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## MODELS OF INTELLECTUAL DEVELOPMENT AND WRITING: A RESPONSE TO MYRA KOGEN *ET AL.*

[JBW invited Kogen to respond but she declined saying that Hays' material deserves a hearing without being seen as a debate between two people.]

I wish to respond to Myra Kogen's article, "The Conventions of Expository Writing," which appeared in the Spring 1986 *Journal of Basic Writing*. In that article, Kogen challenged the relevance of models of intellectual development to the teaching of writing and more specifically discussed an article of mine in which I applied William Perry's model of intellectual and ethical development during the college years to a group of college students' papers. In making this response, I am less interested in narrowly answering Kogen's remarks about my earlier piece than I am hopeful of clarifying some misconceptions that many of our colleagues in composition apparently have about intellectual development and its relevance to writing, misconceptions I have heard articulated at numbers of writing conferences in recent years. I do not mean to imply that Kogen herself necessarily shares all of these views. Probably the most emphatic published statement challenging developmental perspectives is Ann Berthoff's article "Is Teaching Still Possible?" In making my case, I will discuss several "axioms" that address prevalent misunderstandings about developmental models.

1. *Adult development is a widely demonstrated phenomenon.* Many of those who question notions of adult intellectual development draw

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upon some of Piaget's work with children and evidently conclude that "development" means models of child development. Berthoff writes, "The attempt to apply the Piagetian stage model to non-children is futile" (744), and Kogen likewise characterizes schemes of intellectual development as describing "the growth of concept formation in young children" (24).

Yet the current field of intellectual development extends well beyond work with children. To begin with, near the end of his career Piaget modified his own earlier ideas about cognitive development, especially those concerning the evolution of "Formal-operational" thinking in young adults (formal operations are "thinking processes that involve propositional relations, reasoning about improbable situations, or isolation of factors which combine to determine the outcomes of events" [Kurfiss, "Intellectual . . . Development" 5]). Piaget concluded that in many thinkers formal operations developed later than he had originally supposed, and that there was wide cultural and individual variation in the nature and rate of such development ("Intellectual Evolution" 6-12). Recent studies of American college populations confirm this conclusion, indicating that many entering college freshmen are not fully formal-operational thinkers (McKinnon).

Further, during the last decades, investigators have studied adolescent and adult development, investigators such as Erikson; Fischer; Harvey, Hunt and Schroder; Kitchener and King; Kohlberg; Loevinger; Perry; and others. Especially interesting for writing researchers are models such as Riegel's and Basseches', which see dialectical thought as a post-formal-operational development. Each of these models observes that human beings grow in their thinking over the course of their adult lives and that intellectual development is *not* fully complete by the time of adolescence. Rather, it is a lifelong process although its manifestations vary widely from one context and social milieu to another and are subject to individual differences.

Despite variations, there are common threads in these models that "trace paths from simplicity and absolutism to complexity and relativism, from concreteness to abstractness, and from external to internal regulation of behavior" (Kurfiss, "Intellectual . . . Development" 1). Knefelkamp and Slepitza suggest that the Perry Scheme of intellectual development, for example, is a "general process model" that can provide "a descriptive framework for examining the development of an individual's reasoning about many aspects of the world." They also draw upon Harvey, Hunt, and Schroder's premise that individuals have many "conceptual systems" for numbers of content areas and that each of these systems progresses through developmental phases, suggesting that the Perry Scheme can be adapted to the development of individuals' thinking about various content areas. They outline criteria that will reflect qualitative (developmental) change in varying subject areas: the thinker's language choice, openness to alternative perspectives, "locus of control," abilities to analyze and synthesize, and so on. They apply these criteria to college students' ideas about their careers, and test the model for its validity (54-57); elsewhere, Knefelkamp, Widick, and Strood make a

similar application of Perry's model to women's thinking about themselves as women (16-17; also see Widick, Knefelkamp, and Parker). In summary, these researchers make distinctions between the structures and processes of intellectual development and the contents that flesh them out in particular areas. It should be possible, then, to develop such a model for any content area or process, including writing and reading.

Finally, many models—for example, Kohlberg's, Perry's, and Kitchener and King's—have been subjected to rigorous testing in a variety of settings. As a result, the models are widely verified, and the degree of this verification supports the conclusion that adult intellectual development is a well-established phenomenon. For decades, the Institute of Human Development at Berkeley has engaged in longitudinal studies on several developmental models. The Perry Scheme Network alone has a 20-page bibliography of work done with Perry's model or models growing out of it. (For information about the Perry Scheme newsletter and bibliography, write to: Larry Copes, *Newsletter, Perry Development Scheme Network*, ISEM, 10429 Barnes Way, St. Paul, MN 55075.) There are enough statistically significant parallels among many developmental schemes to warrant their examination by educators. In exploring uses of such models, instructors would want to consider those that have the greatest explanatory power—that is, can account for the widest spectrum of relevant behavior—and the strongest record of verification.

2. *Developmentalists are not maturationists.* Another prevalent notion holds that models of intellectual development posit rigid schemes of automatic growth that occur willy-nilly. Berthoff describes development as “a conception of learning as contingent on development in a straightforward, linear fashion; of development as a preset program which is autonomous and does not require instruction” (749), and both she and Kogen use the phrase “deficit model,” a term implying a neural-maturational conception of development. Yet Bickhard, Cooper, and Mace argue that neural-maturational conceptualizations of the Piagetian model are inaccurate and are, in fact, based upon mistranslations and misinterpretations of Piaget. Such misinterpretations reflect vestiges of logical positivism that try to impose types of causality and quantification on Piaget that are alien to his concepts. They insist that Piaget's model is not neurological but cognitive; it proposes a sequence of cognitive structures that precede each other in “a logically necessary developmental structural sequencing” (251-255 and *passim*). Nor is development straightforward and linear. A spiral would be a more accurate geometric representation of concepts of adult development.

Perhaps the most familiar description of how development occurs is contained in Piaget's idea of “equilibration.” Piaget contends that a learner is in a state of cognitive equilibration—stability—when all the “facts” of her world fit her mental model of that world. However, as she becomes aware of new information that she cannot assimilate into the model, she moves into a phase of “disequilibration”—of instability or imbalance—which she resolves by actively modifying or changing her

earlier model to accommodate the new information, and so eventually returns to a state of equilibration but at a higher level of cognitive functioning (“Equilibration”). At each new phase, she must possess the cognitive prerequisites for intellectual growth, and the kinds of dissonances the learner experiences at various points during her development and her accommodations to them follow a pattern; the process is not random. Davison, King, Kitchener, and Parker more generally characterize developmental assumptions:

The changes in reasoning described by such theories are typically developmental in the sense that they are internal to the individual, they are irreversible, they involve the acquisition of more adequate thought structures, and they are directional over time . . . . Change from one stage to another is structural change in that the change involves a reorganization of thought. Progressively higher stages incorporate the thinking of lower stages. No stage in a sequence can be skipped . . . . (121)

Yet although the development is systematic, it is not automatic—it results from a process in which the individual learner brings both her innate and learned characteristics, skills, and abilities to construct meaning in response to and interaction with an environment that requires such construction of her. As Kurfiss, discussing Piaget, explains:

Piaget’s theory is founded on a “constructionist” or “interactionist” epistemology. That is, he emphasizes the active participation of the knower in the process of understanding the world. “The world” as we know it is the product of inherent properties of mind interacting with inherent properties of the environment. We do *not* arrive with a “blank slate”—either at birth or at college . . . our primary mission, cognitively at least, is to make sense of the world. (“Intellectual . . . Development” 4)

Perry stresses that the development he traced in his study *was the product* of a modern liberal-arts setting like Harvard, with its systematic confronting of students with multiple and often conflicting perspectives on reality. It was through sorting out and coming to terms with such viewpoints that students developed intellectually and ethically (35ff). Other researchers have verified in other college settings the kind of development Perry observed at Harvard. Currently, some researchers—Harris, for example—assert that conflict *is* the impetus to intellectual development. Nor does a developmental perspective presuppose that people reason at only one level. Rather, most subjects will think in ways characteristic not only of their predominant stage of development but also of adjacent stages (Davison, *et al.* 129-130).

Let me use the Perry Scheme to explain all this further. Perry’s model describes a growth process in which student thinkers move from quite dichotomized, absolutist, and authoritarian perceptions and understandings of their worlds (Dualism) through a series of positions in which they realize that there are many views of reality and knowledge

(Multiplicity). At this point, thinkers cannot effectively weigh and evaluate those views although they often go through the motions of doing so in response to all those professors who insist upon it. Finally—and perhaps as a result of going through such motions—they achieve perspectives that Perry calls Relativism and Committed Relativism. Committed relativists realize that although there are many opinions on any subject, some are more credible than others. If human beings are to function in a pluralistic world, they must commit themselves to positions even though they may discover new information next week that requires them to revise their thinking (many people dislike the terms “Dualism,” “Multiplicity,” and “Relativism,” and Perry himself has had second thoughts about them. But for better or worse, they seem to be firmly attached to the Perry Scheme). As students move through this sequence of development, their thinking becomes more complex, more qualified, and they become more aware of ambiguity and of the necessity for elaboration and support of their ideas. Yet paradoxically, they also hold and present their ideas with greater conviction because those ideas are more their own rather than something handed to them by external authority.

In writing, dualistic thinkers often behave in rulebound ways. If a teacher has once told them that they should not use first person in their papers, they will *never* do so. When another instructor suggests that in a given paper, first person might be the most effective stance for the writer to assume, dualistic thinkers will ask, with genuine distress, “Well, what’s right? Should you use first person or not use it?” And in my experience even though the instructor carefully explains about different strategies for different rhetorical situations, dualistic thinkers will still operate according to “rules” (“But last time you *said* I should use first person!”). It takes many such experiences over a considerable period of time for dualistic students to loosen their rigid adherence to absolutes.

By contrast, the multiplistic thinker has discovered that apparently one teacher says one thing and another something else, and concludes that the authorities are hopelessly confused. He may use second person and the informal pronoun “you” in an essay where it is ineffective to do so, on the grounds that “everyone has a right to their [sic] own opinion” and that therefore his opinion is as good as anyone else’s; he finds it comfortable to use “you”—even in a formal essay analyzing Marx’s ideas on the alienation of labor. In other words, he has difficulty applying contextual considerations to his writing decisions and, rejecting the rigid rules that guide the dualistic thinker, assumes that anything goes. By contrast, the relativistic thinker has realized that the point of view writers adopt depends upon the particular rhetorical context and the writer’s purposes in it, and chooses her strategies accordingly.

Most of the time, a writer may function multiplistically—choosing her point of view in writing on the basis of what she feels like doing or what seems easiest—often using the all-purpose “you,” meaning “one.” But in circumstances where she feels relaxed and secure she may see the value of manipulating her point of view according to the rhetorical context

in which she is writing and, if sufficiently challenged, may do so with some success. In other situations, where her anxiety level is high—on an important exam, for example—she may return to rigid, rulegoverned writing behavior (*never use “I”*).

3. *Developmentalists are not anti-context and anti-learning.* Those who express caution about developmental perspectives assert the importance of context and learning in writing (Bartlett and Scribner 166); others question the possible culture-specific nature and biases of developmental models (Bizzell 454). Yet contemporary developmentalists are fully committed to the importance of learning and context. Perry and others have focused upon the intellectual development encouraged in American college settings. Erikson found that the structure of psychosocial development held across cultures but that the content filling and structure varied enormously from one cultural context to another. In the same way, Gilligan suggests that Kohlberg’s structures of moral development are fleshed out differently in our culture by men and by women although Levine, Kohlberg, and Hower claim that the model’s broad outlines stand up cross-culturally while its details vary from setting to setting. As one group of developmentalists has phrased it, “It is the confluence of social-personality and cognitive factors that underlie cognitive change. To study only one or the other leads invariably to a distorted picture of development” (Cavanaugh, Kramer, Sinnott, Camp, and Markley 147). Part of the good news about developmental models is that learning *can* foster intellectual development, that context *does* make a difference in intellectual performance. And without question, the context in which writing is performed will influence that performance. Freshmen who have written argumentative essays for four years in high school will, at least initially, outperform those who have never written an argumentative paper. In a context in which reading and writing are ignored or devalued, it will be the rare person who reads and writes proficiently. Nevertheless, the learner’s context is not the only shaper of her level of performance.

4. *Developmentalists contend that intellectual growth cannot proceed without cognitive readiness.* At times, those who oppose developmental approaches to writing seem to imply that improved performance depends only upon the teaching of certain tasks or ideas. For example, Kogen writes that students have difficulty with their college writing tasks because they are “*simply* insufficiently familiar with the conventions of expository discourse” and that a particular student “needs *merely* to be told about and given practice with the convention [of explaining the relationships between generalizations and their supporting examples and discussion]” (Kogen 25, 30; emphasis added). I am skeptical about what such statements imply because I have taught basic and freshmen writers “how arguments in expository discourse are characteristically developed, how a chain of reasoning is joined and filled in” (Kogen 28), and have given them practice with these matters. Yet they continue to have difficulty integrating and synthesizing both their own ideas and those from their readings into an hierarchically con-

structed, carefully argued, and well-supported and elaborated piece of academic discourse—which is not to say that they don't improve the quality of their writing or learn the correct format of an academic paper and many of its conventions. But no matter how much I teach, coax, cajole, or bully them, most freshmen will not write like most seniors. "But," critics will object, "of course freshmen don't write like seniors! Seniors have three more years of experience with the college context than freshmen do."

Exactly. And it is this additional time in the college setting plus the nature of that setting itself that makes it possible for freshmen to progress cognitively until, by the time they are seniors, most of them perform like "seniors." But a developmental perspective insists that the sequence by which students progress intellectually is not idiosyncratic and random: it follows a pattern that has been observed in thousands of college students. And I would also emphasize that the structures of mature thought differ from those of less mature thinking—seniors don't simply have more experience, they simply have learned more than freshmen. They think in different ways about the realities they examine. (I am, of course, generalizing: individual freshmen may well think in more mature ways than individual seniors.)

5. *A developmental approach to learning does not mean "slotting" students but, rather, beginning where they are in order to teach them most effectively.* I suspect that writing teachers who resist developmental approaches fear that they blur individual differences among students and lead to college-level "tracking" of students into developmentally segmented strata. These concerns are legitimate, and many of them are shared by developmentalists themselves. Perry, for example, has expressed caution about the formulation of objective measures (as distinct from personal interviews and essay responses) to assess learners' Perry Scheme positions precisely because he has worried that such instruments would be used to "pigeonhole" students. In his own study, Perry asked students to talk and then *listened*, with empathy and respect, to their individual voices and concerns; the developmentalists I know share that respect. I find it hard to believe that anyone could read Perry's work and believe that it demeans and dehumanizes students.

It is ironic that such charges are being leveled against developmentalists when they are the very ones who have championed student-centered learning, individualized teaching, respect for differences between students, the use of small-group work, and constructionist activity in the classroom of the sort whose effectiveness Hillocks has demonstrated (although not from a specifically developmental perspective; 122-126; 192-204). Berthoff, for example, deplors developmental approaches to writing, apparently unaware that the kind of curriculum she proposes as an alternative is a thoroughly developmental one that both Piagetians and Perry-ites would probably applaud (750-754).

Further, I doubt that developmental perspectives will lead to more segregation of college students by competency level than is currently the

case. We already assume that freshmen will do better in freshman or sophomore level classes than in senior level ones. The chances are that within a freshman class, students would not be more than one full level of intellectual development apart from each other, if that much; typically, students progress only one to two full levels during their entire undergraduate careers. In the classroom, students at a higher level would naturally pose challenges for those at lower ones, challenges that could be used to help to stimulate growth.

Berthoff, Kogen, and others evidently also assume that developmentalists believe that students “can’t think.” But to say that many college freshmen are not thinking or writing in mature ways is not to say that they cannot or will not do so in a few more years or that they cannot as freshmen learn to perform with more intellectual rigor than they do when they first arrive at college. To assert the above is not to belittle students’ mental abilities. It is to suggest that we can teach them best by taking into account where they are developmentally—in the same way that we try to take into account their varying learning styles—and use our knowledge of developmental processes to construct curricula that will enhance their intellectual growth, as too often traditional college work does not, with its large lecture sections, objective tests, and types of writing that most freshmen are not conceptually ready for.

Finally, the criticism that models of intellectual development blur differences and categorize individuals could be made of any model or theory. By their very nature, models blur specific variants in order to arrive at general descriptions that will be applicable to more than one person in more than one context. Loss of specifying detail is the price of generalization, and yet we could not function without it. What we do need to do is exercise caution and common sense in applying any model to particular situations remembering always that models describe large-scale trends rather than prescribe rigid molds. And certainly we need to be aware of the critiques and limitations of particular theories of intellectual development (see Kurfiss, “Intellectual . . . Development” for a summary of such critiques) and to beware of jumping to facile conclusions on the basis of partial information. The same caution applies to any new theory, model, or pedagogy, whether it is concerned with intellectual development, sentence combining, or even “natural-process” approaches to writing. I have, for instance, seen numbers of students—especially basic writers—for whom a natural process pedagogy just doesn’t work because it does not provide the structures and strategies they need to solve particular writing problems; such exceptions do not invalidate the model, but they may necessitate more complex understandings of the writing process.

6. *A developmental perspective illuminates many student writing difficulties.* In discussing student writing, Kogen argues that writers’ levels of intellectual development have little to do with their practice of such academic conventions as setting a scene and giving readers background information, fully explaining points to the reader, and so on, asserting that “conventions are not the same as thought or intellect”—that if



students do not use these conventions, they fail to do so simply because they don't know about them (31-33 and *passim*). Certainly, there is some truth to this contention—the genres and conventions of academic writing are quite special, and we all must learn to perform them competently. Further, different disciplines employ differing genres, and the genre in which we have been “socialized” will affect the way we view and think about reality.

But even though we do indeed use conventions automatically once we have appropriated them, the emergence of writing conventions is a product of thought: someone someplace uses a writing “convention” for the first time because it meets a communicative need; others, perceiving that the device does just that, also use it, and eventually it becomes a convention. Further, we do not use a convention really effectively until we have reached a level of intellectual development necessary to grasp the convention's communicative purpose. Shapiro, for example, has demonstrated that writers' performance in establishing adequate background for their readers is significantly related to the writer's level of intellectual development as assessed on the Perry Scheme.

I would like to examine a further example of the relationship between writing convention and intellectual development. Kogen suggests that in discourse it is conventional for writers to acknowledge their readers' “belief systems” (33). Yet in order to do so, writers must possess several cognitive prerequisites: first, they must be able to play the role of the reader, to enter into the reader's frame of reference and understand it. To do so, the writer must be able to “decenter,” to recognize that perspectives other than her own exist and to imagine what they are—an ability at least partly dependent upon her level of intellectual development. If the reader's belief system is very different from her own, the writer must, as Kogen suggests (33), be able to acknowledge its legitimacy even if she hopes to change the reader's mind. Certainly in most rhetorical situations, she cannot communicate effectively with readers whom she regards as wrong or wicked or whose premises she simply does not grasp because they are so alien to her. Yet, again, this ability to understand the legitimacy of different views is a function of intellectual development.

In a research study at the University of Colorado, Colorado Springs, we are exploring several aspects of writers' relationships to their readers in reference to their levels of intellectual development, as independently established by trained Perry Scheme raters at another institution. Our results show that in a group of 52 student writers, there are statistically significant relationships between writers' audience postures and strategies and their levels of intellectual development (audience activity was measured by a textual coding rubric developed for the study).

To illustrate these connections just in terms of writers' awareness of their readers' belief systems, let me cite excerpts from three representative papers. The topic asks students to write about tough drunk-driving laws under consideration by the Colorado legislature. They have been instructed to take a position on these laws and to try to persuade readers at least to consider the writer's point of view. In this paper, the second

piece of writing in the study, subjects are addressing readers who will be apt to disagree with them (several such readerships were suggested). All three writers support tougher laws and are writing to members of the Colorado beverage industry—brewers, tavern owners, and so on. Excerpts have been taken from either the beginning or end of the papers, positions where in argumentation writers often address and exhort their readers. Here are the three excerpts:

a. Now of course you are against tougher drunk-driving laws, but that is only because you and your industries make the alcoholic beverages and people are buying them. You don't care how they abuse themselves or others with it, just as long as you make money from it.

\* \* \*

b. Being members of Beverage Industries and Brewers Associations doesn't change the awareness of the above facts [about drunk-driving accidents]. Selling alcoholic beverages is not the issue. Having people overindulge to the point of losing control of their driving abilities is the issue at hand. The local pubs, bars and home parties should be responsible for the actions of the individuals who frequent their business.

\* \* \*

c. The consideration of tougher laws on drunk-driving presently underway in the Colorado state legislature presents a unique opportunity for those of us whose very livelihood depends on the sale of alcoholic beverages. This controversy presents us with a choice. We can lobby strongly against the tougher laws or we can come out in support of them. If a lobby in opposition of the laws succeeds, what will be our gain? Sales of alcoholic beverages will probably remain nearly stable while our public image may have suffered greatly. Strong support of these laws may result in a temporary drop in beverage sales which, if it occurred, would be short in duration. Our public image however would be greatly enhanced. I propose that in this situation it is distinctly to our advantage to avoid being labelled "the big money industry bad guys who bought off the state legislature" and instead to cultivate the benefits which would result from our support of these laws. . . .

In the first excerpt, the writer is aware of her readers' position and their reasons for it: they are opposed to the laws because they believe such legislation will adversely affect their business. But she suggests that they feel this way because they just don't care what happens to people as long as the brewers' association makes money from the sales of alcohol. Even if this statement is true, making the point as bluntly and judgmentally as the writer does would alienate her readers rather than persuade them to consider her point of view. In several other places in the paper she insults them in a similar manner, seemingly unaware of the impact such

statements would have upon these readers. Nowhere does she genuinely explore their concerns and the issues underlying them.

The second writer does try to understand his readers' interests—that the laws might cut into their business—and to discriminate between all drinking and excessive drinking, a discrimination that places tavern owners in an advantageous light. Yet the abruptness with which he makes these points sounds imperious rather than persuasive; further, he seems unaware that his proposal that bar and tavern owners assume responsibility for their patrons' conduct is extremely controversial. Neither here nor elsewhere in the paper does he make an effort to discuss the issue, offer arguments in support of his position, and deal with probable objections to it. Rather, he delivers edicts, and his tone, like that of the first writer, has a moralistic cast that would probably antagonize his readers although not as much so as the first writer's judgments.

The third writer aligns herself with her readers by talking about "those of us whose very livelihood depends on the sale of alcoholic beverages," a strategy reflecting her ability to enter into her readers' perspectives and try to understand them. She approaches support of the laws on the basis of reader self-interest, but a self-interest presented in the best possible light—that is, as socially enlightened and responsible. Thus she appeals to her readers' ideal image of themselves while at the same time suggesting their stake in the issue. She praises, even flatters, her readers throughout, a strategy intended to get readers on her side so that they will consider what she has to say, and one reflecting her sensitivity to their values and viewpoints. Notice also that she approaches them as rational people capable of weighing the tradeoff of decreased sales for improved public image although she is probably too facile in minimizing the law's negative impact on sales.

These excerpts reveal a progression in writers' sensitivity to their readers' perspectives, values, and self-interest regarding the drunk-driving issue. The first writer, a 17-year-old high school senior whose career goal is journalism, was assessed as being at a dualistic position on the Perry Scheme scale (Position Two). She tends to segment the world into Right and Wrong, and thus to assume an adversative and judgmental relationship towards those whose values differ from hers. The second writer, a 29-year-old college senior in Engineering, is rated an early multiplistic thinker (Perry Position Three). He is aware of multiple perspectives on the issue but has difficulty justifying his own beliefs in relationship to differing ideas. Instead, he adopts the position that his own point of view has as much validity as any other. Thus he offers no support for his contention that tavern owners should assume responsibility for their patrons' drinking behavior. Although he pays lip service to his readers' viewpoints, he shows little real sensitivity to their stake in the issue—he wants to persuade them and so glosses over the problems his position could create for tavern owners. The third writer is a 19-year-old junior majoring in Business; she is rated a late multiplistic thinker (Perry Position Four with some Position Five thinking patterns). She understands that those who differ from her may have legitimate reasons for doing so, that they are

best approached reasonably and empathetically, and that to do so need not compromise her own position.

The trends represented by the progression in these three excerpts typify the larger batch of papers, and in multiple regression equations are significantly related both to overall paper score and to subjects' levels of intellectual development. Further, on analyses of variance, the behavior I have pointed to differs significantly between groups segmented by level of intellectual development. Analyses have also demonstrated that these trends are not explained as satisfactorily by age and grade as they are by Perry Scheme rating. We are led to the conclusion that our subjects' audience activity is very much related to their levels of intellectual development (Hays, Brandt, and Chantry).

This study has not explored the difference that intervention or "treatment" would make in writers' performances, and we need to do so. I suspect that the right kind of instruction would indeed improve writers' performances *up to a point*, but that they would also come up against intellectual thresholds beyond which they could not easily move until they had developed the necessary cognitive structures to do so. Rafterth's studies—giving proficient and nonproficient freshmen writers varying amounts of information about their readers—can suggest such a conclusion (249).

7. *A developmentally organized curriculum can facilitate students' academic progress, including their writing progress.* In developing mature intellectual abilities, students do not leap from being dualistic thinkers to being multiplistic or relativistic ones in one jump. Rather, they acquire the cognitive prerequisites that enable them to construct abilities leading to mature thought in a sequence of phases, each of which they must "master" before moving on to the next. We know what these phases are, at least in the American college setting, and by constructing curricula that take advantage of that knowledge, we can help our students make their transition into intellectual maturity and can to a degree accelerate the process.

The opposite approach is for college professors to continue doing what too many have always done: impose their own postdoctoral standards of performance and then berate students when they can't measure up to those standards. (I suspect that few teachers of basic writing take these lofty and unrealistic postures towards students, but plenty of faculty members in "regular" academic departments—including English departments—certainly do.) Such inappropriate treatment of students may actually slow down their intellectual growth, for it can provoke so much disequilibrium that students cannot handle it and may fall back temporarily to earlier and "safer" levels of functioning. At the very least, instruction that is inappropriate for students' levels of intellectual functioning can produce results opposite to what the instructor has hoped to accomplish. For example, a study by Stern and Cope (a pre-Perry study) showed that pedagogy geared to what they call "rationals" (comparable to Perry's relativists) caused the "stereopaths" (dualists) in the

class to become increasingly “stereopathic” in their thinking. On the other hand, “instructional procedures adapted to the needs of the stereopaths yielded significant academic gain in comparison with similar students” not given the special pedagogy (362). Many studies show that developmentally structured curricula *do* produce results—better ones, often, than curricula structured traditionally (for example, Berg and Coleman; Stephenson and Hunt).

Research with the Perry Scheme in many college settings suggests that many freshmen are late dualistic or early multiplistic thinkers (Mentowski, Moeser, and Strait 191). To such students, the ideal learning paradigm is probably a spelling test where the answers are clearly right or wrong. Dualistic students want their instructors to give them the right answers—hence the often-asked question, “What do you want on this paper?” Left to their own devices, they feel most comfortable with narrative or descriptive writing—not because there is anything intrinsically dualistic about those modes but because they are anchored in the material, concrete world as organized by either space or time. (I am of course excluding higher-level description of abstract entities.) And in fact many freshmen writers can produce good narrative and descriptive writing. It is when they move into discourse that is hierarchically structured and divorced from concrete reality that they run into difficulties writing balanced and carefully reasoned papers.

If students are at a primarily dualistic level of thinking, they will not advance to a relativistic position within the time they are in freshman composition; intellectual growth does not proceed that rapidly. What we can hope to do, however, is stimulate students to move over the course of a semester or two to a level of thinking just above the one at which they are presently functioning. Developmentalists call such approaches “plus-one staging,” and they try systematically to offer students a series of what Sanford calls “challenges and supports.” These strategies on the one hand confront students with the kinds of cognitive dissonance they must reconcile in order to move to the next level of intellectual development and, on the other, offer them a supportive environment as they engage in the struggle. Several studies have shown that such approaches are successful in producing measurable growth in intellectual functioning (see, for example, Widick, Knefelkamp, and Parker). At the University of Nebraska, the ADAPT program has developed a Piagetian “learning cycle” that begins with the data out of which more abstract concepts emerge, whether those data are the acids and bases in the chemistry lab or the diaries of seventeenth-century Americans. Students then work in small groups with their own observations and those of their peers and ultimately formulate some concepts that fit the data. The next phase of the cycle has students apply those same concepts in a different setting to be sure that they have really grasped them. This approach emphasizes the student’s active, inferential learning rather than the instructor’s imparting of information (Fuller).

To use developmental concepts to help dualistic writers become more sensitive to their readers' differing belief systems, we might first work simply to increase their awareness of a reader's perspectives—no easy task. But we could, for example, pair up students who think differently on a given issue and have each try to learn as much as possible about the other's perspective. We could give them structures for interviewing each other and models of what a good interview was like. Students would write up the interview and then develop a "point-of-view" statement that the partner would agree fairly represented his ideas on this subject. Eventually, students would write out their own viewpoints, addressing their paper to their partners. Partners would then work together to critique each others' papers, rating every sentence or paragraph on a scale ranging from, "I violently disagree, and this really makes me mad because . . .," to, "As a result of what you say, I'm thinking about this in a new way." Struggling to become aware of the readers' viewpoint would challenge dualistic writers to grow intellectually by broadening their awareness of perspectives different from their own; structured concrete activities and peer work would give them support while they were doing so. Such an approach reflects one kind of activity that would challenge dualistic thinkers in one area of their writing; they would need others, and would need to go through such processes numbers of times, not just once. I should add that I suspect the particular adversative audience situation given subjects in our research study was too difficult for dualistic thinkers and that they would do better with an audience more like a group of peers—perhaps teenagers with a history of drunk driving.

A few researchers have begun to develop curricula and methods that apply developmental concepts to the composition classroom. Kurfiss has done some excellent work in this area ("Developmental Perspectives"), and Burnham has worked with expressive writing sequences based upon Perry Scheme concepts. Both Sternglass and Lunsford have developed curricula that utilize a Piagetian approach.

In closing, let me critique an aspect of my earlier paper that may mislead those interested in applying Perry Scheme ideas to the teaching of writing. In the first flush of my enthusiasm for the Perry Scheme, I rushed in where I should have feared to tread. That is, I had read Perry's book and several of his articles but was unaware of the enormous body of work done with the Perry Scheme since Perry's project at Harvard. I certainly had little idea of how complex a matter it is to assess students' Perry Scheme levels, nor was I aware of how slow progression through those levels is over the average college career.

In the years since that early paper, my enthusiasm for developmental approaches in general and the Perry Scheme in particular has increased, but I would no longer consider trying myself to assign precise Perry Scheme positions to student writers; making such assessments requires specialized knowledge of psychometrics and of the Perry Scheme. Several Perry Scheme rating rubrics are now available and have been successfully validated, but most of them can be utilized only by trained raters. The assessment process is expensive, but for anyone contemplat-

ing research on writing and the Perry Scheme, the expense is a necessary one. (For information about assessment, see the Perry Scheme *Newsletter*.)

For those more interested in teaching applications of the Perry Scheme, I would likewise issue a word of caution: certainly anyone familiar with the Perry Scheme can discern broad outlines of dualism and multiplicity in student papers. But to assign students narrowly into precise "positions" is risky business for we are probably not equipped to make such judgments. However, we can derive insights that will enable us to construct more enlightened writing curricula from a broad understanding of the sequence in which adult intellectual development takes place; we can also glean new insight into the reasons for many student difficulties with academic work, including writing. Additionally, developmental perspectives can help basic writing teachers with what is often their more general mission to prepare developmental students for success in college. I urge anyone interested in the topic to get into the literature and to start listening in new ways to what students tell us about how they view reality. Approached responsibly, such information can enable us to understand our students better and, understanding, to teach them more effectively.

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