Backward Design

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Designing a TBL course requires instructors to "think backward" to deal effectively with the decisions in the first two categories. What do we mean by "think backward"? In most forms of higher education, teachers traditionally design their courses by asking themselves what they feel students need to *know*, then telling the students that information, and finally testing the students on how well they absorbed what they were told. In TBL, courses are not organized initially around what you want the students to *know*, but instead what you want them to be able to *do*. Wiggins and McTighe (1998) coined the term "backward design" to describe the process of building courses this way, and its benefits are intuitively obvious: as any experienced doctor will tell you, being able to recite all the subtle differences between one form of a disease and another is a very different kind of knowledge than being able to quickly diagnose the correct form of that disease suffered by a real, living patient.

What are the students who really "get it" <u>doing</u>? Imagine you are working shoulder-to-shoulder with former students of yours not so long ago, and in a wonderful moment you see them do something that makes you think "Hooray! They *really* got from my class what I *wanted* them to get—*there's the evidence!*"

When designing a course "backward," the question you ask yourself is: *What, specifically, is that evidence?* What could a student be doing in that wonderful moment to make it obvious they really internalized what you were trying to teach them and are putting it to use in the world?

For every course there are several answers to this question and these different answers will correspond to the "macro" units of the re-designed version of the course. A given real-world moment will likely demand knowledge from one part of a course but not another, so for any given course, you should brainstorm about a half-dozen of these proud moments in which a former student is making it obvious that they really learned what you wanted them to learn. For now, don't think about the classroom, just imagine they are doing something in a real clinical or laboratory context. Also, don't be afraid to get too detailed as you visualize these moments—in fact come up with as many details as you can about *how* this former student is doing what they are doing, what *decisions* they are making, in what *sequence*, under what *conditions*, and so on.

These detailed scenarios become useful in three ways. First, the actions taking place in the scenarios will help you organize your course into macro-units. Second, the scenarios will enable you to use your class time to build students' applied knowledge instead of inert knowledge. Third, the details of the scenario will help you design the criteria for the assessments upon which you can base your students' grades.

Once you have brainstormed your "Aha! They got it!" scenarios and the details that accompany them, now let's step into the classroom. Those half-dozen or so scenarios are what you want your students to be able to *do* when they are done with your class: they are your instructional objectives. Now you are ready to ask three more questions:

1) **What will students need to *know* in order to be able to *do* those things?**
   Answers to this question will guide your selection of a text book, the contents of your course-packet, laboratory exercises, and likely prompt you to provide supplementary materials of your own creation or simply reading guides to help students focus on what you consider most important in the readings or lab findings. In addition, it will be key in developing questions for the Readiness Assessment Tests (see below).

2) **While solving problems, what knowledge will students need to make decisions?**
   Answers to this question will help you import the use of course knowledge from your brainstormed "real world" scenarios into the classroom. You may not be able to bring the actual clinical or laboratory settings in which your scenarios occurred into the classroom (although digital video, simulation mannequins, computer animations and so on are coming much closer to approaching 'real'), but you can provide enough relevant information about those settings to design activities which require your students to face the same kinds of problems and make the same kinds of decisions they will make in the clinical and laboratory settings.

3) **What *criteria* separate a well-made decision from a poorly-made decision using this knowledge?**
   Answers to this question will help you begin building the measures you will use to determine how well the students have learned the material *and* how well they can put it to use under specific conditions.

In summary, TBL leverages the power of action-based instructional objectives to not only expose students to course content, but give them practice using it. When determining an instructional objective, it is crucial to know how you are going to assess the extent to which students have mastered that objective. Some teachers feel that designing assessments first removes something from the value of instruction—that it simply becomes "teaching to the test." Our view is that yes, you absolutely *should* teach to the test, as long as the test represents (as closely as possible) the real use to which students will ultimately apply the course material: what they are going to do with it, not just what they should know about it.

Reference

Wiggins, G., McTighe, J. H. (1998) *Understanding by design*. Columbus, OH: Merrill Prentice Hall.