



Deep/Surface Approaches To Learning: An Introduction

James Rhem, Executive Editor

In the United States, the phrase “learning styles” commonly accompanies discussions of personality differences. These discussions almost always create a kind of short-term, local excitement, but they tend to exaggerate the correlations between individual personality types and cognitive engagement. As Wilbert McKeachie pointed out in the last issue of *The National Teaching and Learning Forum*, the best validated conceptions of learning styles stem instead from research begun in Sweden in the mid-1970s by Ferenc Marton and Roger Säljö.

In the last twenty years, this line of inquiry (in which the idea of “styles” emerges as secondary to a larger preoccupation with “approaches” to learning) has been pursued by many researchers working in a variety of countries. The research has looked at thousands of students studying in over 40 disciplines. Repeatedly, it has found fundamental patterns in studying and learning behavior as it actually occurs within the contexts of university education.

Probably the most influential finding of the original experiments, the researchers say, was what they describe as an “obvious aspect of learning virtually ignored by earlier research.” And that was the fact that

many students did not get the point of what they were reading “simply because they were not looking for it.”

What were they looking for? They were looking for the **facts** they thought they would be tested on. They were not looking for the **meaning** of the text. In a sense, for them, at least as they perceived the situation, the meaning of the text stood in direction relation to the way they expected to be **assessed**. They were taking what has become known as a “surface approach” rather than a “deep approach” to learning.

Alarming, studies in Australia suggest that students progressively drop a deep approach to learning as they move through high school and college. It appears that in many ways, traditional teaching pushes students toward superficial levels of engagement with material, even as it hopes to do the opposite. Why? To find out these researchers put students and a qualitative look at what they thought they were doing in studying at the center of their work. They avoided questions such as “Do introverts learn mathematics more easily than extraverts?” or “Why are some teachers more effective than others?” Instead of asking “how” and “why” questions, they’ve concentrated on “what”

questions: "What does it take to be good at learning from a text; to learn arithmetic; or to be an effective teacher?"

The shift toward a fuller understanding of learning phenomena in context involves an inquiry into the meaning of the underlying human actions involved. Instead of projecting laboratory ideas about learning onto real-world settings, and rather than assume that "output" or achievement equalled intelligence, they've approached students, observed their actions and listened very carefully as they described how they actually went about studying in particular situations. In the end, they have focused on meta-cognition as the heart of

Many students did not get the point of what they were reading "simply because they were not looking for it."

learning and view it as a phenomenon more influenced by the demands of particular learning environments than by predispositions of personality.

The research does not boil down into an easy or mechanistic answer to the challenges of good college teaching precisely because it shows very clearly how learning and teaching must be considered in relation both to the content and the context of the teaching. But repeatedly, Ference Marton (Sweden), Noel Entwistle (Scotland), Paul Ramsden (Australia) and a host of colleagues have found the same patterns emerging, patterns which have strong implications for making teaching in college effective.

For example, the same student may take a deep approach in a humanities class, where it seems to be demanded, and a surface approach in a science class where just grabbing the facts and formulae seem to equal academic success.

Indeed, the very way in which these researchers, in dialogue with one another, moved toward the term "approach" and away the term "process" indicates how inseparable an awareness of context is to their insights into how students learn. "Approach," they feel, embraces a sense of the student's **intention** in taking up a learning task as well as **how** he goes about the task (processing it).

Intention emerges as perhaps the dominant idea in the pair (if one must dominate), because the **hows** of learning necessarily vary. And this is where the deep/surface approach literature takes up the idea of *learning styles*, not in terms of fixed traits or unyielding attributes of individual students, but in terms of cognitive (and social) **orientations** within deep or surface approaches to learning. It's true that the **hows** do vary in response to personal preference, habit, and personality as we are accustomed to thinking in the United States. But they vary more in response to a student's **perception** of particular contexts and the **intention** she forms as a result.

Students build toward understanding in one of two general ways. Some draw a quick mental sketch of the material to be grasped, using analogies, metaphors, and ties to personal experience, and then fill in and alter that framework as they acquire more and more detailed information. Others build up a framework piece by piece only as they acquire knowledge of the details. The first approach roughly describes what the researchers call *comprehension learning*, the second describes *operations learning*. Both are necessary — on both *global* and *local* levels — to develop real understanding.

Social orientations also affect student learning. Research at the Oxford Polytechnic and the Open University found four general social orientations: **academic**, **vocational**, **personal**, and **social**. Each of these also differed in response to the amount of extrinsic or intrinsic motivation students felt.

When faculty see vocabulary multiplying this way, they often feel an inner resistance, as though they

THE NATIONAL TEACHING & LEARNING FORUM

Executive Editor:

James Rhem, Ph.D.
213 Potter St.
Madison, WI 53715-2050

Editorial Advisory Board

Jonathan Fife, Director
ERIC Clearinghouse on Higher Education

Judy Greene, Director
Center for Teaching Effectiveness
University of Delaware

Pat Hutchings
Director, The Teaching Initiative
American Association of Higher Education

Susan Kahn, Director
Undergraduate Teaching Improvement Council
University of Wisconsin System

Wilbert McKeachie
Professor of Psychology Emeritus
University of Michigan

Edward Neal
Director, Center for Teaching and Learning
University of North Carolina - Chapel Hill

Susan Nummedal
Department of Psychology
California State University
Long Beach

Laura Rendón
Senior Research Associate
National Center for Postsecondary Teaching,
Learning, and Assessment
Arizona State University

Phyllis Steckler, President
The Oryx Press

Editorial correspondence:

James Rhem
213 Potter St.
Madison, WI 53715-2050

Subscription information:

The Oryx Press
4041 North Central #700
Phoenix, Arizona 85012
Phone: 1-800-279-6799

The National Teaching & Learning Forum

is published six times during the academic year by The Oryx Press in conjunction with James Rhem & Associates, Inc. - October, December, February, March, May, September. One-year individual subscription: \$39.

Second class postage paid at Phoenix, AZ.

Postmaster: Send change of address to:

The National Teaching & Learning Forum

4041 North Central #700
Phoenix, Arizona 85012

Copyright © 1996, James Rhem & Associates, Inc. (ISSN 1057-2880)

DUPLICATION BY PHOTOCOPYING OR OTHER MEANS IS STRICTLY FORBIDDEN.

Bulk discount subscription rates available.
(Phone: 1-800-279-6799)
December

Editor's Note:

A doppelganger hangs over this issue, the teacher's teacher. I see it everywhere asking: "What are you about?" Troubling, confusing as it may be at times, it is the question that compresses the spring, gives animation to work, makes us want to know. Toward the end of my interview with software author **Neil Larson** (profiled in this issue) he was speaking with great enthusiasm about how he felt Aristotle's emphasis on classification led to more knowledge and insight than Socrates' emphasis on questions. Classifying forces one to confront the edges, he said, and at the edges insights spring up. I thought, 'Yes, . . . but what makes one want to classify in the first place.' We agreed it's the question.

We need both, of course — the impulse and the method, the hunch and the proof. The stories in this issue all show teachers asking what they're about. They show something more as well; they show them listening with care for the answers. "Listening," "care" create a sacred space between the question and the answer. Their held breath contains the guardian impulse that says "Wait." Together they make room for reflection before method springs up, so eager to answer. It's the quality I see it in the research into **deep/surface approaches** to learning. Listen to Ference Marton answering one of my queries:

"In our recent micro analyses of the learning process we have discovered that there is a brief initial phase of learning, a kind of general understanding of the whole of that which is to be learned. This experienced whole is necessarily very vague and undifferentiated to begin with. As you go on, the different parts derive their meaning from the sense of the whole. At the same time, the parts contribute, determining the whole in more and more differentiated, integrated and precise ways. The whole and the parts thus mutually constitute each other in the process of learning. But the whole is slightly, very slightly, preceding the parts. The reason is, of course, that you can not learn anything without having an idea of what you are learning about."

The sense of the poetry in learning runs right through **David Brakke's** case study and the responses from **Bruce Perry** and **Wendy Luttrell**. It's the force that makes **Richard Burnor** dream of giving students a tool to help them think, and made **Horace Rockwood** broker a marriage between contending views of knowledge. Learning and teaching require many things, but none more than this faithful pause.

— James Rhem

were being asked to become part of a new religion. I know because I feel that way myself. But having pushed through and read a great deal of this research now, I've come away with a sense that some fundamental dynamics of the learning-teaching dance are being laid bare. The simple dualism — "deep/surface" — which sounds superficial, even judgmental at first, ends up representing a highly complex and empathic view of real-world learning. As these researches have kept on listening systematically and closely to what students have to say, their work is transforming what might be described as *folklore and prejudice* about how student are and how they learn into *principles of understanding*. And as understanding grows, so, often, does vocabulary.

For me this vocabulary has not been without humor and the insights humor brings. For example, one early researcher talks of "holist" and "atomist" approaches rather than "deep" and "surface." Confronting the problems of students' indulging in either extreme, he begins to speak of "globetrotting holists" and "improvident serialists." The temptation to type and stereotype is so strong, it crops up even in resolutely systemic and contextual thinkers. But the point is clear: Facts are dust unless they lead to understanding; but theories are fantasy unless they remain awake to the facts. The implications for faculty are also clear: teach toward understanding, not grades. How to translate that truism into action is the subject of the accompanying sidebar. (page 4.)



CLOSE UP

Going Deep

What are the characteristics of courses that incline students toward a surface approach? Here's a list:

- An excessive amount of material in the curriculum
- Relatively high class contact hours
- An excessive amount of course material
- A lack of opportunity to pursue subjects in depth
- A lack of choice over subjects and a lack of choice over the method of study
- A threatening and anxiety provoking assessment system

In e-mail dialogue this fall, Marton, Entwistle, and Ramsden all emphasize the primary importance of an assessment system that truly reflects the level of understanding faculty want students to achieve. If students feel called upon to reproduce information rather than make sense of it, they will see teaching and learning as “closed” processes with short-range aims and outcomes.

But while it is possible to structure “learning environments” (a phrase meant to emphasize the interaction of departmental and campus climate as well as curriculum, course design and so on) that encourage a deep approach, it can be tricky. In some experiments designed to foster deep engagement, students merely “technified” the probing questions and adapted themselves to a new way of parroting the “right” answer.

Ramsden — writing from Australia — emphasizes the delicate balance needed: “It isn't so much the specific teaching and assessment methods you use that make the difference to the quality of student learning, but the reasons why you use them and the *way your students*

perceive them. The key thing to understand about approaches is that they arise from the student's *perception* of the teacher's requirements.”

Faculty are instrumental in forming those perceptions, he says, because research indicates that different forms of teaching are perceived differently by students, and thus tend to elicit different approaches.

The list of features associated with surface approaches given above implies alternative strategies. Specific implementations prove as various as contexts and learners. Four key classifications, however,



offer a check list of general features to consider in developing strategies and cultivating environments which help deep approaches thrive.

Motivational context: We learn best what we feel we need to know. Intrinsic motivation remains inextricably bound to some level of choice and control. Courses that remove these take away the sense of ownership and kill one of the strongest elements in lasting learning.

Learner Activity: Deep learning and “doing” travel together. Doing in itself isn't enough. Faculty must connect activity to the abstract conceptions that make sense of it, but passive mental postures lead to superficial learning.

Interaction with others: As Noel Entwistle put it in a recent e-mail message, “The teacher is not the only source of instruction or inspiration.” Peers working as groups enjoin dimensions of learning lectures and readings by themselves cannot touch.

A well-structured knowledge base: This doesn't just mean presenting new material in an organized way. It also means engaging and reshaping the concepts students bring with them when they register. Deep approaches, learning for understanding, are integrative processes. The more fully new concepts can be connected with students' prior experience and existing knowledge, the more likely it is they will be impatient with inert facts and eager to achieve their own syntheses.

In many ways — as Ference Marton suggests — this tide of research ends up affirming the primary importance of helping students learn how to learn, how to know themselves as learners. Study skills courses, however, do not do that; cultivating this awareness must become part of coursework itself. Students after all do not learn in the abstract, they learn *something*. Their approach — deep or surface — doesn't

represent intelligence or character (or personality). It represents a *relationship between* the student and what he or she is trying to grasp.

On the encouraging side, Marton and Noel Entwistle join Ramsden in speaking of the importance of group work and problem-solving as means to fostering a deep approach. In the United States, these elements of reform have begun to have influence under various banners — “active learning,” “cooperative learning,” “problem-based instruction” — though, as yet, they seldom appear as part of a systemic and integrated approach on most campuses. ■■■

RESOURCES

Entwistle and Ramsden both say it's time for second editions or new books to report on the ways their understanding has grown in the last several years. Chapters in collected volumes and journal articles — including a chapter in “Disciplinary Differences in Teaching and Learning,” a forthcoming New Directions paperback from Jossey-Bass — report on some recent findings. But what's “old” is news to those who haven't heard it. The following offer provocative introductions to this very different way of looking at student learning.

- *The Experience of Learning*, eds. Ference Marton, Dai Hounsell, Noel Entwistle (Scottish Academic Press, 1984). The book, with a forward by Wilbert McKeachie, is a model of what multi-authored books could be. Each chapter builds on an awareness of the preceding chapters and tailors its contribution to the construction of a larger understanding of where the inquiry is headed, rather than blindly focusing on the findings of some specific research. Thus, the book demonstrates in its methodology how its authors believe deep learning happens.
- Noel Entwistle, *Styles of Learning and Teaching: An Integrated Outline of Educational Psychology for Students, Teachers, and Lecturers*. (John Wiley & Sons, New York, 1981). While more a textbook than a narrative, Entwistle's outline really does speak to each of his named audiences. The hard data appear in tables and footnotes, but so do engrossing excerpts from forgotten classics on learning and telling narratives from student interviews. The book also contains a short self inventory to test one's approach to studying, and it is broken up with “Stop and Think” questions that invite engagement with the meaning of the text.
- Paul Ramsden, *Learning to Teach in Higher Education*. (Routledge, New York, 1992). Ramsden lays out material clearly and is not afraid to speak bluntly when needed. He seems readier than most to offer specific advice on how to go about shifting the orientation of college teaching toward actual learning. I had difficulty locating this book, and Ramsden ended up e-mailing me chapters. It is available via Routledge's online ordering service at <http://www.thompson.com/routledge.htm>

