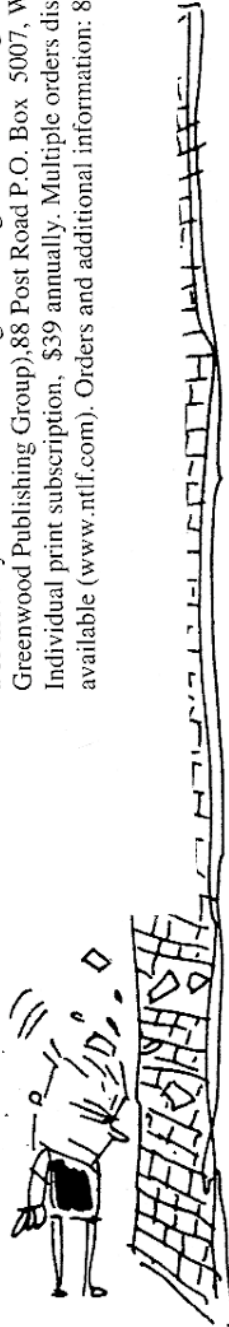


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CARNEGIE CHRONICLE

Nelson's Notebook

How Can Students Who Are Reasonably Bright and Who Are Trying Hard to Do the Work Still Flunk?

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The most important examples of the scholarship of teaching and learning start, not surprisingly, with the most important questions. The initial question stated by William G. Perry, Jr., in his *Forms of Intellectual and Ethical Development in the College Years: A Scheme* (1968, 1970) was: How do students respond "to the relativism which permeates the intellectual and social atmosphere of a pluralistic university?" Perry (Director of the Bureau of Study Counsel at Harvard) and his colleagues had noted that some students "seemed to find the whole idea of multiple frames of reference wholly unintelligible" while others responded with "violent shock" or with "a joyful sense of liberation."

Those who had either of the first two responses often had extreme difficulty with tasks that asked them, for example, to "compare the concepts of the tragic heroine exemplified by Antigone and Cordelia" (or, I would add from my experience, to compare empathetically divergent positions on nuclear power, genetic engineering, affirmative action, or, indeed, any other moderately complex intellectual issue). Perry states: "We came to feel that persistent misperception of the form of such intellectual tasks, even after repeated explanations of them, could not be ascribed to intellectual factors alone." Put more bluntly, they were led to ask: How can students who are reasonably bright and who are trying hard to do the work still flunk?

To answer this question, Perry interviewed a sample of freshmen who differed appreciably in their reactions to relativism (the reactions cited above and others) at the end of the academic year. Interviews were conducted in "as open-ended a way as possible so as to avoid dictating the structure of a student's thought," beginning with a question like: "Would you like to say what has stood out for you during the year?" Many of the students returned for interviews at the end of subsequent years, yielding several complete four-year records. Perceiving a pattern in the results, Perry interviewed a second, randomly-selected group, many again over four years. He formalized a scheme, taught it to a set of judges and asked them to rate independently the transcripts from the interviews, obtaining high inter-judge reliability for ratings of students' patterns of thinking.

Briefly, he found a spectrum ranging from students who saw the world "dualistically" in "polar terms of we-right-good vs. other-wrong-bad" (these are the ones who were shocked by or uncomprehending of relativism), through positions incorporating in various degrees a "multiplicity" of views, to more sophisticated positions in which better and worse answers can and must be defended in particular frameworks. The full scheme includes nine positions, some with internal options as well as detours such as temporizing retreat and escape.

When I first read it, Perry's work made clear to me that students' basic intelligence was not the best index of their ability to understand what I knew to be

clear and powerful experiments or arguments. Further, it made clear why hard studying was often ineffective. The students needed to learn to understand in different, more sophisticated ways before hard studying could be of much help. I saw that as a teacher I needed to understand the different levels of cognitive development and to address them squarely by a variety of very deliberate pedagogical strategies.

The first key task is to systematically help students understand that most knowledge is fundamentally uncertain and, more importantly, why it is fundamentally uncertain (in the sense that science is continually subject to major and minor revisions).

The second key task is to help them understand how we use various criteria in each of our disciplines or fields to select from among the alternative

possibilities those that are better and to judge how strong the answers are. Once the students know *how* to understand a variety of coherent perspectives or frameworks, the central task becomes helping them learn to use values-grounded (hence "ethical") criteria to choose a mix of approaches that is appropriate in a particular set of contexts. (I will elaborate more on this aspect of the teaching challenge in a future column. For the impatient, good starting points include: M.F. Belenky, et al., 1986, *Women's Ways of Knowing*, Basic Books; M.B. Baxter Magolda, 1999, *Creating Contexts for Learning and Self-Authorship: Constructive-Developmental Pedagogy*, Vanderbilt; C.E.

Nelson, 1999, "On the Persistence of Unicorns: The Tradeoff between Content and Critical Thinking Revisited," in B.A. Pescosolido and R. Aminzade, eds., *The Social Worlds of Higher Education: Handbook for Teaching in a New Century*, Pine Forge Press; and, for the very impatient, W.S. Moore, n.d., "My Mind Exploded: Intellectual Development as a Critical Framework for Understanding and Assessing Collaborative Learning" at: <http://www.evergreen.edu/user/washcntr/resources/acl/ia.html>).

Because it gave vital empirical answers to one of the most vexing and basic questions teachers face

("How can bright, hard-working students do poorly?"), Perry's book has been one of the most broadly influential studies of the scholarship of teaching and learning. A search for 1990-2000 alone returned 582 citations of his work.

Knefelkamp's extensive

introduction to the recent reissue of the book (1998, Jossey-Bass) provides a good overview of the pedagogical implications and of subsequent work on cognitive development. A good critical review of Perry's and related theories is provided by B.K. Hofer and P.R. Pintrich (1997, "The Development of Epistemological Theories: Beliefs about Knowledge and Knowing and Their Relation to Learning," *Review of Educational Research* 67:88-140).

Perry's book is not just of historical importance. Because Perry included many direct student quotes to illustrate each mode of thinking, his book remains a powerful tool for faculty who wish to learn to hear clues in

students' voices as to why they are having trouble understanding. I have also found it useful to have students read and discuss both Chapter 3 (The Student's Experience) and selected passages (with quotes) describing the various ways of thinking (the more appropriate quotes differ among disciplines and academic levels).

Finally, in terms of this series of columns, Perry's book provides a classic example of how to move from a puzzle to a powerful question, and then to an approach (frequently qualitative, at least initially) for finding some answers. Fortunately for those of us who are considering our own projects, most puzzles can be usefully addressed with much less effort than Perry's puzzle required. Also fortunately, Perry persisted in following his puzzle through to a very fecund set of answers. ■■■

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