Fostering Cognitive Development in a Writing Across the Curriculum Program,

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Introduction

Composition instructors all share the common goal of teaching their students to write effectively. But how much concentration is placed on the concept that writing is a reflection of the students' thinking processes? As most teachers are already well aware, students function at various cognitive levels and college freshmen are no exception. The differences present unique problems to the teacher who is expected to design a course that fosters the intellectual development of all her students. A single class may contain some students who think there are only two sides to every issue with a right and wrong answer to every question and other students who perceive all knowledge and value (including authority's) as "contextual and relativistic" and subordinate dualistic right-wrong functions to the status of a special case in context (Widick and Simpson 30). How might a composition instructor devise a course that will stimulate the cognitive development of the former students and not leave the latter students bored? Likewise, how might an instructor implement a writing course that stimulates the intellect of the more cognitively sophisticated student without leaving other students bewildered and frustrated? The problem of educating students functioning at different levels of intellectual development is faced not only by composition instructors, but by instructors across the curriculum as well. Instructors across the curriculum
have the responsibility to facilitate the intellectual growth of their students. Knowledge of the various theories of intellectual development, such as those developed by William Perry, Mary Belenky et al., and Karen Kitchener and Patricia King, can guide these instructors in their endeavors to promote intellectual growth.

But how might intellectual growth be measured? How might an instructor determine a student's level of cognitive development? What types of goals should an instructor set for her students? How might these goals be reached? For the writing instructor, is cognitive development related to what happens with students in the classroom? Are there limits to how much can be taught in a composition classroom made up mainly of first-year students? How much progress toward more sophisticated thinking can be expected from these eighteen-year-old college students? Are patterns of cognitive development equally applicable to both men and women? How might instructors across the curriculum help in facilitating the cognitive growth of college freshmen? These questions pose difficult problems for writing instructors. However, theories of intellectual development proposed by Perry, an additional insight into the female intellect drawn from Belenky et al., and the theory of the development of reflective judgment from Kitchener and King, suggest several ways writing instruction can help foster the development of students' cognitive skills in classrooms across the curriculum.
Chapter 1: Theories of Cognitive Development

Perry: *Forms of Intellectual And Ethical Development in the College Years*

In 1953, William G. Perry and his associates in the Bureau of Study Council at Harvard College began to document the academic experience of undergraduates. These students, white males of varying age groups and levels of college experience, participated in voluntary interviews where they recounted their experience at the end of each academic year. From these interviews, Perry developed a nine stage pattern of intellectual and ethical development and asserted it as indicative of how undergraduates develop. This scheme focuses on how college students view knowledge, values, and responsibility.

Perry recognizes that students do not necessarily progress quickly through the stages of development. Although he asserts that students must experience the stages in the order that he outlines, students may become threatened by the process and regress. They sometimes "temporize," remaining in one stage for an extended period of time, consciously or unconsciously hesitating to take the next step. Other students attempt to "escape" development, where they take every opportunity to separate themselves from the type of responsibility that certain positions demand. Denial in its most severe form indicates "retreat," where a student "entrenches in the dualistic, absolutistic structures of Positions 2 or 3" (12). According to Widick and
Perry's scheme describes intellectual and ethical development as occurring in a generally irreversible sequence of stages in which each stage represents a qualitatively different structure or set of assumptions about knowledge and values. Individuals who are at different stages of development have different views of nature of knowledge and, to some extent, reflect those differences in their ways of learning. (29-30)

The Perry scheme focuses on the role that authority plays in the development of the students' learning processes. Quite often, a change in a student's view of authority signals a progression or regression in intellectual and ethical development.

Perry summarizes the nine stages of development in the following manner:

Position 1 (Basic Duality): The student sees the world in polar terms of we-right-good vs. other-wrong-bad. Right answers for everything exist in the Absolute, known to Authority whose role is to mediate (teach) them. Knowledge and goodness are perceived as quantitative accretions of discrete rightnesses to be collected by hard work and obedience (paradigm: a spelling test). (9)

At this stage of development, "detachment is
impossible, especially regarding one's own thought." As Perry points out, "A person cannot explicitly describe such an outlook while embedded in it" (62). For the dualistic thinker, every concept can be represented in terms of black and white or right and wrong; he does not think in terms of the gray shades represented by "better or worse." Perry contends that the dualist believes "no opinions or acts can be intrinsically neutral" (64). In other words, all legitimate beliefs reside clearly on one side of an issue or the other. Students viewing the world from this stage of development seem to adhere violently to their belief system. Anyone who posses the opposite viewpoint will not be tolerated. According to Perry, just how tolerant a dualistic individual is can only be determined when his belief system is challenged. "Intolerance, in the pejorative sense, and hatred of 'otherness,' is certainly congruent with the structure; but the judgment of intolerance cannot be made until the person is confronted with the occasion for change" (65).

Position 2 [Multiplicity Prelegitimate]:
The student perceives diversity of opinion, and uncertainty, and accounts for them as unwarranted confusion in poorly qualified Authorities or as mere exercises set by Authority "so we can learn to find The Answer for ourselves." (9)

In this stage of development, Perry contends students
perceive their teacher's demands and acknowledge multiple perspectives as a mental exercise. Opposing opinions are only tolerated because students view them as temporary problems, "resolvable, and therefore ultimately unreal" (78). If the student is able to tolerate only a low amount of diversity, her cognitive gains may be slow, frustrating both the student and her teacher. However, if the student is less defensive toward this new way of thinking, then according to Perry, he will more likely be less threatened by multiple perspectives and will be more likely to see his "growth" as positive. Progress is evident in students when they begin to see they are free to develop their own thoughts in "specified ways" and to manage their work on their own while attempting to find "The Answer" (85). Perry notes that "Concessions have opened a path toward doubt" (86). When students are shown legitimate, alternative ways of thinking, the resulting doubt usually leads to growth.

Position 3 [Multiplicity Subordinate]: The student accepts the diversity and uncertainty as legitimate but still temporary in areas where authority "hasn't found The Answer yet." He supposes Author- ity grades him in these areas on "good expression" but remains puzzled as to standards. (9)

In this position a student makes an allowance in her understanding of knowledge for "legitimate human uncertainty" (89). What changes is not the knowledge itself, but
rather how the student sees himself in relation to knowledge. These students begin to realize that uncertainty is unavoidable. Perry points out that, not surprisingly, students experience a great deal of cognitive discomfort at the advent of this realization. Perry calls this stage of development Multiplicity, where students recognize that there are many different legitimate points of view in the world. Students remain puzzled, though about how authority is able to grade one student's opinion against another's when the "Right Answer is unknown" (96).

Position 4 [Multiplicity Correlate or Relativism Subordinate]: (a) The student perceives legitimate uncertainty (and therefore diversity of opinion) to be extensive and raises it to the status of an unstructured epistemological realm of its own in which "anyone has a right to his own opinion," a realm which he sets over against Authority's realm where right-wrong still prevails, or (b) the student discovers qualitative contextual relativistic reasoning as a special case of "what They want" within Authority's realm. (9)

Perry suggests that the choice between these two avenues of development depends on the extent to which a student adheres to or opposes authority (95). Ironically, those students who tend to heed the voice of Authority find it easier to be intellectually independent. Those who
oppose the voice of Authority have greater difficulty becoming intellectually independent because they entrench themselves in a very dualistic interpretation of what Authority is trying to teach. These students believe that their opinions are "right" and Authority must be wrong (96). According to Perry's studies, this is the view of the world that most students possessed in the spring of their freshman year, representing the beginning of comparative thought (97). Multiplicity marks the beginning of "metacognition," the ability to think about one's own thinking (100). It offers a new objectivity of thought which also has the danger of being exploited to evade the responsibility of taking a stance (108).

Position 5 [Relativism Correlate, Competing or Diffuse]: The student perceives all knowledge and values (including authority's) as contextual and relativistic and subordinates dualistic right-wrong functions to the status of a special case, in context. (9)

Perry observes that for students in this stage, recognizing "problematic quality of life, a quality experienced as 'things as they are'" thinking acts as a stabilizing agent in the confusing world of multiplicity. Perry points out that students often feel as if they are in less control of ideas when they can no longer rely on the comforting certainty that dualistic thinking offers. Perry notes that:
In our reports, the most difficult instructional moment for the students--and perhaps for the teacher as well--seem to occur at the transition from the conception of knowledge as the qualitative accretions of discrete rightness (including the discrete rightness of Multiplicity in which everyone has a right to their own opinion) to the conception of knowledge as the qualitative assessment of contextual observation and relationships. (210)

Students experience a new academic competence because they are now better able to ferret out the important information in their classes and concentrate on it. This new academic competence makes the discomfort of uncertainty easier to handle (119). However, the new capacity for attachment to beliefs in Position 5 accompanies the knowledge that "objectivity is qualified by the nature of contexts... which offers temptations for irresponsibility" as well (126).

Position 6 [Commitment Foreseen]: The student apprehends the necessity of orienting himself in a relativistic world through some form of personal Commitment (as distinct from unquestioned or unconsidered commitment to the simple belief in certainty). (10)

Perry believes that at this stage students are faced with the possibility of never being sure about anything ever
again. Other than denying the possibility of relativism itself, Perry suggests that there are three methods of handling the loss of certainty in their lives. First, students can "go limp," which would mean that each commitment is dependent on separate contexts so no one standard of commitment can be set; students could deny all responsibility for taking a stand and refuse to make commitments. Second, students can "exploit the situation deliberately by becoming an active, self-avowed opportunist." Third, the student can make a commitment to his beliefs which requires him to "affirm his own position from within himself in full awareness that reason can never completely justify him or assure him" (134). The development of an individual identity and belief system could be arrested if the student became overwhelmed by relativism. Such a student would refuse to commit to a set of beliefs (134).

Position 7 [Initial Commitment]: The student makes an initial Commitment in some area. (10)

In Position 7, a student decides to undertake the responsibility of developing his personal belief system and thus his identity. At this stage a student begins to pursue life goals (such as a career) (153).

Position 3 [Orientation in Implications of Commitment]: The student experiences the implications of Commitment, and explores the subjective and stylistic issues of responsibility. (10)
In this stage, the student explores the different avenues that will help her accomplish the goals she has set for herself in the travel of discovering her identity. For example, if a student decides she wants to become a nurse, she can begin to explore all the different ways she can accomplish this goal (153).

Position 9 [Developing Commitments]: The student experiences the affirmation of identity among multiple responsibilities and realizes Commitment as an ongoing, unfolding activity through which he expresses his life style. (10)

In the final position in Perry's scheme, the student embodies a maturity that represents a person who has developed a thorough concept of "who he is" and has committed to his beliefs "both in their context and in his style of living in them" (153). Perry contends that after stages 7, 8, and 9, there is no major "restructuring of the background of life," just stabilizing (153).

Knowing Perry's scheme can help teachers understand their students' thought processes, their view of knowledge, and their perspective of the world. The frustration that our students sometimes experience as they struggle to master new skills is also more easily understood in light of this scheme. Perry points out that students "miss the security of the Absolute" (30). To move out of Dualism is a potentially frightening experience. Realizing that they may never be sure about anything ever again may cause them to
retreat and refuse to move onward. Teachers of every subject should be aware of the anxiety that their students experience as they mature intellectually so that they do not react, themselves, with frustration and bewilderment when students viewing the world dualistically do not understand the multiplistic task at hand. Teachers of all disciplines could benefit from Perry's work, for it is not only the English teacher who may assign a task which is too cognitively sophisticated for her class then become frustrated over the results of the assignment.

Each teacher, in each discipline, though, should concern herself with the importance of moving her students into more and more sophisticated realms of cognition. Schmidt and Davidson suggest "plus one staging" where teachers design assignments just above the level of their students' cognitive functioning, thus providing a moderate challenge (566). The purpose of college, after all, is to teach students how to think effectively so they can become productive members of society. Perry contends, "The characteristic of the liberal arts education of today, as we have pointed out, is its demand for a sophistication about one's own line of reasoning as contrasted with other possible lines of reasoning. In short, it demands meta-thinking" (33).

At the same time that teachers are making a deliberate effort to urge students into the complex realm of meta-thinking, they must take into consideration another of
Perry's cautions: that progression through these cognitive stages (especially the later ones) cannot be brought about or forced; they must be realized by the students themselves. When the students are ready for the switch into a higher level of thinking, the change will occur. Again, teachers must remind themselves how threatening the disruption of security is and that retreat into a more comfortable way of thinking is always possible. "Where knowledge is contextual and relative, the teacher's task is less atomistic as the student's is more integrational. The good teacher becomes one who supports in his students a more sustained groping, exploration and synthesis" (211). Perry also points out that students often feel the need for stasis. "A student's movement, or lack of movement could therefore be conceived as a resultant of these two opposing vectors; the urge to progress, the urge to conserve" (52).

Perry's scheme may be a useful aid in checking prospective assignments against the abilities of a class. For example, in a writing classroom, if a student is primarily a dualistic thinker he might find it exceedingly difficult to revise or even edit his own work. Revision requires an objective detachment from one's own writing. According to Perry, a dualistic thinker cannot take a step back and think about what he is working on. Perry believes that such detachment is impossible in this stage. However, a student of this sort may excel at the task of peer editing because he is not asked to evaluate his own work but rather the work
of a classmate.

_Belenky, et al.: Women's Ways of Knowing_

Mary Belenky, Blythe McVicker Clinchy, Nancy Rule Goldberger, Jill Mattuck Tarule, authors of _Women's Ways of Knowing_, were influenced by the work of William Perry and others, but studied intellectual and ethical development purely from a female perspective. Their hypothesis was that women come to know and understand reality, truth, knowledge, and authority in ways very different from their male counterparts. They entertained the idea that perhaps there are parts of women's intellects that are left untapped by the traditional studies of cognition. Similarly, these authors do not feel that women prosper as well as they might in an academic environment that is largely developed by men.

Belenky et al. conducted extensive interviews of women who had experiences that were, on the whole, very different from the traditional college student. These women were often underprivileged and were not able to experience higher education until much later in their lives, if at all. As a result, they discovered a view of knowledge, authority and the world very different from that presented by Perry. These discoveries provide added insight into the workings of the female mind and offer possible explanations for why women experience the learning process in ways different from their male counterparts.

_Belenky et al. developed a five position scheme of
female cognitive development:

**Silence:** A position in which women experienced themselves as mindless and voiceless and subject to the whims of external authority. (15)

Belenky contends that silent women view authority as all-powerful and "overpowering," a force that loudly exerts its righteousness but does not bother to "explain" (27-28). Silent women see "blind obedience" as a means of avoiding adversity. Remaining voiceless becomes a means of "survival" for these women because they feel that to question authority would be severely frowned upon. Silent women do not see an answer to the question "Why?" as "possible or important" (28).

**Received Knowledge:** A perspective from which women conceive of themselves as capable of receiving, even reproducing, knowledge from all-knowing external authorities but not capable of creating knowledge on their own. (15)

Received Knowledge is similar to the first three stages of Perry's scheme. "The ideas and ideals that these women hear in the words of others are concrete and dualistic. They assume there is only one right answer to each question" (Belenky 37). Received Knowers are open to the ideas of others but very reluctant to make their own thoughts known because of their ardent belief that Truth only comes from authorities. "The young received knowers have a literal
faith that they and their friends share exactly the same thoughts and experiences and are unaware of their tendency to shape their perceptions and thoughts to match those of others" (38). According to Belenky, Received Knowers still lack the ability and confidence to generate ideas of their own. They see learning as the refined ability to "receive, retain, and return the words of authorities" (39). Belenky points out that Received Knowers believe Authorities gain their information from those of higher authority, yet all authorities have the ability to "receive and retain the right answer with impeccable precision" (39-40).

Women in this position rarely make a move without consulting someone else first. Their cognitive development can be inhibited because they do not learn to think on their own. They are also especially vulnerable to manipulation because they never question the validity of "authority's" values. "Truth, no matter how contradictory, is absolute and cannot be found without authority" (40).

Requiring original work from students provides a difficult obstacle for the Received Knowers because they do not view themselves as sources of knowledge, according to Belenky (40). Like Perry's dualistic learners, Received Knowers perceive no gray areas in knowledge (41) and are intolerant of ambiguity (42). Belenky uses the example of a poem having only one interpretation. Received Knowers demand to know the right interpretation; they do not entertain the idea that there is more than one possible interpretation for
the same poem. Everything has a literal meaning to Received Knowers. "It is impossible to read between the lines and those who claim to be able to do this are making it up" (42). Another interesting observation Belenky makes is that Received Knowers feel that grades should be in "the form of hourly wages: The longer you work, the higher the grade" (42).

Received Knowers even go to others for knowledge about themselves. Since their self-knowledge comes from other people, Belenky notes that Received Knowers develop strong urgencies to fulfill perceived expectations. "Authorities hold considerable leverage and can be in particularly strategic positions to help these women find the power that can reside in their own minds, as well as in the minds of others" (48). Again, the dualistic side of the Received Knower surfaces as Belenky chooses the vocabulary to describe a Received Knower's notions of self: "Conceptions of right and wrong are likely to be as black and white when defining the self as when defining the moral" (50).

Subjective Knowledge: A perspective from which truth and knowledge are conceived of as personal, private, and subjectively known or intuited. (15)

Subjective knowledge is dualistic in the sense that there is still a conviction that there are right answers. However, Subjective Knowers now believe that they can find some bit of truth within themselves, and that they can now refute any "wrong" information they encounter (54). Belenky
found "that it was only after some crisis of trust in male authority in their daily lives, coupled with the confirmatory experience that they, too, could know something for sure, that women from these backgrounds could take steps to change their fate and 'walk away from the past'" (58), a step toward "connected knowledge" which emphasizes what Belenky calls: "joining of the minds" (54). In most cases, Subjective Knowledge and Perry's Multiplism represent the same level of cognitive functioning. However, Belenky observes that women in this stage "approach multiplicity more cautiously" than do their male counterparts: "... they may feel overwhelmed at times with options and may become fearful of being alone with choices" (65). Belenky noticed that although women at this position were similar to the men that Perry categorizes as multiplistic thinkers, few were as outspoken or as confrontational (84). At the same time, there is an "intense loneliness in these hidden, reticent yet proud women" (66). Belenky, like Perry argues that for students viewing the world from this perspective, "Truth is private and shouldn't be imposed" (70).

Belenky believes that Subjective Knowers, because of their "lack of grounding in a secure, integrated, and enduring self concept" (81), feel anxious when thinking about their future. Those who entrench themselves in the stage of Subjective Knowing stubbornly adhere to the reality of their world view and are not willing to consider "alternate conceptions" (34).
Watching and listening are characteristic traits of the Subjective Knower. These traits foster a special type of trust that facilitates the learning process, a trust that allows for a more open interchange of perspectives among these women. Subjective Knowers noted that they valued such interchanges that tended to help them gain greater insight about their self concepts (85). According to Belenky, "Women's emphasis on beginning to hear themselves think, while gathering observations through watching and listening, is the precursor to reflective and critical thought . . ." (85).

Procedural Knowledge: A position in which women are invested in learning and applying objective procedures for obtaining and communicating knowledge. (15)

Subjective Knowers begin to become Procedural Knowers when they begin to feel conflict between "the absolute dictates of truth" and their subjective knowledge (88). This disequilibrium comes about when the women realize that authority is not attempting to dictate the proper way to think; rather, authority is offering techniques for the women to employ so they can come to know on their own. The move into this stage usually results from the Subjective Knower confronting a problem dualistically without success. An authority then demonstrates how the problem can be viewed from a third perspective, allowing the student to
make her own choices (91). "She realizes that her teachers
do not presume to judge her in terms of her opinions but
only in terms of the procedures she uses to substantiate her
opinions" (92).

Belenky contends that Procedural Knowledge can only
emerge in the presence of formal instruction or at least in
the presence of a "knowledgeable person who can serve as an
informal tutor" (93). The cognitive achievements of this
stage include the following:

[the knowledge] that intuitions may deceive, that
gut reactions can be irresponsible and no one's
gut feeling in infallible; that some truths are
truer than others; that they can know things they
have never seen or touched; that truth can be
shared, and that expertise can be respected. (93)

Belenky notes that many women at this stage of development
do not feel as though they are making progress, partly
because of the diminishing effect of the "voice" they
identified themselves so closely with before. To most
women, the first steps on this journey do not feel like
progress. When these women begin to notice that people
interpret the world in different ways, a sense of loneliness
sets in until they are able to see the world from these
different perspectives, themselves. These women eventually
come to the realization that to fully understand a "phenome-
non" they have to view it from multiple perspectives (97).

Constructed Knowledge: A position in which women
view all knowledge as contextual, experience themselves as creators of knowledge, and value both subjective and objective strategies for knowing.

(15)

Constructed knowledge begins as an attempt to regain the self, to integrate the knowledge that was acquired intuitively with the knowledge that was learned from others. Women at this stage of development "told of weaving together strands of rational and emotive thought and of integrating objective and subjective knowing" (134). As a result, "Women constructivists show a high tolerance for internal contradiction and ambiguity" (136). They want to integrate all the "pieces" of the self into a complete whole. Belenky observes that these women actively avoid a pitfall that many men fall into: compartmentalizing the self into "thought and feeling, home and work, and self and other" (137). These women now believe that they, as knowers, are an integral part of what is known and they understand the influence of context on both questions and answers. In addition, they understand that each person's frame of reference influences how questions are asked and answered. (137)

It seems as though Belenky's final stage, Constructed Knowledge, corresponds with Perry's Position 5 (Relativism). One question that needs to be considered is whether Belenky's model successfully accommodates the potential complexity of female metacognition. Since Belenky does not
spend as much time exploring the cognition of the highly educated women as she does exploring the cognitive patterns of less educated women, she may not be acknowledging female meta-cognition in all its complexity. However, this model offers a valuable look into the way women think and why women may respond differently from men to classroom instruction. It also offers insight into why women may respond differently from men to certain assignments, showing more interest in some than in others.

Belenky contends that women in college need to be taught right away that they are capable of intelligent thought and that the mind does make mistakes. She indicates that "Confirmation as a thinker and membership in a community of thinkers comes as a climax of Perry's story of intellectual development in the college years. For women, confirmation and community are prerequisites rather than consequences of development" (134). It is important to consider Belenky's assertion that some of the women in her study "were so consumed with self doubt that they found it difficult to believe a teacher's praise, especially when the teacher was a man" (197). She claims that educators must understand the unique perspective on life that women experience in order to properly educate them. Educators must understand that women have an added interest in getting through life minute-by-minute, according to Belenky. She states, "Women see things close up and are more concerned with minutiae" (199). They prefer first-hand observation
whereas schools traditionally "focus on out of context learning" (200). Women need to see personal involvement in order to feel personal achievement (203).

Kitchener and King: Reflective Judgment

Just as William Perry's theory of intellectual development spurred on Belenky et al. to look at women's ways of knowing, it also encouraged Karen Kitchener and Patricia King to develop their own theory about the way students justify their beliefs. Where Belenky et al. were bothered by the use of only male subjects, Kitchener and King were bothered by the shift in Perry's scheme at positions 7, 8, and 9. Kitchener and King saw that positions 1 through 6 were tracing students' intellectual development, but in discussing positions 7 through 9, Perry shifted his focus to ethical development. Kitchener and King wanted to build on Perry's model by investigating more thoroughly one aspect of students' cognitive development in college, one that is very important for teachers who require argumentative writing: how do students justify their beliefs?

To gather information, Kitchener and King devised four dilemmas that they asked students to address during lengthy interviewing sessions every year they were in school. These dilemmas presented the students four "ill-defined problems," that is, problems for which there currently exists no single verifiable answer. The four dilemmas in
the Reflective Judgment Interview Dilemmas read as follows:

1. Most historians claim that the pyramids were built as tombs for kings by the ancient Egyptians, using human labor, and aided by ropes, pulleys and rollers. Others have suggested that the Egyptians could not by themselves have built such huge structures, for they neither had the mathematical knowledge, the necessary tools, nor an adequate source of power. They claim that the Egyptians were aided by visitors from other worlds.

2. Some people believe that news stories represent unbiased, objective reporting of news events. Others say that there is no such thing as unbiased, objective reporting, and that even in reporting the facts, the news reporters project their own interpretations into what they write.

3. Many religions of the world have creation stories. These stories suggest that a divine being created the earth and its people. Scientists claim, however, that people evolved from lower animal forms (some of which were similar to apes) into the human forms known today.

4. There have been frequent reports about the relationship between chemicals that are added to foods and the safety of these foods. Some studies indicate that such chemicals can cause cancer,
making these foods unsafe to eat. Other studies, however, show that chemical additives are not harmful, and actually make the foods containing them more safe to eat. ("RJI Format" 124)

Based on the students' responses to these dilemmas, Kitchener and King constructed a seven stage model for how college students change in the way they justify their beliefs as they progress through college. The purpose of the model is to illustrate the changes that occur as adolescents and adults develop their understanding of the process of knowing. This process allows a person to become better able to evaluate a point of view on controversial issues. Specifically, the model describes the shifts that occur in assumptions about knowledge and in the way a person justifies his or her beliefs or decisions.

The changes in reasoning are described by seven distinct sets of assumptions about knowledge and how it is acquired:

Each set of assumptions is characterized by its own logical coherency and each successive set or stage is posited to represent a more complex and effective form of justification, providing a better means of evaluating and defending a point of view. Specifically, sets of assumptions that develop allow a greater differentiation between ill-structured and well-structured problems and allow more complex and complete data to be
integrated into a solution. (Kitchener and King 4)

Karen Kitchener, in "Educational Goals and Reflective Thinking," asserts that "reflective judgment is firmly based on rational inquiry, such thought is more likely to be true since it requires on-going verification" (77). The seven stage reflective judgment "model suggests that reflective thinking or critical inquiry is more than a discrete set of skills which can be taught independently of each other" (80).

For the sake of convenience, Kitchener and King's seven stage model can be broken into three primary stages of growth representing the students' moves from dogmatism to skepticism to reflective thought:

**Stage 1** is characterized by a concrete, single category belief system: what I observe to be true is true. This represents a "copy" view of knowledge, the belief that there is an absolute correspondence between what is perceived and what is. As a result, problems are not acknowledged. Beliefs require little or no justification since it is assumed that observations lead directly to truth. Since knowledge is absolute and predetermined, judgments which presume uncertainty are not made.

**Stage 2** is characterized by the belief that there is a true reality that can be known with
certainty, but which is not known by everyone. The admission that truth may not be directly and immediately known represents an advancement over stage 1. The individual moves from an egocentric, single category belief system, "What I observe is true," to a two-category belief system in which single concrete concepts can be related: some beliefs are true and others are false. (Kitchener and King 5)

In stages 1 and 2, students exhibit very dogmatic thinking, viewing the world in very "black or white" terms. There are no gray areas of inquiry. Knowledge is authority based, and truth and knowledge are not problematical because they are accepted without question (Kitchener 81).

Stage 3 is distinguished by the acknowledgment that truth is temporarily inaccessible because knowledge cannot always be easily known. The belief is maintained that absolute truth will be manifest in concrete data in the future. In the meantime, while evidence is incomplete, individuals cannot claim to "know" beyond their own personal impression or feelings. Uncertain beliefs are justified on the basis of what feels right or what one wants to believe at the moment. Stage 3 expands stage 2 categories into true knowledge, false claims, and temporary uncertainty. Diverse points of view, different theories, etc. are assimilated as areas of uncertain knowledge. Since individuals maintain the belief that truth will be known at a future date, the
implicit assumption is that all problems are ultimately reducible to well-structured ones.

Stage 4 is characterized by the belief that reality cannot be known with certainty. . . . Stage 4 advances over stage 3 in the recognition that uncertainty is not a temporary condition of the knowing process, but a legitimate part of it. This acknowledgment gives ill-structured problems a legitimacy and allows them to be differentiated from well-structured ones. Since abstractions cannot be related, conclusions cannot be drawn about the relationship between knowledge and evidence, evidence and justification, etc. Thus, the individual may fall back on earlier strategies by claiming, for example, knowledge is based on feelings and evidence, or slogans, e.g., "everybody has the right to their own opinion."

(Kitchener and King 5-6)

In stages three and four, "beliefs are based on emotional commitments." Students are "skeptical about rationally knowing anything" (Kitchener 81). They cling to the belief that objective truth exists, but they acknowledge that truth is uncertain. They begin to realize that authority is not an absolute source of truth. They believe that unless truth is knowable, opinions are unjustifiable. "Rational inquiry is rejected as a methodological source of knowledge and so are the assumptions underlying reflective thinking"
Stage 5 is distinguished by the belief that knowledge must be understood within a context. This belief is frequently labeled "relativism" by subjects. The logic is that knowledge is related to evidence: evidence is related to interpretation; and interpretation is related to context; therefore, knowledge is related to context. The improvement of stage 5 over stage 4 is the ability to relate two abstractions, e.g., interpretation to context. . . . This allows the individual to move beyond the idiosyncratic justifications of stage 4 and to see justification in relationship to interpretation within a particular perspective. It remains unlimited, however, by the inability to relate several abstractions into a system which allows comparison across domains. When faced with ill-structured problems, this limitation offers the individual no way to integrate perspectives and draw beyond limited relationships. (Kitchener and King 7)

In stage five, students exhibit skeptical and multipliastic thinking. They acknowledge the many different viewpoints the world offers but adhere to the belief that individuals have the right to their own opinions. At this point students do not make judgments about whose ideas are better founded.
Stage 6 is distinguished by the belief that while knowledge must be understood in a relationship to context and evidence, some judgments or beliefs may nevertheless be judged as better founded than others. This claim is based on principles of evaluation that generalize across contexts rather than on principles that are specific to a context. In other words, subjects can compare the properties of the two contexts and combine them into a system that allows for simple judgments. Relating issues across domains allows an initial basis for forming judgments about ill-structured problems, e.g. a particular solution is better founded, even though the solutions are of limited generalizability. (Kitchener and King 7-8)

According to Karen Kitchener, in "Educational Goals and Reflective Thinking," students in stages five and six "abandon the belief that an objective reality exists. They believe that what is known of reality reflects a strictly personal and subjective knowledge. Knowledge is ultimately uncertain and problematical. Judgments are based on subjective interpretation of the world and do not lead to knowledge in a more objective sense" (84).

Stage 7 is characterized by the belief that while reality is never a "given," interpretation of facts can be synthesized into claims about the
nature of the problem under consideration that are epistemically justifiable. Knowledge must be constructed via critical inquiry or through the synthesis of existing views and evidence into more cohesive and coherent explanations. It is possible, therefore, through critical inquiry or synthesis, to determine that some judgments or interpretations have greater truth value than others and/or to suggest that a given judgment is the most reasonable current solution to a problem. (Kitchener and King 8)

According to Kitchener and King, "In stage seven, knowledge is the ultimate product of reasonable and rational inquiry. The inquiry process may be evaluated as a more or less approximation of the truth. Beliefs are justified through a process of rational inquiry" (Kitchener 85). The Stage 7 ability to synthesize several stage 6 systems into a general framework or model of inquiry is an improvement over the simple system of Stage 6. The components of this metasystem include a system of justification and a system of knowledge which change over time. At stages 6 and 7, students realize that their thinking can be fallible. They will hold a position firmly, but they recognize that the introduction of new knowledge can make them change their position in the future.

For a number of reasons college students do not all reach the stage of reflective thinking as undergraduates.
Kitchener gives three possible explanations for why students' reflective thinking is not fully developed during the college years.

1. Reflective thinking is not taught or taught poorly and or reflective thinking is taught as a set of critical thinking skills without the underlying epistemological assumptions.

2. Reflective thinking may be purely maturational--students develop plateaus after leaving school.

3. Education is the impetus which forces the individual to reexamine current assumptions and reformulate new ones to accommodate the incoming data. (Kitchener 87)

Kitchener calls for an awareness of student cognitive development:

What the apparent logical relationship between dogmatism, skepticism, and rationality suggests is that there are several necessary steps which are prior to the development of reflective thinking. If educators are not going to impose unrealistic goals on their students, they must understand that students cannot move from dogmatism to reflective thinking without confronting the issues of skepticism and relativism. (90)

Perry, Belenky et al., Kitchener and King, all trace ways that students thinking becomes more sophisticated as
they move towards graduation. All of them also agree that these changes take place slowly and can be attributed to a number of different causes. No single class, no single experience, is responsible for cognitive growth. All these theorists agree that what develops students' thinking skills is their total college experience both inside the classroom and out. Thus, the responsibility for students' intellectual development is shared by all the disciplines. One way that the various disciplines can help the students develop intellectually is through the use of writing. Any instructor interested in using writing to help develop her students' cognitive skills would have much to gain from being familiar with the writing across the curriculum movement.
Chapter 2
Writing Across the Curriculum (WAC)

Course Philosophy

At universities across the country, writing across the curriculum (WAC) has become a popular movement over the past decade or so. In his article, "Writing Across the Curriculum," James Kinneavy states that "the central idea behind the various practices seems to embody a resurrected sense of responsibility of entire faculties and administrative bodies for the literacy competence of the graduates of our high schools and colleges" (14). According to Kinneavy, the alarming decline in recent SAT, ECT, ACT, and GRE scores has helped trigger the Writing Across the Curriculum movement, along with a general feeling that, the reading and writing skills of contemporary students are clearly not as refined and developed as their parents' were. Kinneavy contends, "Writing across the curriculum may become the most important and far-reaching of these responses to what has been called the literacy crisis" (14). Writing across the curriculum stresses the importance of writing to all disciplines. Since, "the ability to write intelligent prose has been the hallmark of the educated person from antiquity to the present," adherents of the writing across the curriculum movement endorse the idea that the act of writing reinforces the learning of every subject and therefore should be incor-
porated into each discipline (14).

Most WAC programs are based on seven major assumptions. First, writing represents a unique way of learning any subject matter. Writing is not only a different way of learning material, in most cases it is the best way. Second, writing is a "meta-discipline," that is, writing skills are important to all fields of study. Third, because the ability to write is essential to success in all disciplines, it is the responsibility of all disciplines to teach writing. Fourth, each discipline is a unique "discourse community" with its own assumptions about language use, argumentation, research, etc. Fifth, in college, students learn how to participate in these various discourse communities, how to understand and join on-going conversations in the disciplines. Sixth, instructors in each discipline are in the best position to teach students how to write and communicate effectively in that discipline. Finally, because the study and teaching of writing has been the responsibility of the English departments, English teachers are in the best position to act as consultants to instructors in other disciplines who would like advice on how to incorporate more writing assignments into their courses (Wilhoit).

Program Structure

Kinneavy outlines two different ways schools have structured WAC programs: horizontal and vertical. The horizontal approach to writing across the curriculum typically assumes one of two forms: an individual subject ap-
proach or a centralized generic system. In the individual subject approach to writing across the curriculum, the various departments accept the responsibility to teach their students how to compose in the language of their discipline. Typically, the English department acts as a consultant in the process, but the teaching of these specialized writing courses is conducted by faculty in each specific department. Centralized generic systems, however, incorporate the notion that all students "should write prose about the concerns of their disciplines, but they centralize the responsibility of training students in individual writing departments, usually English or rhetoric" (Kinneavy 15). For example, the biology department would accept the responsibility of teaching students how to write lab reports and biology term papers. The psychology department would teach their students how to report on psychology experiments, and so on. The responsibility of the English Department is to teach the students the proper rhetorical principles that are required to make their writing effective in their various disciplines. Across the curriculum, the various disciplines would be teaching their students the different writing requirements present in the certain subjects.

The vertical approach to writing across the curriculum focuses on teaching students how to write at more and more sophisticated levels as they progress toward graduation. Studies at Harvard and Bradley have shown that the writing skills taught early in the college career tend to deterio-
rate if not reinforced in the upper-class levels (Kinneavy 14). The vertical approach to writing across the curriculum seeks to develop writing courses that become progressively more advanced with the intellects of the students as they advance through their college years. For example, a student in his first year may take an introductory course in expository writing conducted by the English department. In his sophomore year, he may take a literature course based in the English department. In his junior year, he may take an expository course in his major taught by a professor in his major. And, in his senior year he may take an advanced writing course or a research course in his major, taught by a professor in his major.

Neither of these approaches is without corresponding problems. In the individual subject approach, each department is in charge of teaching writing for that particular discipline. The person teaching this writing course is usually going to be an expert in the field, intimately familiar with the subject, vocabulary, "and the methods of reasoning and the major genres of the field" (Kinneavy 15). Those who are not familiar with the jargon of the particular discipline are looked upon as outsiders. Students' essays, consequently, often use quite technical and specialized language because the audience of their writing is an expert of the field. As Kinneavy observes, "There are obvious pedagogical advantages to this relationship" (15). Although students may be able to write coherently in their
specialized fields, they may become severely handicapped when asked to convey their knowledge to an audience who is unfamiliar with the technical jargon of the discipline. Kinneavy points out:

Students do not learn to address a popular audience, they use jargon of the trade, and they make no concessions to the university at large. The departments isolated, fragmented and increasingly withdrawn from a common intellectual ferment. Even more important, the specialist does not attempt to go beyond the university community and speak to the populace at large. Students write esoteric prose, often incomprehensible even to university comrades, a fortiori to the great unwashed. (15)

Another commonly cited drawback to an individual subject approach to WAC is that rarely are these experts in the various fields trained to teach writing. Frequently, these teachers are writers themselves and know how to write effectively in their fields. But knowing how to write and being able to teach students who do not know or understand the field are two very different skills. "We all know something about the English language since we use it every day, but that does not make us linguists or speech teachers. We all think, but that does not make us logicians" (Kinneavy 16).

With a centralized WAC, the student writer has as his
audience the generally educated reader. Therefore, the student cannot compose prose that is saturated with the technical jargon of a particular discipline. The "task" of the writer is to convey the "intricacies" of a particular subject to an audience that possess less knowledge than the writer:

The rhetorical effects of such a task are massive. The writer must eschew the usual genres of the career specialist, translate technical vocabulary into language the generalist can understand, and sacrifice subtlety in argumentation and methodology. All these constraints are distinct losses. And, if one argues that specific disciplines really do have their own logics, then the unique logic of a discipline is adjusted to the general logic of the educated reader--assuming there is such a thing. (Kinneavy 17)

There appear to be two major advantages to this approach. First, the university is freed from teaching the entire faculty how to be expert writing teachers. Second, since the students of each discipline are required to write to a less informed audience, there is less danger of the disciplines becoming fragmented and isolated from each other. There will be a greater possibility for the imposition of a "common language on the university community" (Kinneavy 17). On the other hand, being required to write to a general university audience, students will lose some of
the precision of the technical nature of the language in their disciplines. In addition, the English teacher may not be familiar with the discourse community of the different disciplines and may not have the experience of writing in that field.
Chapter 3

The Role of Writing Courses in Vertical WAC Programs

Kinneavy suggests that there should be five requirements for a WAC English program. First, there should be a vertical sequence to prevent any deterioration of the writing skills learned in the beginning years of college and to continue to refine these skills as the student progresses toward graduation. Second, there should be some type of training program for teachers in disciplines other than English who are going to teach writing. Knowing how to write and knowing how to teach writing are not synonymous skills. Third, "there should be a period where the mature student explains his or her discipline to a general reader in a common university dialect." Fourth, there should be a "period where students can write as subtly and esoterically as they wish in the genres of their careers to an audience of peers or superiors." Fifth, "there ought to be recognition that literacy is the concern of the entire faculty since it is the cornerstone of a higher education." This recognition will most likely be accepted by most disciplines, yet will all disciplines accept the responsibility of teaching students to be literate? Finally, Kinneavy suggests "there should be a system of accountability at all levels of a vertical continuum" (17).

Kinneavy points out that writing courses in a vertical
WAC program should focus their attention on "the rhetorical principles that transcend the departments" (16). These rhetorical principles include careful description, explanation and proof, problems of definition and classification, and considerations of style and audience. This type of focus would help to prevent the fragmentation of the "university community" that Kinneavy warned against.

A Specific Vertical WAC Course Sequence

Those who endorse a WAC approach to education value both the liberal arts tradition and the epistemic nature of writing. It is these ideals that are promoted throughout the vertical WAC writing course sequence. When students begin college, on the average, there will be a need for the traditional "freshman composition" course. Students will most likely need to learn or refamiliarize themselves with the basic rhetorical principles of the writing process. They will need to adjust to the demands of reading college material critically. The texts in such an English course could include a grammar handbook to review basic mechanics and an anthology of readings taken from disciplines across the curriculum.

Usually, the focus of the introductory composition course must be on teaching first year students how to compose academic essays. The students in this beginning writing class would benefit from multiple revisions. At this level, the students seem to develop their writing skills to a greater extent when the instructors offer a
chance to correct mistakes and simply provide more practice writing. Usually at this stage, students have a difficult time taking an objective view of their writing. The revision process can be aided by the use of peer editing, allowing students to pair up in the classroom and evaluate each other's essays. Peer editing sessions allow the students to begin to see the world multiplicly. Very often, the partners will challenge each other's ideas and a writer will discover that not only does someone else hold another view, but in order for someone to accept her view, she is going to have to provide more evidence or support. In a writing class at this first-year level, class discussion can be a crucial classroom activity. The more exposure that students receive to multiple perspectives, the better they will see that dogmatic thinking is not acceptable in an academic environment.

The instructors will be required to respond to student work on a number of different levels. First, the instructors must evaluate content, attempting to move the students away from dualistic thinking patterns by the comments and questions they placed on the essays. Second, the instructors must evaluate the organization of the essay. Most academic writing requires that certain organizational conventions be mastered. These conventions cut across disciplines, for example, developed introductions and conclusions, transitions between ideas, etc. Finally, students of this introductory writing class must master the mechanics of
the language, grammar, punctuation, etc. The instructor will be required to respond to all of these elements placing the most emphasis on content and organization while not neglecting mechanics.

At the sophomore level, Kinneavy suggests that the focus of the WAC writing course should switch to literature with the composition component becoming secondary. He feels that this emphasis on literature is an effective means of continuing the liberal arts tradition. Widick cited studies which "found that conflicting themes in literature provide a powerful catalyst for growth in students whose characteristics are similar to the dualistic stage of development" (33). At this stage students are able to continue the development of their writing skills and at the same time begin to see the value of writing in other disciplines. The students should be able to understand the epistemic nature of writing and be able to apply it to their other classes. In a vertical sequence, the English department has a primary interest in the development of writing skills, but there is the added acknowledgment that students will learn most effectively when they have a personal interest in the subject. If the students have primary interests in disciplines other than English, the topics for the assignments in a WAC English course of this level should allow the students to incorporate into their assignments their individual interests. By using literature in the course, students will begin to understand the complexity of
the world and of human interactions. They could apply this new view of complexity to subjects other than literature to come to fully understand various issues to a greater degree.

For example, while reading Hemingway's "Hills Like White Elephants," students could take the issue of abortion and study it from multiple perspectives. What types of political ramifications does the issue of abortion have? What types of social issues are brought up in the light of the abortion issue? What types of long term and short term biological effects does abortion have on the population? Perhaps an appreciation of literature could provide a potential starting point for students to develop an appreciation for writing as a mode of learning and for the writing process not only in their English class, but in their classes across the disciplines.

Perhaps stories representing very different perspectives of certain themes could facilitate argumentation. For example, stories that take a very cynical view of love could be paired with stories that illustrate a romantic view of love, leading to questions over which is a more accurate portrayal? The course could then shift to other subjects that require similar thinking skills. A reader with multiple and opposing views could also be used as a basis for creating arguments aimed at leading students from multiplistic to relativistic thinking.

Revision and peer editing could serve the same purposes as in the introductory English course only at a more
sophisticated level. The peer editors would address more complex problems and aid the writer in more involved ways. For example, the editor might be required to offer suggestions on how to strengthen the argument instead of just pointing out that a certain area of the argument is weak. The multiple revisions will provide the students with the added opportunity to practice their writing skills and learn from their mistakes.

The instructor in this class places a new emphasis on supporting assertions with proof. She attempts to aid her students in viewing various issues from multiple perspectives by showing them sides of an issue that they have not spoken to but need to address. Comments made in the margins and at the end of papers can help the students begin to see the relativistic nature of many ideas. However, while the instructor is attempting to achieve the larger goals of moving her students along cognitively, she must also respond to her students' work by addressing organizational and mechanical problems as well.

Kinneavy suggests that writing across the curriculum comes into full swing in the junior year of college when the ability to convey specialized information to a general reader becomes important. The junior year vertical WAC program sees the different departments set up their own writing courses so that students learn to convey their knowledge to a general reader. A course of this type teaches the students that it is important to be able to
convey their knowledge to people who do not possess as much expertise in the discipline as they do, thus preventing the disciplines from becoming completely isolated from each other.

Peer editing may become less useful at this point because the readers of the prose will all be students in the same major and perhaps less able to detect instances when the writer needs to include more clarification. The best case would be to have students from different majors read and edit each other's prose. The instructor will be given the burden of evaluating whether the students are writing prose that a general audience will be able to comprehend. She must respond to her students' work by correcting errors in content, organization, and mechanics and pointing out how mistakes in these areas can confuse the audience the students are attempting to address. The texts for this course would include a reader containing samples of the types of writing common in that particular discipline. Classroom activities could include reviewing professional essays composed by experts in the students' field who were addressing a general audience. The students could also be required to research the potential careers they may hold when they graduate and determine the occasions when they might be required to write to a general audience.

In the senior year of a vertical WAC program, students take a specific subject course with a heavy writing component. The audience of the prose produced in this course
will be an expert in the specific subject area. Students are permitted to write technical prose and experiment in writing in the specific genres of their majors. This course allows the students to master the discourse conventions of their field. The readings in this type of class would include textbooks that address the intricacies of the writing process in a particular discipline. These students will be required to explore all the types of writing that they might have to compose once they enter their respective careers. The peer editing sessions will become more useful at this point since the students, now in the final year of their studies, will most likely be able to effectively evaluate each other's writing. However, the ultimate evaluator of the students' prose will be an instructor who is an expert in the discourse community which the students' are attempting to enter. The instructor, at this point, will be able to help the students make their writing as precise as possible. Evaluation will be based on how well students are able to manipulate the language of their disciplines.

The vertical writing across the curriculum sequence of writing classes serves two main purposes. First, it attempts to refine the students' writing skills to greater degrees as they progress through college. Providing students with writing classes throughout their college career helps assure that their writing skills will not deteriorate. Students will begin to understand the epistemic nature of writing as they grow and mature intellectually. Second, the
vertical WAC sequence attempts to not only give the students a proficiency in writing in their majors but writing for readers in all fields, as well.
Chapter 4

The Role of a Writing Course in a Horizontal WAC Program

In a writing across the curriculum program, writing is valued for its epistemic nature. Writing is a common medium that all disciplines use to facilitate the intellectual growth of their students. Students come to know and then fully understand their subjects when they are asked to write about them. Even courses such as calculus, chemistry and physics can incorporate writing into their classes, whether it be writing out how problems are solved or writing research papers about the advent of various discoveries in the field. However, writing can be valued not only for its epistemic nature, but as a tool for facilitating intellectual development across disciplines as well. With a primary goal of facilitating the intellectual development of their students, the instructors in each discipline would be required to reexamine the content of their courses, insuring that it is constructed in such a way that student intellectual development is helped rather than hindered. An integrated curriculum with a focus on intellectual development would have the potential to produce students with clearer thinking and writing skills in addition to a thorough understanding of their particular field of study.

As seen in the previous chapter, a vertical WAC program has the potential to foster student cognitive development by
demanding more sophisticated forms of writing and thinking each year the student is enrolled in college. Yet, such programs are rare. The demands they make on faculty across the disciplines are great and coordinating instruction over all the disciplines is difficult. More common are centralized horizontal WAC programs, where English departments bear the responsibility of introducing the students to the discourse and research conventions of the humanities, social sciences, and natural sciences. How can these WAC English courses be structured to best prepare students for the types of assignments they will have to complete in their other college courses? How can the instructors in such courses foster the intellectual development of their students?

Barry M. Kroll believes that "one of the goals of a writing course should be intellectual growth—growth, that is, out of dogmatic, authority-centered thinking, through relativism, and at least to the fringes of reflective judgment" (11). Carole Widick and Deborah Simpson contend that in order to reach this goal, "One must consider what kind of development is possible and feasible in a college classroom, what psychological processes are involved in development and in subject matter learning, and what methods of teaching stimulate the processes of learning and development" (28).

Widick and Simpson stress the importance of providing a non-threatening environment that helps students move from dualistic thinking into relativism. They assert that in order to progress from one level of intellectual development
to another a degree of "cognitive dissonance" must be instigated to facilitate the move. They refer to Perry's data which suggests that the cognitive dissonance can be achieved in dualistic students simply by "being confronted with pluralistic viewpoints" (33). At the same time that cognitive dissonance must be created to promote intellectual growth, Widick and Simpson contend that too much complexity can stifle student development or cause a negative effect.

A gradual introduction to diversity appears to be imperative. According to Widick and Simpson: "... the structure of the subject matter can be too elaborate or complex, inhibiting rather than facilitating learning. ... Thus, steps to moderate or gradually introduce diversity appear to be a necessary functional element in a dualistic instructional program" (33).

In addition to a gradual introduction to diverse viewpoints, Widick and Simpson emphasize the "importance of direct experience in learning and development" for dualistic thinkers. They note that experts contend such tangible experience is vital for students who have trouble comprehending the abstract. "Learning activities that provide a direct, immediate personal experience of the relativistic world may be a necessary augmentation of the structure of the subject matter to foster dualistic student development and academic performance" (33-34).

Widick and Simpson found that individuals tolerate the amount of ambiguity that is equal to their skill in synthe-
sizing data. They feel this is an important considerations when designing a course: "Unguided learning activities exceed dualistic students' capacity for uncertainty, particularly the subject matter is offered as a pluralistic mosaic" (34). The guidance teachers provide sets up a framework from which subsequent learning occurs. Widick and Simpson contend,

Without such a framework, students with dualistic structures may be overtaxed, whether the task requires either mapping a particular content or a plan for one's learning. Dualistic students seem to need specified and externally directed learning activities and only a few demands for self direction. (34)

One way to help students move out of dualism is to force them to eventually synthesize multiple points of view using writing as a tool to understand their diverse subjects. This is why an English course in a horizontal WAC program that stresses cross disciplinary study is particularly useful as a way of promoting cognitive development. Because the readings in such a course are drawn from various disciplines and multiple perspectives, in order to make sense out of the material students are forced to summarize, analyze and synthesize information, merging the different viewpoints to form their own opinions. By its very nature, a WAC English course encourages students to develop their thinking in just the ways that Perry, Belenky, and Kitchener and King
characterize as more cognitively developed.

Although stimulating intellectual development is a worthwhile goal, it is important to keep in mind student limitations. Janice Hays found in her studies that students moving from multiplicity to relativism produced writing that was "flawed and incoherent" (45). "In fact, the incoherence which we writing assessors penalized, probably indicated that these students were in transitions to more complex styles of reasoning and thus had difficulty integrating all their ideas about the topic" (45). Hays asserts that teachers should not penalize students for conceptual growth (45). Only with a knowledge of student intellectual development can teachers best facilitate the maturation process.

There are probably countless ways that instructors are actually unconsciously inhibiting the intellectual growth of their students simply because they are unaware of how to facilitate it.

**Structuring a WAC English Course to Promote Student Cognitive Development**

An English course in a horizontal WAC program can be designed to facilitate the growth of students' intellectual maturity by carefully sequencing assignments, selecting readings from across the disciplines, conducting class in order to promote the sharing of ideas, and responding to assignments in ways that both challenge and support.

**Assignments**

**Summary**
Barry Kroll begins his writing course by having his students write a summary of a single article. He feels that summary is a useful tool students will use over and over both in his course and throughout college. He notes that writing a summary helps the students see that they can put an author's ideas into their own words without significantly changing the meaning. Summary helps remove the sense of awe students may feel for the printed word and shows them that they do not need to rely on extensive quotation to express ideas when they can paraphrase the material just as well (12). The summary begins to break down the "authority-as-all-powerful" idea that many dualistic thinkers have. In addition to these important lessons, writing a summary teaches the student to remain objective and simply present the author's point of view, an added challenge to the dualistic student who may hold beliefs counter to what is represented in the article. It is often difficult for these students to fairly represent "the opposition's" point of view without interjecting their own opinion. As Perry points out, remaining objective is extremely difficult for the dualistic thinker. The summary forces the beginning writers to acknowledge another's point of view and represent it fairly and objectively which can shake their dualistic foundations.

Response

The response essay gives students a chance to express their own opinions about an assigned reading and serves as
intermediary step between summary and critique. "The critique requires students to support their evaluations of readings with evidence. For some students, this task may be too overwhelming without first having the chance to practice expressing and supporting their opinions. The response essay teaches the students that they must begin to "link their own thoughts to an authority's views" (Kroll 12). The students must engage specific points in the source that they are responding to and not simply expound on the topic in general.

But if some students produce responses unrelated to the article because of their dogmatic commitments, others seem to produce unrelated responses because they view a "response" as merely another "opinion" on the topic--an opinion which need not bear directly on the views of the author of the article. For these students, an opinion is an opinion--there is no need for justification and no reason to challenge another's views. This attitude seems related to the implicit epistemology of students in the dogmatic-contextualist transition, a time of drift and skepticism about resolving issues or evaluating points of view. (Kroll 13)

By requiring the students to respond to specific points in the source essay, the response essay will help move students out of dogmatism and toward more sophisticated patterns of thought.
Critique

The next stage of the writing course needs to focus on teaching the students to support their opinions with textual evidence. The instructor emphasizes that it is permissible for them to possess opinions, but now these opinions must be supported to hold weight in the academic environment. The student's thesis for a critique is an assertion of the overall worth of the source argument. When writing the essay students must first represent the author's stance in an objective, descriptive summary. They must then pinpoint places in the argument that illustrate why the argument is strong or weak. The task does not stop here though. The students must also support their opinions with evidence or proof that explains why these aspects of the argument are strong or weak. This task may provide an added challenge for students who feel they should not challenge authority. To many students, if an author is able to publish his work, he is, unquestionably, in a position of authority. To suggest that an author has written a weak argument or has failed to consider key points is often difficult for beginning writers to understand. This assignment forces students to not only challenge authority but to bolster themselves as a authority by proving that their overall assertion of the article's worth is accurate. By supporting their opinions with evidence, students learn that they, too, can be seen as knowledgeable.
Kroll points out that students are "reluctant to link their own thoughts to an authority's views" (12) perhaps because they feel that their views are not worthy of this linkage. Belenky's Received Knowers, who do not see themselves as being capable of generating knowledge, would have a particularly difficult time with this assignment. The instructor needs to be aware of this difficulty and provide added support and encouragement. However, by assigning the task of "the critique," teachers can help their students learn lessons that assertions can and must be backed up with evidence. Students will begin to realize that their own opinions are important and worthy of examination.

Synthesis

The idea that the students' opinions are important and worth further examination needs to be reinforced. At this point, students will most likely have acknowledged that multiple points of view on issues are inescapable. According to Perry, when students become threatened or overwhelmed, they can regress into earlier stages of development. It is important for the teacher to be aware of the threat that some of her assignments can pose and work to move her students along gradually. By reinforcing the importance and relevance of the students' ideas, this threat may be lessened. In a "synthesis" essay, students are asked to address an issue with multiple and conflicting sides, objectively represent each side of the issue in writing, then ferret out the points from each side of the
issue that they can synthesize into a position of their own.

The goal of this assignment is to begin to move students out of multiplism and into relativism. The challenge posed for students is taking a stand on the issue; they cannot escape responsibility by hiding behind the slogan, "everybody has a right to his own opinion." Students must also back up their position with an explanation of why they chose that stance. This assignment will reinforce in students the idea that their ideas are worth examining and writing down in an essay. The focus of the synthesis is the student's position rather than the position of the "authorities." The students should choose their own topics for this essay. If the issues have a personal appeal to the student, then they will write more effectively about them.

This assignment offers the students a gentle entry into the realm of relativistic thinking. By addressing complex issues, students will begin to see that questions and answers can be contextual in nature. Students begin to see that certain questions are answerable in some contexts and unanswerable in others. However, instructors must keep in mind Hays's warning about the possible change in the quality of prose as students travel into a new stage of intellectual development. She warns that the quality of prose can often become incoherent as the student struggles with new ways of thinking. This insight makes sense in the light of the fact that the writing can only reflect what the mind is thinking; if the mind is confused, then the writing can only reflect
that confusion. Yet writing instructors can instill in their students the idea that writing can be used as a medium for exploring and understanding a subject.

These assignments can complement the WAC program by gradually introducing students to the various discourse communities. As the semester progresses, the students will write more and more sophisticated syntheses of readings which are increasingly drawn from a variety of fields. The syntheses will reflect the various discourse conventions of the different disciplines. For example, students could synthesize psychology articles using proper APA format or articles on physics or chemistry using CBE documentation.

Readings

A first-year horizontal WAC English course would require readings that offer multiple and conflicting views of the same issues to facilitate the move from dualistic to multiplistic to relativistic thinking.

The readings serve several purposes in a WAC English course. First, they serve as models allowing students to see the discourse and inquiry conventions of the different fields. In addition, the models will teach the students the proper style and methods of documentation. The students will see the epistemic nature of the readings as they create knowledge by synthesizing information from different disciplines.

Second, the readings in this course serve to challenge and support the student's intellectual growth. A dualistic
thinker finds support in reading an article that espouses the same position as he does on a controversial subject. This same type of thinker is challenged, however, when asked to recognize that there are other points of view. The summary essay reinforces this challenge when the student is asked to objectively represent ideas that are in direct opposition to his own.

For a multiplistic thinker, support is found in the discovery that there exists in the world multiple points of view on issues and that authorities often disagree. Multiplistic students are challenged to move toward more relativistic thinking when they are asked to begin to critically assess these multiple points of view and take a stand on the issue.

Relativistic thinkers find support in the readings when they see authorities in different disciplines synthesizing various points of view into new positions. Instructors can challenge these thinkers by asking them to clearly synthesize various readings into positions of their own.

**Classroom Practices**

**Class Discussion**

The more students are exposed to a variety of beliefs, the quicker they will begin to move out of dualistic thinking. Class discussion can be an especially vital component of an introductory WAC English course. During class discussions, the instructor should play the role of a facilitator, allowing her students to carry the discussion
as much as possible. At times, students seem to listen to each other more attentively than they to the instructor. A student confronted by another student whose belief system is in direct opposition to her own has potentially more to learn in a class discussion from her peer than from the instructor. On the other hand, many students in their first year of college seem to think that all of their peers probably feel the same way they do about important issues. Class discussion can become an avenue that leads students to more multiplistic thinking, to the realization that intelligent, capable, moral people can disagree about important questions. For a multiplistic thinker, having to justify a belief during class discussion can help reinforce the move into relativism. Instead of just being able to state an opinion, she will have to defend and support a position.

Peer Editing

Peer editing gives students an additional opportunity to come into contact with their peers' positions on various issues. Since-first year students frequently have difficulty objectively reviewing their work, a system of peer editing can be implemented to help in the revising process. Peer editors serve to provide a more objective viewpoint of their partner's writing and possibly provide a catalyst for a move out of dogmatic thinking. In the peer editing process, students come into direct contact with their partner's beliefs. Peer editing sessions ask for suggestions from the
editors which often confront the writer with a view of the topic that he or she has not addressed.

During a typical peer editing session, students are paired off or work in small groups, reading each other's essay and answering questions the teacher has prepared to guide their response and evaluation. These peer edit sheets or guidelines contain specific aspects that the editor is supposed to evaluate, for example, checking to see that the writer has provided a clear thesis statement, developed an introductory paragraph, etc. Not only does the peer edit sheet ask the editor to pinpoint problem areas in the essay, but it may also ask the editor to offer suggestions on how the writer might correct these problems. Usually, in the beginning of the semester, the peer edit sheets require the students to perform relatively simple editing tasks; then as the semester progresses the students are asked to employ more sophisticated editing techniques.

There are two major problems that may arise in a peer editing session. Sometimes students may be reluctant to criticize the writing of their partner. They may feel that the writer's feelings will be hurt by negative comments or perhaps the editors may not feel that they have enough authority to say anything "bad" about another's writing. Consequently, peer edit sheet may contain only compliments and very few, if any, suggestions on how the writer might improve her essay. On the other hand, some students may use the peer editing sessions to overly criticize their part-
ner's essay leaving the writer exasperated, not knowing where to begin to correct the mistakes. More often than not, these types of occurrences can be deterred by clear instructions at the beginning of each session. The instructor needs to explain to the students that they are all writers in a discourse community dedicated to helping each other improve their writing skills. The students need to be aware that although compliments may soothe the writer's ego, they will not necessarily improve the writer's prose. Instructors also need to explain the difference between constructive criticism and cruelty. Once the ground rules are established, the peer editing session are usually more productive.

Group Project

While the classroom practices established in a WAC English class should give the students an opportunity to come into contact with each other's ideas, various assignments, such as a single research paper written by a group of four or five people can encourage this interaction well. With such a group project, not only must students divide among themselves the multiple tasks of the writing process, they must also come to a single position on an issue. This search for consensus will require much discussion and compromise. Each member of the group must present an argument explaining why the group should assume his position. Once the group position has been reached, the group is required to produce a reasonable argument to support the thesis. The
Peer Teaching

Peer teaching is yet another way students can interact with their peers. In this activity, students are required to teach lessons to their classmates which includes answering any questions that the students may ask. First, the instructor assigns a topic to a group of about 2 or 3 students, for example paragraph coherence or inductive argumentation. The members of the group must collect information on the topic and decide how to teach the material to their classmates. The teacher must prepare challenging questions to ask her students after they have finished the lesson. By coordinating a lesson with other students and answering their peers' questions, students are again exposed to a number of perspectives on an issue and gain a fuller understanding of how to communicate effectively with others.

Teacher Response/Evaluation

The goals of helping students learn discourse conventions of various disciplines and fostering intellectual development can also be reflected the responses and evaluations the instructors gives their students. To support the WAC component of the course, the instructor's primary focus when responding to student work should be the general rhetorical principles that cut across the disciplines, such as
content, organization, and audience, while not neglecting how specific disciplines dictate certain conventions of style and format. Mechanics are a secondary concern because they are associated with the essay as a product rather than a process, yet are still very important.

Teacher evaluation and response can also help foster cognitive development. Schmidt and Davidson contend that teacher responses should serve two purposes. First, the comments should challenge and support growth. Second, the comments should be matched to the level of cognitive development.

For the dogmatic thinker, the teacher should point out where the student clearly and effectively states his own position. By questioning this position and raising other points of view, the teacher can challenge the dogmatic thinker and move him towards more multiplistic thinking. The multiplistic thinker can be supported by praise for where she clearly and fairly articulates multiple points of view. She can be effectively challenged and moved toward more relativistic thinking when the instructor: (1) points out where she is not fair or accurate in her portrayal of other people's positions; (2) points out perspectives on the issue she has ignored or neglected; and, (3) questions which of the positions the student writes about are stronger or weaker than others, urging the student to think qualitatively about the positions she's explaining. Finally, for the relativistic thinker, the instructor can provide support by
pointing out where the student clearly states an evaluation of an idea or synthesizes a new position. The challenge is supplied when the instructor asks for a clear and thorough development of that position. Obviously, students who represent different levels of cognitive development require different responses and evaluations of their writing from their instructors.
Chapter 5

Conclusion

The success or failure of a WAC program with an emphasis on cognitive development ultimately depends on how ready students are to learn. As all of the theorists have mentioned, cognitive development cannot be forced. Teachers can provide their students with optimal environments for learning, and they can exhaustively analyze student work to determine the best possible responses to their work, but all of the teacher's efforts may be in vain if the students are not ready to learn.

For a number of reasons, a student's cognitive growth may be slow. For example, Patrick Slattery points out in his article, "Applying Intellectual Development Theory to Composition," that students may view different subjects from different levels of cognitive development. One student, for instance, may understand literature from a multipliscistic point of view, recognizing that one poem may have many interpretations, but understand biology dualistically, believing that a single correct answer can always be found after an experiment or test.

A student's intellectual orientation toward a subject may also be partly determined by how much interest the student has invested in the subject. Slattery, in a study observing the complex relationship between intellectual orientation and student writing conducted a series of inter-
views with twelve of his students. He explained that "During their interviews some students suggested that their perception of a topic's importance influences how they approach the divergent viewpoints in their sources" (59). Perhaps students think longer and harder about subjects in which they have a personal interest, thus leading to writing that reflects more sophisticated thinking. If students tend to write more sophisticated essays about subjects they take a personal interest in, then instructors should take an added interest in devising assignments that cater to their students' interests.

Slattery and other theorists such as Kitchener and King warn against the danger of "pigeon-holing" students into specific cognitive positions. As Slattery pointed out, students can think in different ways about different ideas. To label a student as a "dualistic thinker" because she wrote her first paper about animal rights dualistically over-simplifies the issue. This student does not necessarily think dualistically about all issues. Instructors should respond to the essays individually, forming opinions on the writer's level of cognitive development only after reviewing essays written on several different topics.

Despite these concerns, a horizontal WAC English course, if designed and conducted properly, can help introduce students to the various discourse communities they will encounter while taking classes across the curriculum. Repeated exposure to different modes of thinking through
readings, peer editing, group projects, and peer teaching can foster the cognitive development that Perry, Belenky et al., and Kitchener and King describe as being characteristic of the more sophisticated thinkers.


