

Editor's Note:

Let me begin my editor's note to this last issue of the spring semester with an apology for being a bit late in delivering the last issue—V20 N3. You may have seen on the news that we are having quite a political struggle here in Wisconsin, where the *Forum* is based. Much of the turmoil revolves around public service union collective bargaining rights, and thus directly influences teachers' salaries and benefits. Other, ongoing aspects of the struggle involve massive cuts to education budgets at both the K-12 and university level. I have been involved in the massive protests that erupted against these proposed changes, and that caused the delay. Whether you're on the left or the right politically, if you are a reader of this publication, I am sure you must agree that education must not only be protected, but nurtured, improved, and furthered.

After months of marching in the snow, it was a delight to receive **Carl Pletsch's** article on learning something fun as a means of improving one's teaching. Carl's experience in applying his reflections on learning to improve his golf game involved the whole body, the psychomotor domain, something I've been advocating we pay more attention to recently.

What I like about **Patty Payette's** PRAXIS piece called "Will This Thinking Be on the Test?" is not only the way it shows her enthusiasm for current insights into learning that are emerging as new characterizations, new ideas, in pedagogical theory, but the equally enthusiastic way she connects what seems to be new with what she long ago experienced in her own history. Pointing out that (as the song says) "everything old is new again" doesn't diminish the new value of recent reframings of ideas. By situating them in history, our history, we make them, and the insights carried in the newness of their characterizations, more fully our own. Moreover, it seems to me, when we do this with enthusiasm, we add to the vitality of these ideas.

This issue's LEARNING DIARY follows along in the same lines: Who has not been surprised, after all, to realize that something they knew in one context had wider and deeper applications elsewhere? **Eileen Cooley** teaches counseling skills with intensity, and then one day it dawned on her that the listening skills she was showing her students they'd need were the same skills they'd need not just to learn about patients' problems later in their careers, but to learn in just about every area during their college careers.

Learning about learning may be the most important part of education, and this issue's DEVELOPER'S DIARY by **Ed Nuhfer** and colleagues opens a discussion and an initiative we hope will spread nationwide. It involves something like "writing across the curriculum" initiatives, but instead of writing, the focus falls on learning per se. The belief is that if students begin to develop a critical consciousness of themselves as learners in all the courses they take, they will consciously and effectively develop the skills they need rather than picking them up as the result of hard knocks.

Finally, **Marilla Svinicki's** AD REM . . . hits at the same objective in a different way. Instead of leading students to correct answers by programming their behavior with step-by-step instructions that may leave them with "right" answers and little understanding, Marilla calls for understanding first. A student who can't explain how they got the answer has obeyed a rule but not understood its justice.

Have a great summer. See you in the fall.

—James Rhem

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PRAXIS

Will This Thinking Be On The Test? Strategies To Foster Students' Disciplinary Thinking

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Thirty five years after leaving Mrs. Owen's fourth-grade class, I realize she gave me the gift of conceptual understanding. Like other elementary school students, my classmates and I learned about global diversity by identifying the basic features of everyday life in Africa, Asia, and other continents. But Mrs. Owen took this typical approach a step further. She regularly and systematically cemented our understanding of, and appreciation for, cultural diversity with one simple instructional move. At the conclusion of each unit in which we discussed the houses, food, clothing used by people living in another part of the world, Mrs. Owen would prompt us: "And why do people in that part of the world

do that? Or wear that? Or eat that?” And we learned to repeat in unison with her, “Because people use what they have.”

Touchstones

People use what they have. This central understanding of how diversity manifests itself across the globe is a simple but profound example of how teaching that foregrounds fundamental and powerful concepts guides students to see the forest (deep, connected understanding) through the trees (facts, information, details) when learning about a topic, field, or discipline.

Dr. Gerald Nosich coined the phrase “fundamental and powerful concept” to describe “a concept that can be used to explain or think through a huge body of questions, problems, information, and situations.” A fundamental and powerful concept is the intellectual glue that connects many ideas or a great deal of information within a discipline.

Fundamental and powerful concepts are those that connect the “central and useful” ideas in the discipline, ones that, when

emphasized properly, help students organize and make meaning of what they may see as unconnected facts. A sociology course might be structured around exploring and applying the fundamental and powerful concept of *social justice*. An English class could use the central concept of *Gothic novel* as the axis around which students understand genre, explore historical context, and analyze imagery. A science professor might choose to filter every lecture, reading, and experiment through the concept of the *scientific process*. Students who learn to think using discipline-specific content in terms of fundamental and powerful concepts are more likely to think critically about new

problems or questions they encounter inside and outside the classroom. Mrs. Owen’s *People use what they have* offers an essential truth that shaped my thinking about diversity in my fourth-grade classroom and the world around me.

Three-Step Reform

There are three steps to making fundamental and powerful concepts meaningful teaching tools: 1) identify and use relevant and discipline-specific fundamental and powerful concept(s) to organize and prioritize the content in your course; 2) introduce and emphasize these conceptual understandings regularly in instructional contexts as students try to absorb and work with content; and 3) assess students’ conceptual understanding as you assess mastery of course content.

The first step—designing a course around fundamental and

terms of fundamental and powerful concepts.

As you gain clarity about the thinking skills you want students to practice and retain, you are able to make intentional decisions about the relevant components to include in the course. If a specific test, or beloved lecture, or a popular activity does not promote—directly or indirectly—the permanent shift in thinking you want students to achieve, then why include it in your course? My psychology colleague calls this “skimming the pool.” It is separating the “nice to know” from the “need to know.”

Rack Your Brain

Wiggins and McTighe provide a useful framework for engaging in this instructional decision-making process. Their backward design method requires instructors to prioritize ideas, concepts, and materials that are essential to

learning by organizing course material into three categories:

a) what’s worth being familiar with; b) what’s important to know or do; and c) what should be considered “enduring” understandings—the ideas that are crucial for the students to remember long after they’ve forgotten most

of the details. These selective, enduring understandings can lead to the fundamental and powerful concepts at the heart of your course. You might have one central concept or you might have three closely connected fundamental and powerful concepts that serve as the frame to unite every aspect of your course. Don’t be surprised if it takes you considerable reflective time to winnow down to one, two, or three central concept(s) that provide the foundational base of a favorite course you teach. As an expert in the field, you may find your defining concepts so natural and instinctive that they can be elusive to pinpoint—or appear too obvious to seem useful to mention.

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powerful concepts—requires articulating what Wiggins and McTighe describe as the “targeted understanding” you want students to achieve as result of completing a specific curriculum. Think of it this way: when students walk out of your class on the last day, what should they be able to think through, or conceptually understand, that they couldn’t when they walked in? Can you, in one sentence, describe the intellectual shift(s) that need to happen to indicate the fundamental disciplinary thinking students must master? If you can describe these intellectual shifts in measurable, concrete language, you are on your way to framing a course in

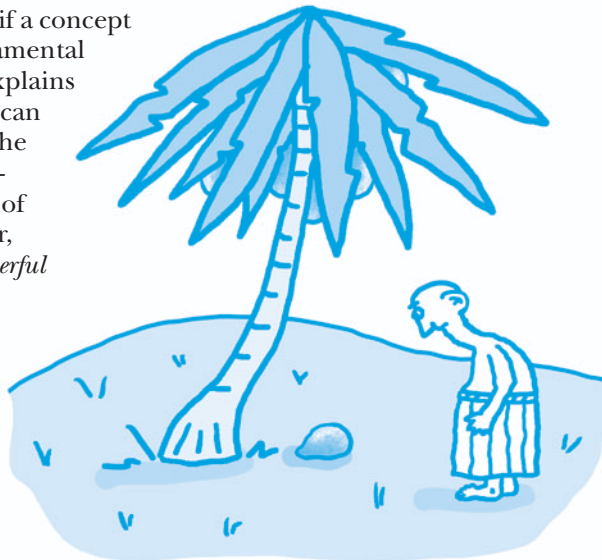
A social work course might weave the fundamental and powerful concept of *enabling* as a thread throughout exploration of theory and practice. The fundamental and powerful concept of *the cell* and how it functions could be the core principle by which content in a biology course is organized. Nosich uses these examples to illustrate fundamental and powerful concepts. How do you know if a concept can be considered fundamental and powerful? Nosich explains that it is *fundamental* if it can be considered to form “the foundation of our understanding” of a great deal of course content and other, related material. It is *powerful* if it is also helpful in understanding “a wide range of questions and problems, issues and situations” in the field.

Step two: Once you’ve gotten a firm grasp on the fundamental and powerful concepts that make up the intellectual connective tissue of your course, you will want to find strategic methods for making the concept(s) visible for your students. You can begin by incorporating fundamental and powerful concepts into your syllabus as explicitly as possible. In course descriptions and learning objectives, let students see clearly the discipline-specific conceptual thinking they will be expected to practice and master. Describing your course as “an exploration of how the concept of civilization has evolved across centuries” introduces students to historical thinking and to *civilization* as a concept far more effectively than stating, “This course will cover world civilizations from 1500 to the present.”

Repeat, Repeat, Repeat

However, it’s not enough to talk with students about the conceptual frame of the course on the first day of class and to mention it in your syllabus. Setting up fundamental and powerful concepts as enduring

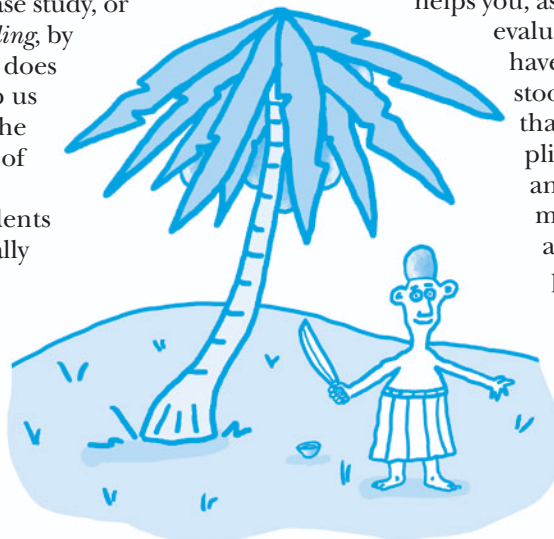
understandings requires that you return regularly and strategically to these concepts as you introduce and work through new material. Taking a cue from my fourth-grade teacher Mrs. Owen, you could periodically guide students in explicitly thinking through material using the lens of fundamental and powerful concepts. In the social



work course mentioned earlier, in which *enabling* is a fundamental and powerful concept, the instructor might facilitate conceptual understanding and engaged learning about each case study, or after *each reading*, by asking, “How does this case help us understand the complexities of *enabling*?”

Guiding students to systematically frame course content and make sense of disciplinary problems through concepts can help them

practice and master the critical thinking skills that you internalized as an expert thinker in your field. This approach to teaching makes



conceptual thinking—which can often seem invisible and mysterious for novice thinkers—visible, specific, and achievable with guided practice.

Assess, Assess, Assess

Step three: How do you know you’ve been successful in nurturing conceptual thinking? What lets you know students have achieved that permanent intellectual shift that signifies a leap forward in the thinking you value most? Assessing conceptual thinking demands that we require learners to “show their work,” as Mrs. Owen might say. You must let students know it is not enough to spit back content, or to memorize dates on exams in order to show mastery. I describe this as moving students from asking, “Will this be on the test?” to knowing, without a doubt, “this thinking *will* be on the test.”

To operationalize this idea, it is crucial to create assessments that require students to lay out their reasoning or explain their thinking. Instead of simply asking students to identify the ethical dilemmas present in a medical case, you can expect them to clearly and logically explain what makes them examples of the discipline-specific concept *ethical dilemma*. This assessment

helps you, as the instructor, evaluate if learners have fully understood the concepts that guide disciplinary thinking and decision making. I know an engineering professor who gives his students a set of problems that require a precise numerical answer and prompts them to

name the concepts from the course employed to solve the problem. The aim? Determining if students have grasped, and can accurately apply,

the fundamental and powerful concepts that reflect essential disciplinary thinking.

One straightforward approach to determining how you might align your assessment of student learning with the thinking goals of your course is to answer this simple question: “What evidence will show that a student understands [insert your fundamental and powerful concept here]?” This strategy is based on the principle of “backward design” in which you make curricular decisions with the end in mind (Wiggins and McTighe). You need to describe what students must be able to do, say, or perform so that you are sure they’ve got a firm grasp of course objectives. Once you’ve named what “mastery” looks like, you’ve got a blueprint from which to build your student assessment strategies. You want to know that students have grasped disciplinary concepts and theories and developed the skilled reasoning structures they will expand and build upon in future courses—and beyond.

Here’s another, more fun way to consider the disciplinary concepts that hold primacy in your course curriculum. Ten years from now, when you’re walking down the street and a former student walks up to you, what do you want them to say is the one, central idea threaded through your course that forever changed the way they looked at the world? the concept they will never forget that demystified disciplinary thinking for them? I can confidently tell Mrs. Owen that in fourth grade she opened up for me a permanent understanding of myself and the world we live in with the simple phrase: *People use what they have.* ■■■

References

- Nosich, Gerald M. 2011. *Learning to Think Things Through: A Guide to Critical Thinking Across the Curriculum*. 4th ed. Boston: Pearson Education.
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QUOTATIONS

Education must not simply teach work—it must teach life.

—W. E. B. DuBois

At best, most college presidents are running something that is somewhere between a faltering corporation and a hotel.

—Leon Botstein

I find the three major administrative problems on a campus are sex for the students, athletics for the alumni, and parking for the faculty.

—Clark Kerr

Academy: A modern school where football is taught.

—Ambrose Bierce

Everywhere I go I’m asked if I think the university stifles writers. My opinion is that they don’t stifle enough of them. There’s many a bestseller that could have been prevented by a good teacher.

—Flannery O’Connor

Class discussion: letting twenty young blockheads and two cocky neurotics discuss something that neither their teacher nor they know.

—Vladimir Nabokov

The real struggle is not between East and West, or capitalism and communism, but between education and propaganda.

—Martin Buber

Nine-tenths of education is encouragement.

—Anatole France

If I ran a school, I’d give the average grade to the ones who gave me all the right answers, for being good parrots. I’d give the top grades to those who made a lot of mistakes and told me about them, and then told me what they learned from them.

—R. Buckminster Fuller

Everywhere the hidden curriculum of schooling initiates the citizens to the myth that bureaucracies guided by scientific knowledge are efficient and benevolent. Everywhere this same curriculum instills in the public the myth that increased production will provide a better life.

—Ivan Illich

LEARNING DIARY

Identifying What’s Important Across The Curriculum

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What do a research class and a counseling class have in common? Not much, I thought initially. However, I was surprised to discover skill similarities I had previously overlooked. These commonalities highlight the role of skills required for critical thinking regardless of the mode of communication—i.e., learning to pay attention, to understand and evaluate information, and finally to identify what’s really important whether listening, reading, or writing. In counseling, listening becomes the key medium, but the critical skills remain the same elsewhere.

Here I was teaching an undergraduate psychology class entitled, “Introduction to Counseling.” In addition to demonstrating research skills, students had laboratory sessions in which they learned and practiced the “how to” of counseling, just as they learn and practice the “how to” of research methodology in psychology, biology, or economics.

On this particular day in the counseling class, we were studying exploration and active listening skills that are critical to demonstrations of empathy and effective listening. To see counseling skills in action, we watched a videotape of Carl Rogers masterfully delivering responses to his client. We sat in amazement as the “father of psychotherapy” listened carefully to several paragraphs of information and, seemingly without effort, grasped