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AUTHOR Beers, Susan E.
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ABSTRACT

The set of goals and plans that a writer might select to accomplish a given piece of writing is guided by the writer's conception of knowledge. In terms of cognitive theory, conceptions of knowledge may be viewed as epistemological schemata--structured clusters of knowledge about the nature of knowledge itself. William Perry's scheme of the intellectual development of college students helps to describe the naive epistemological theories of students. Briefly stated, Perry describes as dualistic the least intellectualy mature students, who believe that knowledge consists of absolute truths that are transmitted by authorities such as teachers. They may view the process of writing as involving the rigid application of "correct" rules and procedures, gleaned from the advice of composition teachers. Dualism evolves into multiplicity as multiple versions of reality are perceived. The writing of the student with a multiplistic orientation may be technically acceptable, but it lacks substance. As multiplicity develops into relativism, multiple points of view are perceived as related to their evidential bases. The presentation of facts or supporting information in the service of developing a thesis is the standard characteristic of a student's writing with a relativistic orientation. This sets the stage for commitment, in which the students perceive the necessity of making a personal choice between competing versions of reality. Writing from commitment produces not only clarity and coherence, but also voice. The teacher who is aware of students' epistemological assumptions may be able to work within their frame of reference when helping them improve their writing. (HOD)

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An Analysis of the Interaction Between Students' Epistemological Assumptions and the Composing Process

Susan E. Beers

Sweet Briar College

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While cognitive psychologists are relative newcomers to the field of educational theory and research, they have certainly made their presence felt. Today, when one reads about teaching and learning in general, and composing in particular, one is as likely to find oneself confronted by a flow-chart as descriptive prose. Such analyses have their advantages. They provide an encompassing theoretical framework for the large amount of empirical data which is now being amassed concerning composing. Perhaps more importantly, cognitive analyses give us a common language to use in speaking about internal processes, and thus allow us to make our assumptions about the composing process more explicit than might otherwise be the case.

Such analyses also have their disadvantages. It is a good deal easier to draw a box in a flow-chart than to fully understand the process that the box is intended to represent. And, once having drawn, it is all too easy to mistake one's model for reality. It is thus with some modesty and not a little hesitation that I propose to complicate our cognitive models of the composing process a bit further. I do so for two reasons.

Although there is now a wealth of information concerning the strategies writers use to execute a piece of work, there is no theoretical consensus concerning where such strategies "come from". To attempt to answer this question, one needs to adopt a more abstract level of analysis than that employed for describing composing strategies themselves. Such a level is hinted

at when Sommers notes that novice writers have a general sense that something is "wrong" with their writing. "What they lack," writes Sommers, "is a set of strategies to help them identify that 'something larger' than they sensed was wrong and work from there."[1] It is also implicit in Perl's description of the "felt sense" or "intuition" that writers use to tell them how, and what, to write. Perl notes that what writers do "depends on the model of the writing process that they have internalized."[2] The most explicit statement has come from Flower and Hayes, who note that specific strategies "are mediated through the goals, plans and criteria for evaluation of discourse actually set up by the writer."[3] Of the large but finite set of goals and plans which a writer might select, what determines those that are actually adopted to accomplish a given piece of writing? I will argue that the selection of goals and plans is guided by the writer's conception of knowledge.

The second reason such an analysis is necessary is to integrate writing with the larger goals of academic life. While writing may serve as an end in itself, those of us who teach writing also assume that it contributes to the broader intellectual skills of our students. It is not uncommon to hear college teachers say that they want their students to "learn how to think". While

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[1] Nancy Sommers. "Revision Strategies of Student Writers and Experienced Adult Writers." College Composition and Communication 31 (Dec. 1980), p. 383.

[2] Sondra Perl. "Understanding Composing." College Composition and Communication 31 (Dec. 1980), p. 368.

[3] Linda Flower and John R. Hayes. "A Cognitive Process Theory of Writing." College Composition and Communication 32 (Dec. 1981), p. 379.

thought cannot be equated with language, language is a tremendously powerful tool in the generation, transformation and transmission of thought.[4] I will argue that a description of students' conceptions of knowledge will serve to relate writing to the broader cognitive skills we seek to foster. It will also give us a way of describing the difficulties our students have in writing, and suggest ways which we, their teachers, might help them overcome these difficulties.

In summary, naive epistemological theories may serve to guide the composing process and to relate that process to one's larger intellectual life. In common language, naive epistemological theories may be defined as one's views concerning what knowledge consists of, how one goes about obtaining knowledge, and how one goes about expressing knowledge. In terms of cognitive theory, conceptions of knowledge may be viewed as represented internally as epistemological schemas, "structured clusters of knowledge" about the nature of knowledge itself.[5] Schemas are assumed to determine what information in a complex stimulus field is attended to, and how that information is interpreted. For the purpose of this analysis, epistemological schemas may be viewed as the "parent schemas" that activate the various "child schemas" necessary to produce a piece

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[4] Jerome S. Bruner, The Relevance of Education (New York: W. W. Norton & Company, Inc., 1971).

[5] W. Winn. "Visualization in Learning and Instruction: A Cognitive Approach." Educational Communication and Technology (1982), p. 6.

of writing.[6] From the standpoint of applied educational theory, epistemological theories may be more simply viewed as models that may be useful in describing the psychological situations in which students find themselves, and the implicit choices that they make in composing. It should be noted that it is not necessary to assume that students, or their teachers, are able to articulate their views concerning the nature of knowledge, or even that such views are consciously available. Rather, epistemological theories may function as implicit assumptions that guide behavior.

How are we to describe the naive epistemological theories of students? While a variety of approaches to such a description might be taken, I have chosen Perry's scheme of the intellectual development of college students for the present analysis.[7] While the Perry Scheme, as it is called, is not without its problems, I feel that it is particularly useful for two reasons. The Scheme was developed on the basis of interviews conducted with students over the course of their college careers, and continues to be a topic of empirical research. In short, there is already a data-base supporting the utility of Perry's description of students' conceptions of knowledge.[8] Perhaps more importantly, the Perry Scheme has a "psychological reality". Teachers find it easy to recognize the different viewpoints that Perry describes, and indeed the thoughtful teacher

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[6] Donald Norman. "Categorization of Action Slips." Psychological Review 88 (1981).

[7] William G. Perry, Jr. Forms of Intellectual and Ethical Development in the College Years (New York: Holt, Rinehart and Winston, 1970).

[8] For a review see William G. Perry, Jr. "Cognitive and Ethical Growth: The Making of Meaning." In The Modern American College, edited by A. W. Chickerling. (San Francisco: Jossey-Bass, 1981).

may be able to generate Perry's developmental sequence without having read his book. In short, the Perry Scheme lends a reasonable empirical base and familiarity to the present theoretical analysis.

For the purposes of this analysis, only the four major stages of the Perry Scheme need be described. Briefly stated, Perry describes the least intellectually mature students as Dualistic. They believe that knowledge consists of absolute truths which are transmitted by authorities such as teachers. Dualism evolves into Multiplicity as multiple versions of reality are perceived. At first these multiple views are considered to be intellectual exercises presented to students by teachers who themselves know the absolute truth, or as options in areas where the absolute truth is yet to be discovered. Later, absolute truth is itself questioned, and students may come to the conclusion that all opinions are equally valid. As Multiplicity develops into Relativism, multiple points of view are perceived as related to their evidential bases. Thus, not all versions of the truth are seen as equally meritorious. This sets the stage for Commitment, in which the students perceive the necessity of making a personal choice between competing versions of reality. These four positions, and the transitional stages between them, make up the nine stages in Perry's developmental Scheme.

Two interrelated themes in the Perry Scheme have implications for the composing process. One is developmental change in terms of the content of knowledge, moving from the rather concrete view that knowledge consists of the accumulation of immutable facts to the more abstract view that knowledge consists of making sense out of the world by the formulaton of arguments from an evidential base. A second theme is that of developmental change in terms of one's view of the source of knowledge. The movement here is from viewing authorities as the sole pervayors of knowledge to viewing oneself as a potential

authority. I would expect that these differing views would be manifested both in the coherence of writing, and in that nebulous quality that we term "voice". To the extent that teachers are potential authority figures who transmit information about how to write, give writing assignments, and evaluate writing, the Perry Scheme also has implications for how the process of writing and learning to write are themselves viewed.

We have all read student essays which appear to be collections of unrelated bits of information, or seemingly endless strings of quotations from a textbook, other sources, or even ourselves. I would suggest that such essays are not so much a product of the student's lack of skill as a writer as his or her Dualistic conception of knowledge. Statements from authorities are construed as facts, and facts are assumed to speak for themselves. On the basis of Perry's developmental scheme one would expect to find the above attributes more characteristic of the writing of freshman and sophomore students than upperclass students. Students with a Dualistic conception of knowledge would also be expected to feel confused or uncomfortable when asked to criticize, evaluate, or give their own opinions in their essays. They may assert that they are "not the kind of person" who questions established truths, or that they "don't know enough" to offer an opinion.

Just as the student with a Dualistic orientation may view a content area as a collection of facts, so may he or she view the process of writing as involving the rigid application of "correct" rules and procedures, gleaned from the advice of composition teachers. Such students may feel that if they follow an outline, avoid the first person, check grammar and spelling, and so forth, they will

necessarily produce an effective piece of writing. Such strategies have been found to be characteristic of immature or novice writers, and of "nonrevisors".[9]

Multiplicity shares much in common with Dualism, in that for both the immutability of truth, and the omniscience of authority are central epistemological issues. In Multiplicity, however, the student both desires and rejects the notion of truth, and may move from trust to disillusionment with respect to authorities. By definition, students with a Multiplistic orientation are able to perceive different theoretical perspectives on a topic, and their writing may show that they are able to amass evidence in support of different perspectives. Such an ability may lend coherence to writing. However, one would not expect students with a Multiplistic orientation to evaluate points of view against each other in any other than a perfunctory way. When contradictions are recognized, a few sentences may be inserted, urging authorities to somehow resolve their differences, or asserting that all points of view are correct, or claiming that the point of view that the teacher seems to agree with is the "right" one. When students from a Multiplistic orientation express their own opinion, they may disregard authorities altogether. A preference for a particular point of view may be stated, but the choice is unlikely to be supported or defended.

The writing of the student with a Multiplistic orientation may be technically acceptable, but it lacks substance. Indeed, to the extent that students view education as "game playing" one would not expect them to see the power of writing as a tool of communication and persuasion. Their disillusionment with authority figures would be expected to generalize to us, their

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[9] Richard Beach. "Self-Evaluation Strategies of Extensive Revisors and Non-Revisors." College Composition and Communication 27 (May 1976), p. 160.

teachers. In short, we are likely to be seen as arbitrary in our evaluation of their writing.

The presentation of facts or supporting information in the service of developing an argument or thesis is the standard which is advocated by many writing texts, and by most teachers who have their students write. Such a standard can only be met when students gain a perspective on what facts are "good for", i.e., when they can appreciate the relationship between a theoretical stance and an evidential base. Such thinking is characteristic of students with a Relativistic orientation. The coherence which may be achieved in Multiplicity increases as writing gains a clearer direction and focus. Authorities may be cited less ubiquitously, but more meaningfully. While students with a Relativistic orientation may not be "fully present" in their writing (after all, the impetus for student writing generally comes from an assignment by the teacher rather than from oneself) they at least may be perceived to actively select and present information. The "voice" may be in the background.

One would not expect that students with a Relativistic orientation would view writing as a process involving the application of absolute rules, nor would one expect that these students would view writing, or their composition teachers, as arbitrary. Rather, the writing process itself may be seen as in the service of presenting ideas and arguments. Some rules (e.g., "always begin your paragraphs with a topic sentence") may be rightfully ignored, and others may be applied only in the final stages of editing. I would hypothesize that more often than not one would find "revisors" and "expert writers" to hold Relativistic orientations.

Perry states that students near the end of their college careers may

develop tentative commitments, i.e., they may begin to make reasoned, but intensely personal choices about the course of their lives and studies. Sustained commitment is probably a rarity, for ourselves as well as our students, and I believe that we would only occasionally perceive the result of Commitment in student writing. Writing from Commitment should evidence not only clarity and coherence, but voice. It is writing on one's own authority. As most student writing is externally imposed, one would not necessarily expect that Commitment would find consistent expression in writing. Where it is found, it probably represents a dedication not only to the topic of discourse, but also to the process of writing itself.

To what extent does the above analysis provide a valid and useful conceptualization of the relationship between epistemological beliefs and writing? A major impetus in my writing of this paper is to challenge researchers to put the above hypotheses to empirical test. I will briefly report two studies which have resulted in some support for the above model.

Dr. Michael P. Ryan at the University of Texas at San Antonio has compared the strategies that Dualistic and non-Dualistic students report using to tell if their papers are "well organized". Students adopting a Dualistic or non-Dualistic orientation towards knowledge were identified on the basis of their endorsement of statements on a scale devised by Dr. Ryan. The organizational strategies which these students use was determined by a content analysis of their self reports. Dr. Ryan reports that non-Dualists use coherence criteria

that involve the overall connectedness of a piece of writing more than do Dualists.[10]

At Sweet Briar College I have compared the attitudes Dualistic and non-Dualistic students hold towards writing. Dualism was assessed by Ryan's scale; attitudes toward writing were assessed by scales developed by John Daley at the University of Texas at Austin. This study found that Dualists were significantly more likely than non-Dualists to report that one should follow rigid rules in writing.

Obviously, the above studies have barely tapped the wealth of hypotheses suggested by the theoretical analysis presented above. These minor successes are heartening, however, and hopefully will inspire future research.

In the final section of this paper I will address two educational applications of the present analysis. How may our understanding of students' epistemological orientations aid in the improvement of writing? How might instruction in writing foster epistemological development?

I have argued that the Perry Scheme may serve as a partial description of a significant aspect of students' "psychological space". A direct implication of the analysis is that our attempts at writing instruction will be "filtered through" the epistemological orientations that our students hold. For the student with a Dualistic orientation, our cryptic comment, "poorly organized" on a piece of writing may be interpreted as indicating that he or she needs to check grammar more carefully. More detailed comments may be interpreted as a list of rules rather than guidelines. We no doubt have less control over such

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[10] Michael P. Ryan. "What Do College Students Think it Means for a Term Paper to be 'Well Organized'?" Paper to be presented at the meeting of the American Educational Research Association (April, 1984).

misinterpretations than we would like. However, there is a virtue in simply recognizing the possibility and probable source of such miscommunications. To the extent that teachers are aware that misunderstandings can arise as a function of the differing epistemological assumptions between themselves and their students, they may be less likely to attribute the writing difficulties of their students to a lack of talent or skill.

The teacher who is aware of a student's epistemological assumptions may also be able to work within that student's frame of reference in order to improve writing. The teacher who perceives that a student is operating from a Multiplistic orientation, for example, might encourage the student to "play the game this way, because I'm the teacher and that's what I'm asking for". As one who has tried this approach, I must admit that it feels very awkward to make such statements. It is also easy to see how such an approach could "backfire" if the student and teacher did not have a good working relationship to begin with. But more than once I have seen student writing improve as a result of the "game playing" ploy. Initially the improvement may be perceived as somewhat superficial. One trusts that given time, form will become object.

One might attempt to improve writing by addressing underlying epistemological issues themselves. I am not suggesting that one give lectures on relativism to students any more than one might already implicitly do so. As with other persuasive communications, it seems likely that those most "in need" of such information would be the least likely to understand and appreciate it. But on a personal level, e.g., in conferences with students, the assumptions behind, and implications of a piece of writing, rather than the substance of that writing itself, might be an appropriate topic of conversation. As with other writing interventions, I would expect that epistemological discussions

would be more successful when writing-in-progress rather than "completed" pieces of writing are considered.

Can writing be used to foster epistemological development? I suspect that the answer to this question is "yes", but I am quite sure that no prescription for such an endeavor can be written at this time. Theoretically, it would seem that three criteria must be met in order for an academic experience to have an influence on a student's conception of knowledge. First, the student's epistemological schemas must be at least partly available to consciousness. Second, the student must be motivated to reconsider his or her views of knowledge. Third, alternatives to the student's original conception must be conceivable.

Given that views concerning the nature of knowledge are generally implicit, and study processes are probably habitual, "something special" must happen in order to bring the relevant cognitions into consciousness. Writing tasks might serve as that "something special". As thought is transformed into language in the process of writing, the student may become aware of incongruities in his or her way of thinking. Such epistemological incongruities might serve to motivate the student as well as to bring the relevant cognitions to the foreground of consciousness. While such movement might occur spontaneously, teachers may serve to facilitate change either by making the student aware of the incongruities evident in his or her writing, or by suggesting alternatives to viewpoints that the student realizes are inadequate. Again, discussions of writing in progress probably facilitate such development more than do discussions of completed writing.

The above suggestions may seem all too "obvious" to thoughtful teachers of composition. However, I believe there is a value in making the connection

between epistemological beliefs and teaching practice explicit. The above analysis potentially deepens our understanding of the complex of variables involved in learning by tieing the processes involved in writing on one's underlying assumptions concerning knowledge itself. Writing bears a special relationship to learning. Writing allows one to keep tentative ideas available in memory, and facilitates the refinement of thought. Thus, while writing, it appears that one "learns what one thinks". To the extent that our knowledge of one or more of the processes of epistemological beliefs, writing strategies and writing products are enlightened, our knowledge of all of them will be enhanced.

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