Putting It All Together: The WHERETO Framework

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Planning precedes teaching. We propose that when teachers are developing a plan for learning, they consider a set of principles, embedded in the acronym WHERETO. These design elements provide the armature or blueprint for instructional planning in Stage 3 in support of our goal: teaching all students for understanding.

We have framed each of the WHERETO elements in the form of questions to consider. The design questions for each letter are posed to encourage the teacher to consider the perspective of the *learner*, who should always be at the heart of the teaching-learning process.

W *– How will I help students know* ***what*** *they should be learning?* ***Why*** *is this worth learning?* ***What*** *evidence will show their learning?*

Learners of all ages are more likely to put forth effort and meet with success when they understand the learning goals and see them as meaningful and personally relevant. The **W** in WHERETO reminds teachers to communicate the goals clearly and help students see their relevance. In addition, learners need to know the concomitant performance expectations and assessments through which they will demonstrate their learning so that they have clear learning targets and the basis for monitoring their progress toward them.

Consider the following example of the **W** in action: A middle school language arts teacher has a large bulletin board in her classroom on which she has affixed a full sized archery target (obtained from the physical education department). At the start of each major unit of study, she directs the students to the bulletin board and discusses the "target" for the unit – the major goals and the rationale for learning this content. As part of the unit introduction, she discusses the culminating performance task that students will complete during the unit. On the bulletin board, she has mounted a large version of the rubric (or rubrics) that she will use in judging student performance on the final task, and she reviews these criteria with the students. To augment their understanding of the rubric's criteria, she places examples of student work products collected from previous years (with student names removed) on the bulletin board. The work samples, which vary in quality, are placed around the target and linked to the different levels in the rubric. The samples provide tangible illustrations of the criteria and performance levels. There is thus no "mystery" regarding the performance expectations and the criteria by which student work will be judged. Not only does the bulletin board provide clear goals and the performance expectation at the start of the unit, but the teacher uses the student work samples along with the criteria in the rubric to support her teaching and guide student learning and self-assessment throughout.

This bulletin board idea has been adapted for use by teachers of different subjects at various grade levels. By showing multiple examples that still meet quality criteria, teachers have found that they can allow differentiated products and performances without lowering standards. Multiple examples illustrate "diverse excellence" and help avoid cookie-cutter imitation by students.

***H** – How will I **hook** and engage the learners? In what ways will I help them connect desired learning to their experiences and interests?*

There is wisdom in the old adage, "Before you try to teach them, you've got to get their attention." The best teachers have always recognized the value of "hooking" learners through introductory activities that "itch" the mind and engage the heart in the learning process. Therefore, we encourage teachers to deliberately plan ways of hooking their learners to the topics they teach.

Here's an example: As part of a unit on map and globe skills, an elementary teacher begins a lesson on latitude and longitude by telling the students that they will be detectives and will solve the mystery of the Bermuda Triangle. After establishing basic information about the Triangle theory, she gives each cooperative group of four students a map of the region in which the Triangle has been outlined in dark marker. She then projects a list of the coordinates where ships and airplanes have reportedly "disappeared" because of the Triangle's influence, and she asks the students to plot these points using latitude and longitude. The students quickly get the hang of it, and soon all the points of missing crafts are recorded. The various groups then share and compare the plots on their map.

Guided by the teacher's questions, the class concludes that the Triangle theory is flawed, because many of the purported disappearances occurred outside the Triangle region.

The teacher then summarizes the activity by pointing out the latitude coordinates on other maps and gloves and discusses their purpose. After the successful hooking activity, the teacher steps back and connects this learning to the larger goals of the unit and its essential question: "How do we know – and how do we show – where we are in the world?"

It is interesting to note that in this example, virtually no "stand and deliver" teaching occurred up front. The lesson did not begin with key vocabulary or readings from the textbook. Instead, the teacher hooked the learners with an interesting mystery and a challenge to solve it. By actively involving them in a purposeful and engaging use of latitude and longitude, she witnessed meaning making; that is, the kids saw the need for a coordinate system to locate points on a map or globe (including one high-achieving learner and one struggling learner), peer teaching became a natural part of the detective work.

Other examples of effective hooks include provocative essential questions, counterintuitive phenomena, controversial issues, authentic problems and challenges, emotional

encounters, and humor. One must be mindful, of course, of not just coming up with interesting introductory activities that have no carry-over value. The intent is to match the hook with the content and the experiences of the learners – by design- as means of drawing them into a productive learning experience.

***E** – How will I **equip** students to master identified standards and succeed with the targeted performances? What learning **experiences** will help develop and deepen understanding of important ideas?*

Understanding cannot be simply transferred like a load of freight from one mind to another. Coming to understand requires active intellectual engagement on the part of the learner. Therefore, instead of merely covering the content, effective educators "uncover" the most enduring ideas and processes in ways that engage students in constructing meaning for themselves. To this end, teachers select an appropriate balance of constructivist learning experiences structured activities, and direct instruction for helping students acquire the desired knowledge, skill and understanding.

The logic of backward design becomes especially relevant in the first **E** of WHERETO. If we clearly identify desired results in Stage 1 and carefully consider the needed evidence in Stage 2, we can then plan backward to target the most relevant teaching and learning experiences (rather than just marching through the material from a textbook). In other words, our decisions about what to teach and how to teach in Stage 3 are guided by the priorities of the previous two stages.

When we target particular understandings in Stage 1 and plan corresponding performance assessments in Stage 2, we can readily determine what knowledge and skills those assessments require and teach accordingly. In essence, classroom instructors plan to equip students for their culminating performance task(s) in the same way that effective coaches prepare their team members for the upcoming game.

***R** – How will I encourage the learners to **rethink** previous learning? How will I encourage ongoing **revision** and **refinement**?*

Few learners develop a complete understanding of abstract ideas on the first encounter. Indeed, the phrase, "come to an understanding" is suggestive of a process. Over time, learners develop and deepen their understanding by thinking and rethinking, examining ideas from a different point of view, exploring underlying assumptions, receiving feedback, and revising. Just as the quality of writing benefits from iterative process of drafting and revising, so, too, do understandings become more mature. The **R** in WHERETO encourages teachers to explicitly include such opportunities.

For example, a high school photography teacher introduces the rule of thirds and has students take photographs that apply this compositional technique. After they have demonstrated

an understanding of this kind of basic rule of photographic composition, he shows them examples of stunning photos that break the rule for dramatic effect. In other words, the teacher deliberately challenges the one-dimensional idea that all compositions must follow a formulaic procedure to help the learners develop a more sophisticated understanding. Similarly, effective teachers of writing strive to move beyond the basic five-paragraph essay structure to explore the nuances of effective persuasive forms.

At this point, some readers may be thinking, "Yes, but this approach takes time. We couldn't possibly do this for everything we teach. So when and how should we encourage rethinking and revision?" We suggest that the R be considered when teachers work with very important content (i.e., enduring understanding) that proves difficult for students to grasp because it is counterintuitive (e.g., dividing fractions) or abstract (e.g., reading between the lines).

Over the years, teachers have used a variety of practical techniques to encourage rethinking and revision, including playing devil's advocate, presenting new information, conducting debates, establishing peer-response groups, and requiring regular self-assessment. As a reminder of the value of the R in WHERETO, we offer this maxim: "If it's worth understanding, then it's worth rethinking. If it's worth doing, it's worth reflecting upon."

***E** – How will I promote students' self-**evaluation** and reflection?*

Capable and independent learners are distinguished by their capacity to set goals, self-assess their progress, and adjust as needed. Yet one of the most frequently overlooked aspects of the instructional process involves helping students develop the metacognitive skills of self-evaluation, and reflection. In their series of booklets on the topic, Art Costa and Bena Kallick (2000) caution that an education that fails to cultivate these "habits of mind" runs the risk of producing students who are incapable of thoughtfully and flexibly transferring their learning.

Teachers support these competencies by providing opportunities for learners to regularly self-assess and reflect on their learning. A natural way of promoting student self-assessment and reflection is through asking questions such as the following:

- What do you really understand about _____? What is still confusing?
- How could you improve _____? What would you do differently next time?
- What are you most proud of? What are you most disappointed in?
- What are your strengths in _____? What are you deficiencies in _____?
- How does your preferred learning style influence _____?
- How does what you've learned connect to other learning?
- How has what you've learned changed your thinking?
- How will you make use of what you've learned?

Even teachers of primary grade children can begin to cultivate reflective learners. For example, a 1st grade teacher has developed a set of posters based on a cartoon frog character that signals the students (e.g., STOP and THINK: "How am I doing?" "Can I do this better?" "What have I learned?") The posters are displayed throughout the classroom and serve as a constant reminder of the importance of self-evaluation and reflection.

T *– How will I* ***tailor*** *the learning activities and my teaching to address the different readiness levels, learning profiles, and interests of my students?*

The **T** in WHERETO points to the importance of tailoring teaching so as to address differences in students' identified needs and strengths (i.e., readiness levels), interests, and preferred learning styles. Much of this book provides suggestions for such differentiated instruction.

O *– How will the learning experiences be* ***organized*** *to maximize engaging and effective learning? What sequence will work best for my students and this content?*

Finally, helping students achieve deep understanding of the big ideas calls for carefully organized learning experiences. The O in WHERETO simply reminds teachers to carefully consider the order or sequence of learning experiences as they decide the best means of reaching the desired results with the diverse group of learners they serve.

Traditional instruction typically follows a linear sequence (often dictated by the textbook) that builds from discrete facts and skills toward more abstract concepts and processes. Although such an approach may work in some circumstances, the wisdom of this climb-the-ladder model of learning is being challenged by experts, as we have previously noted.

Rather than having students master all of the basics before engaging in more authentic application, effective teachers immerse their students in meaningful and challenging tasks and problems (Stigler & Hiebert, 1999). Through contextualized grappling with ideas and process, learners come to see the need for the basics as well as the larger purpose that they serve. Understanding develops and deepens by attempting to use knowledge in meaningful ways, not through decontextualized drill and practice.

For instance, consider the modern history teacher who beings his course from the present and works backward to help students see the relevance of the past in shaping current events. This thoughtful educator recognizes that the linear sequence of the traditional history book may, in fact, be at odds with the natural processes of learning. Similarly, other instructional approaches – such as problem-based learning, process writing, Socratic seminar, the 5 Es in science, and Webquests – reverse the conventional part-to-whole sequence in favor of more holistic experiences that require students to construct meaning for themselves.

In summary, the WHERETO principles embody research-based principles and reflect best practices of the most effective teachers. Therefore, the acronym serves as a reminder for teachers to consider each element as they plan. Of course, it is not expected that each of the WHERETO elements would be seen within every lesson. Instead, WHERETO is intended to guide a *series* of lessons within a larger unit of study. We would, however, expect to see each element reflected within the scope of a comprehensive study of an important topic.