From the mountains to the seashore (history, geography; grades 6–8). A group of nine foreign students is visiting your school for one month as part of an international exchange program. (Don't worry, they speak English!) The principal has asked your class to plan and budget a four-day tour of Virginia to help the visitors understand the state's impact on the history and development of our nation. Plan your tour so that the visitors are shown sites that best capture the ways that Virginia has influenced our nation's development. Your task is to prepare a written tour itinerary, including an explanation of why each

Figure 7.8

The Logic of Backward Design with the Six Facets

Stage 1		Stage 2		Stage 2
If the desired result is for learners to . . .	⇨	***Then you need evidence of the student's ability to . . .***	⇨	***So the assessments need to require something like . . .***
understand that • A balanced diet contributes to physical and mental heath. • The USDA food pyramid presents relative guidelines for nutrition. • Dietary requirements vary for individuals based on age, activity level, weight, and overall health. • Healthful living requires an individual to act on available information about good nutrition even if it means breaking comfortable habits. *and thoughtfully consider the questions . . .* • What is healthful eating? • Are you a healthful eater? How would you know? • How could a healthy diet for one person be unhealthy for another? • Why are there so many health problems in the United States caused by poor eating despite all the available information?		*explain* • A balanced diet • The consequences of poor nutrition • Why we eat poorly, despite the information available *interpret* • Food nutrition labels • Data on the impact of fast foods on eating patterns *apply, by* • Planning healthy menus • Evaluating various plans and diets *see from the points of view of* • People of other cultures and regions in terms of their dietary beliefs and habits *empathize with* • A person living with significant dietary restrictions due to a medical condition *reflect on* • Personal eating habits • Whether foods that are good for you always taste bad		• Develop a brochure to help younger students understand what is meant by a balanced diet and the heath problems resulting from poor eating. • Discuss the popularity of fast foods and the challenges of eating a healthful diet in today's fast-paced world. • Plan a menu for a class party consisting of healthy, yet tasty, snacks. • Conduct and present research on the impact of diverse diets (i.e., Antarctica, Asia, the Middle East) on health and longevity. • Describe how your life would be affected (and how it might feel) to live with dietary restrictions due to a medical condition (such as diabetes). • Reflect: To what extent are you a healthy eater? How might you become a healthier eater?