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## Chapter 11: Poetry, Prose and Piaget

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## CHAPTER ELEVEN

### Poetry, Prose and Piaget

James A. McShane

As a second generation ADAPT staff member, the first to add an essay to this series, it properly falls to me to extend the reflections of my colleagues.

Before doing so, let me outline my relationship to the ADAPT Program. Piagetian theory attracted me for several reasons; most of them are alluded to elsewhere in this book.<sup>1</sup> I had first become aware of Piaget's work about ten years ago when participating in a teacher training project, but had not worked out its implications for college teaching very fully. So I was curious when I heard of the ADAPT Program and kept in touch with Professor Narveson of my department as it developed. I had no more than occasional contact with the founding seminar, made but small contribution to the formation of the Workshop, and had no close contact with the first year's activity. But my interest in the project and in the Program's development made me a logical choice for inclusion when it became clear that professional demands on the staff would require recruitment of new faculty. So, after a summer of study (subsidized to the equivalent of one course), I joined the ADAPT staff in English and have taught in the program for two years.

I should be clear that I am not a psychologist, that my report is based on the experience of an amateur. Hard assessment must come, and is coming, from others competent to develop and assess the data.<sup>2</sup> Further, I make no claims of magical success. The invention of learning cycles is hard work, their outcome is not always predictable nor their success assured. Students frequently resist the demands such exercises make upon them, especially when those exercises are not part of their regular educational experience. (One advantage of the ADAPT Program is that its students come to expect such exercises as normal.) Further, intellectual growth is a long term process, one which seems to follow circuitous routes, often by fits and starts. But I believe my experience validates, and the evaluations (elsewhere in this book) support, the claim that the program has beneficial effects on students. Personally I have found the frustrations of my own teaching are diminished when I have a theoretical base on which to build a coherent set of classroom procedures. It is a relief to know how to plan what exercises might work with students and how to examine my procedures in the face of failure. I feel pedagogically vital without feeling I have resorted to suspicious fads or to hit-or-miss tricks.<sup>3</sup>

My colleagues have covered that territory pretty well. What I should like to do is to explore some understandings we have gained in further experience over the last several years. Let me put the two matters I intend to treat into summary form:

1. Formal thinking may be regarded as a mental capacity, but as a practical matter it does not develop in all areas at once. A "formal thinker" probably thinks concretely in unfamiliar disciplines, sometimes even in more familiar ones as he/she advances.<sup>4</sup> Consequently, there seem to be benefits to Piagetian instruction across the curriculum and through its different levels.

2. As a corollary, perhaps, formal thinking does not develop linearly. That is a certain attraction in the Piagetian notion that the mind moves to complex problem solving as a manifestation of its natural development. But this is an oversimplification of Piaget's position. In fact, there are various, often overlapping, forces (social, experiential, emotional) which seem to regard that movement, especially in particular areas. Many of these forces resist direct confrontation, but frequently yield to the indirect counter pressures of the learning cycle.<sup>5</sup> Thus, Piaget allows us the benefit of individualized instruction in a group setting.

I. Let me begin by addressing the first set of propositions, exploring some of its implications as I understand them.

I have some misgivings about the idea that there is a significant college population of students whose mental capacities are entirely on the concrete level. But we all know that our classes, not simply our introductory classes, are studded with manifestations of concrete thought. We see such manifestations even from students who score well on IQ tests, Watson-Glaser, or other measures of intellectual capacity or of mental development.<sup>6</sup>

The ADAPT faculty's description of formal thought was an adult mode of processing information must be qualified by our sense that it develops by area and continues to develop throughout one's maturity, even in area one knows well. One may talk profitably, I suppose, of a "concrete thinker" when speaking of a primary or even secondary school youngster. At the tertiary level, the likelihood is that one is talking of someone whom he knows to be concrete only in the specific areas or in the particular formal skills tested. There is small likelihood that anyone enters college with no capacity for formal operations, or with no areas in which he or she is formally functional. There is a great likelihood that many students will not be formally operational in the skills demanded by several, even most, of the disciplines they encounter in college. "Formal operational," then, like "concrete" is subject to ambiguity: depending on context, to be formally operational can mean to possess the capacity to think formally at all or it may mean to manifest the particular formal skills required to handle a given set of materials. It is generally the latter sense of the term that applies to our students in college.

Our experience suggests that even within the faculty there exists concurrent diversity in competence level: professors highly formal in their approach to their own disciplines come to other studies first on a concrete level. We on the ADAPT staff have found that we can test new learning cycles on one another. The way our colleagues respond to the intellectual demands of disciplines not their own will provide some indications of what our students will do with them. Professors will invent more quickly and apply more efficiently--generally. But their initial problems and their initial attempts to resolution do not significantly differ from those of students or others just learning the discipline.

There are other examples of diverse levels of mental power operating in the same mind sometimes even on the same material. We know from experience that unused mental skills tend to atrophy just as do physical ones--and, like physical ones, can be rejuvenated by process. In other words, formal thinking capacities do not remain static like tools in a box. Left unexercised

they lapse. I know, for instance, that when I am called to serve on a committee which must use statistical data, I will have to revive the appropriate tools in my head. Until I do, my treatment of those data is likely to be embarrassingly concrete. Given some rehearsal of basic information and some chance to play with the data, I can begin to use them in formal ways. Another example of the same diversity I find occurs when I turn to the work of a new poet, or even new works of a poet I have come to know. My experience suggests that initial readings tend to be concrete in that they seized upon ambiguous cues in a univocal way. I miss richness and the range of possibilities until I am “disequilibrated” by other disconfirming cues,<sup>7</sup> then I must consciously force myself to expand the number of possibilities I consider, to look one by one at the different variant readings until I find one that resonates over a wider portion of the poem. Repeatedly I find myself moving from concrete to formal operations even in my own discipline--and my colleagues tell me they have a similar experience (*mutatis mutandi*) in their own work.

What is true of me and of my colleagues, I would argue, is also true of our students. However formal their capacities might be, they will consistently approach new studies, and more advanced study in a give field, with concrete operations. Like their professors entering new territory, even our brighter students will profit from the manipulation of materials, from the experience of that disequilibrium that motivates “self regulation,” the search for more satisfactory answers than concrete operations provide.<sup>8</sup> Without giving students the opportunity to explore, to experience the disorder which cries out for rectification, to experience self regulation as a vital part of their own capacity, we probably frustrate their development of formal skills. Normally when I lecture I reproduce the elegant conclusions stripped of the messy processes by which they were derived.

The demands made on students by a situation in which they are asked to become formal learners are, as must be clear, quite burdensome. It may be asking too much of them to expect that they will develop formal operations in several fields at once. I remember a lad whom I looked upon as an unignited lump in English class, who I discovered was going on all burners in Physics. Last year another student in English took to writing poetry with complex image patterns and carefully modulated *personnae*; I was somewhat deflated when my colleague in Physics expressed some concern as to whether that student's body was still warm when it got to the lab.

Nor is it only from discipline to discipline that such discrepancies occur. Part of the ADAPT folklore evolves around a young woman who could explain clearly the factors requiring her to exercise a mature independence hard won from her parents in social activities.<sup>9</sup> At the same time she was insisting that her Professors, particularly in Physics, were “not doing their job” when they asked her to explore phenomena, to invent or discover explanations and to apply or test them herself. She sensed no incongruity in demanding that they act in *loco parentis intellectualis* while she was asserting her social independence from her biological parents.

No one I suppose will be surprised by these instances. But remembering them I find a healthy antidote to the tendency to categorize someone as a “C” or (with new jargon) a *Concrete* student. Sure, there are well balanced students who make the best of their capacities in many situations. (I am reminded here of one bright girl whose scores on IQ and other such instruments I later found were not the highest, but who glowed with a sharp clear flame in each of her classes.) Such students are a rare but special joy. But the ADAPT experience has confirmed what

I knew from my own children: I must be patient over relative stasis in one area when I know there is vital growth occurring in another. I probably should be patient even when I do not know such growth is occurring elsewhere. After all, the ADAPT Program is a rare oasis in an enormous institution in that it provides the staff with a knowledge of their students over a broad spectrum of their activity. It is foolish for me to believe in more usual situations that nothing is happening in my students' heads, just because it is not visible in the limited contact I generally have with them in English.

The consequences of this realization cannot be that one should be content with inert students. But one can try, as I tried (not entirely successfully), to link the work in English for my budding physicist to things I could discover he was "turning on" to. And I could accept his just adequate performance in English, performance which seemed more derivative and then it evidenced initiative. My conscience was eased that he seemed to learn from others more passively in English, by the fact that he was exercising intellectual leadership elsewhere. I made the same argument to Professor Fuller in Physics over my budding poet. Of course, the student who is looking for intellectual parents while concentrating on establishing freedom from biological ones may well survive in no academic program--at least until, those more pressing problems are resolved. But for most students Piagetian learning cycles will be effective. The opportunity they provide to learn new skills or deepen old ones will serve the full range of students in the class.

II. Let me turn now to the second set of propositions I set forth above.

There are other impediments, I think, to the development of formal thought in a given student in a given class, impediments driving from sources other than burgeoning intellectual development elsewhere. In the material which follows I will suggest several of them, and try to show how the learning cycles in some instances seemed to provide an effective means for overcoming them. My instances are no more than exemplary; they are not scientifically compiled in mutually exclusive categories nor do they pretend to exhaust the possible categories. Rather I offer them as an indication of some of the particular strengths I have found in the Piagetian approach simultaneously to students and subject matter.

Let me start with a problem any English teacher will recognize--the apparent out-and-out resistance some students manifest toward composition or toward poetry. It reminds me of the mindset expressed by one of my own children after a particularly unhappy experience at school. He did not, he told me, know how to read, he certainly did not enjoy reading, and on the whole he regarded reading as one of those things he never expected to do. Fortunately that was the expression of a temporary feeling, but I remember it sometimes as I watch students confront a composition or a poetry class.

Professor Narveson has dealt with composition at some length in his essay, and I do not wish to rehash that material again. Briefly, let me say that thinking about language is almost always formal--it requires reflexive capacities, an ability to use propositional logic and to manipulate a very abstract set of materials for a hypothetical audience. What's more, composition rules generally are developed to handle problems only recognizable to formal thinkers. The

notion of the “topic sentence,” e.g., is one developed as a formal response to writing problems which a concrete student apparently does not perceive.

Such a student can be coached into revising a paragraph or paper so that such sentences function. Too frequently, as we can all attest, such coaching has no carry-over effect for subsequent papers. Some students, moving into formal thought, will accept the notion as useful and will exercise with it for a while. But capable writers who can operate formally on their own compositions do not need topic sentences and rarely use them--as a check of any handbook section on “Topic Sentences” will readily reveal. Other guidelines for correction are frequently as unintelligible to concrete thinkers. The latter are happy with *dicta* like “Never use the first person singular;” they are uneasy with a caveat urging care in the use of that form from context to context. They are genuinely puzzled by such marginal corrections as “diction” or “awk” which generally require a fluid sense of both context and connotation to be intelligible. Consequently concrete operational writers accumulate experiences of confusion in composition classes. They come to look upon writing as an obedience task in a situation where the directions are contradictory--they read our comments as something like “be creative in your language but don't use ‘diction.’ ” College English teachers see them after years of such stress, during which their experience has created a large block preventing their utilization of their developed formal operations in this area of work.

In a Piagetian composition class, we try to run around such blocks. We provide Stunk and White's *Elements of Style* as the “Rule” crutch. They can use it when they know they need a rule--though they rarely do. I can refer them to it for a rule, and let them be sucked in by the neatness (deceptive, generally) of the formal discussions. For the most part, the text and materials of the class are student papers. The “exploration” activity is extensive. An editorial committee may select three or four papers for class discussion, or volunteers may offer to present a paper. Discussion begins with the student reading the paper (frequently inventing corrections as she/he reads). It proceeds with the writer first suggesting points of satisfaction and then of difficulty--which leads to feedback from the group. In such a class this summer (1978), the students discovered the need for topic sentences, sentence combining, framing devices, pronoun consistency, the need for congruence of reported experience with subsequent generalization, etc. After such discoveries, they showed evidence of “applying” them consciously in their writing and subsequent critical discussions. That particular class could provide many instances of growth despite resistance. Ostensibly a Freshman English class, it contained four seniors, one junior, five sophomores and a freshman. Many of them had been avoiding composition courses. Let me speak of but one, a flunkout returning on probation. He regarded the course with such trepidation that he stuttered and trembled (uncharacteristically) when he spoke, was unable to look at the teacher and barely at his fellows, and was extremely apologetic (with some cause) about the elementary level of his writing. The work of this student over the summer crystallized my thinking about the effectiveness of the learning cycle in overcoming such blocks. Not only was his capacity to compose improved significantly but he was overtly aware of it. Without any theoretical prodding, he reported in writing at the end of the semester about how he had come to see his writing, even in the university, as his own--something he himself could manipulate and control.

I know how often I have found such students frustrating and how often I have exacerbated their frustration. I believe the difference in this case was the social environment of the learning cycle activity which drew the student to really explore his and others' written work and which provided a situation in which he could safely work to improve it. The experience in this situation allowed him to overcome the inhibitions, the virtual paralysis, previously developed toward writing and especially toward writing classes. And his growth was, I think, fuller and richer because he felt he was developing rather than, as he had seemed to expect, being pushed. The change in classroom situation was, I suspect, dramatic and so encouraged new behavior on his part. I am not sure that simply a change to a "thoughtful, caring teacher" (as one of my colleagues kindly puts it) would have been sufficient. Others in this book<sup>10</sup> have explored some of the advantages of peer stimuli. I would add that the experience of joint learning contributes to a student's sense of capacity in ways that overcome the defects of superb lecturing that I adumbrated above. Piaget is quite explicit on the need for social interaction: "cooperation alone leads to autonomy. With regard to logic, cooperation is at first a cause of criticism; thanks to the mutual control which it introduces, it suppresses both spontaneous conviction--and the blind faith in adult authority." And in this case, I would add it diminished spontaneous diffidence and blind fear. Piaget further says, "criticism is born of discussion, and discussion is only possible among equals..." It is discussion which "gives rise to reflection and objective verification." Critical thought, reflection and verification are marks of formal operations; formal thought, then, is more likely to develop in group work where the instructor is "a collaborator and not a master."<sup>11</sup>

My role is that class was to promote a climate in which writers (myself among them) could cooperatively explore composition. As "teacher," I offered helpful notions only in response to an expressed (or sensed) need for them by the students, or more frequently, in situations where I felt my formulation might provide a simpler or more efficient expression of what the students had already found. The resultant atmosphere seemed very positive, and seemed of crucial significance for some students.

Again, I have taught poetry classes with those lectures described by Professor Petr as so satisfying--and so often futile.<sup>12</sup> There were always those students who seemed to thrive under them--most of all those who already knew what I had to say and who could appreciate virtuosity. But too frequently, even from those students the lecture content proved irretrievable or, upon examination what was retrieved proved sadly diminished. Regularly and from too many the return seemed anxiety-ridden and even hostile. The reader by now can surmise to what I attribute those tensions. Poetry is the most subtle of the language arts; mature analytic reading of it demands formal operations of a high order. A capacity to think metaphorically, analogically, and contextually, is to the understanding of poetry what proportional reasoning is to physics or mathematics. Consider Milton's first sonnet:

O Nightingale, that on yon bloomy spray  
 Warbl'st at eve, when all the woods are still  
 Thou with fresh hope the lover's heart dost fill  
 While the jolly hours lead on propitious May  
 Thy liquid notes that close the eye of day

4

First heard before the shallow cuckoo's bill	
Portend success in love; O if <u>Jove's</u> will	
Have link't that amorous power to thy soft lay	8
Now timely sing, ere the rude bird of hate	
Foretell my hopeless doom in some grove nigh:	
As thou from year to year hast sung too late	11
For my relief; yet hadst no reason why:	
Whether the Muse or Love call thee his mate,	
Both them I serve, and of their train am I.	14

A student who is new to Milton or to the Renaissance is likely to seize upon a reading more reflective of himself than of the poem. I have heard an intelligent student argue that the “May” in line 4 is a girl whom the poet has been duping through hours of dalliance. Such a reading is not without some resonance in the poem, and it has more in his experience. He knows what it means to “lead someone on,” he suspects that a “jolly hour” may be akin to a “happy hour,” and he comes to believe that “May” is a light lass who has taken on the poet as a lover. He may harbor some vague sense that 17th century poets were generally rakes anyway. One cannot complain that such associations occur to students; but it is primarily the concrete student who will insist upon such a reading because it resonates so well with his experience. The more formal reader may consider the possibility of that interpretation but will be able to hold judgment in abeyance while he considers other ones. He will notice that the time words, the personifications and classical allusions do not resonate with that first reading, and test others until he finds one which resonates broadly through the poem. Teachers, of course, read formally and their presentations reflect their considered judgment. Concrete students, eager to please but with much invested in their reading, will resist the notion of a “more probably” one. If pressed, they will play lip service to the “correct” alternative without seeing the need to do so, or they will fall back upon the saw that “one reading, like one man’s opinion, is as good as another’s.” For such students are surely confused by their teacher’s demand for subtle reading. Poetry comes to be perceived as “deep,” its significance hidden; it is to be explicated only by magisterial magicians who guard rather than impart the tools of their guild. Repeated experiences for this kind leave students resentful of poetry and suspicious of their (or anyone’s) power to deal with it. Such resentment creates the visible anxiety and hostility; in some students the survival of such attitudes toward poetry long after they become otherwise capable of formal operations works against use of those operations in this area. Learning cycle experiences seem to offer the teacher a way around such a mindset. In ADAPT poetry we spent a great deal of time in social exploration activities. We often read aloud to one another, each choosing a favorite poem. We spend a class or two exploring the textbook inventing its possible organizational structures and discovering the purpose of the tools it provides.<sup>13</sup> We try to apply (and so to refine) what we have invented over the course of the semester.

Professor Narveson has created a marvelous learning cycle whereby students in groups explore a set of twelve file cards containing examples of heroic couplets, limericks, and ballad stanzas (4 of each). From these he asks them to invent three features of poetry which distinguish it from prose. He then asks them to separate the set into three packs of four cards each, each card in a stack sharing a common manifestation of each feature, and each stack different from the other two on each feature. The usual responses people wish to give to this question (such as high



flown diction, bizarre word order, rarified subject matter, etc.) they quickly discover do not work. Only formal features do--and having "invented them" students can then invent rules for heroic couplets, ballad stanzas, and limericks. For an application exercise each group constructs a limerick from words handed out on cards and then writes an original limerick from the rules they have discovered and confirmed.<sup>14</sup> The social interaction of peers in this exercise makes answer based primarily on personal resonance difficult to maintain. This disequilibrium of one or another member of the group must be handled in ways which calls for collective self-regulation. Participants in the exercise seem much more tolerant of challenge from their peers than from teachers, and much more driven to find a mutually satisfactory resolution of the problems that emerge. In finding such resolutions they come to think, and to experience thinking, about poetry in ways which they had not previously suspected could be done.

The first paper in the ADAPT poetry class calls for the writing of a parody followed by an analysis of what the writer did to create the parody. This is an application exercise following the reading of several parodies and the invention of rules for them. The consequent discussion (see Professor Narveson's report of the processing of ADAPT English papers<sup>15</sup>) frequently discovers that the student did much more subtle work (especially with form) than his/her analysis claims--or than the student was aware of! The exercise strengthens the student's sense of him/herself as a perceiver of poetry, while it provides an experiential basis for the realization that poetry is ordered by the poet in ways intelligible to readers.

The final paper requires a student to take a poem that she/he believes she/he has read and understand well and to discuss it with someone outside the class. The assigned task is to report the other persons; reading, and to analyze how that reading differs from the student's own. This exercise is an application of much that has occurred in the class during the semester. It encourages recognition of appropriate use of tools, etc. Further, through peer interaction it strengthens the students conscious command of her/his skills and allows him/her to see his/her own growth as a reader, as a learner of poetry.

As these examples suggest, ADAPT English is so built as to make the student play with poems in a variety of ways; to draw upon the students for their own perceptions, making them the "experts"; to encourage peer interaction; and to create enough cognitive disequilibrium to encourage growth but not so much as will overwhelm initiative. My experience with the course suggests that such activities provide an efficient way of overcoming initial resistance. It seems that the students who feel they are working on something are distracted from the fear or sense that they are being worked over. The students who see their peers work through a poem to achieve an understanding of it, and who feel the pull of the group to participate in such work, seem better able and more willing to enter the game. Many engage more freely, with growing enthusiasm and confidence, in the study of a content area which they had originally confronted only obstinately. Paradoxically, perhaps, learning cycles in a social setting seem a productive way to individualize instruction.

It is not just the frustration of confusing academic experience which blocks intellectual development. My colleagues in math and physics could describe cases of young women who despite the well known social counter-pressure found themselves manifesting leadership in their classes, in part at least because of the nature of the experimental and cooperative ways into the

material. I know from my own experience of young men (e.g., a construction crew chief and a “jock” to cite but two) who became much more sensitive to and respectful of poetic craft than my own prejudices and experience had led me to expect.

One other example: I taught this summer a course (again non-ADAPT) in the Bible as literature. That course is one I have taught for several years. It is one that is rife with difficulty because its material gets close to the identification problems of many students. (Some wish to affirm, some to deny, the material of the course because it represents the “faith of (their) fathers.”) Particularly, but not only, the first chapter of Genesis evokes difficulty: for many it represents a first effort to focus on patterns and literary forms instead of on the truth value of the Bible. The first couple of times I taught the course, this passage started do many hares and dragged out so many red herrings that I came to avoid it as “too well known and too controversial for our purposes.” This time through the course I approached it as the application phase of a quick learning cycle on the first day of class. I suggested they read in class Proverbs, Chapter 8, where personified Wisdom speaks of herself and her role at the creation. I asked the students (junior-level and above) to work through that passage in small groups with an eye to identifying the special speech patterns operating in it, especially the most frequent. This exploration activity worked marvelously for many purposes--they found pervasive personification, comparison, contrast, simile, metaphor, alliteration and assonance. We checked all those out, constructed a list with specific examples for those who were not familiar with them, and set the list aside for future use. Then I helped by inventing one more, repetition.<sup>16</sup> Then I had to ask them to backtrack, in effect to undertake a new exploration activity to assure that the invention I had contributed became their own. I asked them to define the functions of repetition in the passage. They discovered or invented three categories of repetition: simple emphasis, expansion and negation. (e.g., respectively: “Understand you simple fools what it is to be shrewd, you stupid people understand what sense means,” v. 5; “Men it is to you I call, I appeal to every man,” v. 4, “I speak nothing but truth and my lips detest wicked talk,” v. 7).

Then for an application we read Genesis 1.1-2.3, in the light of an invented rule from Proverbs 8: what the Hebrew regards as important he reiterates. This exercise took us further into Genesis, into the nature of its God and God’s activity, and did so with fewer peculiarly religious or irreligious diversions than any such discussion I had previously had in that course. This willingness among the students to be distracted from their fundamental emotional concerns I attribute to the previous parts of the learning cycle which encouraged them to freely explore a relatively unfamiliar and unthreatening text, and to discover patterns for themselves which they could then use. Their own participation and their own rules made the application to Genesis possible. Earlier attempts at such discussion failed because I had initiated a discussion on the Beginning either without rules or else I had laid rules on them by fiat. Both procedures had led to heated discussions--but ones largely inappropriate to a literature class in a state university.

The second day's learning cycle dealt with the (presumably) familiar Abraham story. I reproduced all thirty-six paragraphs of that tale on separate file cards, asking the students, working in groups again, to arrange the cards as best they could in an order approximating that of Genesis. I charged them to do it without consulting the text.

They found that they could not do it--even with some "Bible-buffs" in the room. This exercise created some disequilibrium: the story was not so readily organized in accord with one or two essential themes, or even to climactic chronology, as some had assumed. I then asked them to sort the cards by issue or theme, allowing some overlap if need be. Here their inventions worked: they discovered a full richness of themes--whose presence was confirmed by the previous day's rule that repetition is a mark of significance. The list of issues included: the demands of faith; the various claims Abraham (and, through him, Israel) had to the land; relations with kin, sojourners and neighbors as well as with God; Abraham as priest, king and prophet, etc. The ultimate application of this cycle was the whole course: the discovery of a variety of riches in the biblical texts, thitherto unexpected.<sup>17</sup> Again, we had less insistence on the overwhelming importance of one aspect of this (or any) tale, an importance generally derived from a concrete reliance on authority, than I have experienced in several years of the course. There is no evidence that the students in this class were more able, or had fewer internal conflicts over the new kinds of reading I was encouraging, than my earlier classes in Bible as literature.<sup>18</sup> It is my belief here as before that one can account for this change as one deriving from the disarming effects of the learning cycle.

Understand, I am not claiming (and certainly cannot prove) that Piaget or learning cycles provide a panacea. I am too suspicious of magic, of simple minded allegiances, to be comfortable with such claims. Besides, my own experience is both too varied and too limited for broad, much less universal, claims. It will take time and much experimentation to test the extent of the viability of such a program as ours. What I do claim rather is some more limited, perhaps simply personal, satisfactions. Piaget and the ADAPT experience have allowed me access to students and to teaching in a systematic way. In ways my colleagues' essays suggest it has graced some of my disjointed pedagogical instincts with coherence and context, and disgraced some of my less attractive defensive responses to previously unaccountable student performance. Finally it seems to provide me with ways to free some particular students who previously seemed hobbled from achieving their intellectual potential in my course.

The learning cycle provides guidelines for the construction of exercises which encourage conscious student participation in the crucial aspects of study: investigating data, forming hypotheses and validating them. These exercises, further, by their flexibility and their emphasis on cooperative enterprise, allow the benefits of individualized instruction. Each student can begin his or her particular place in the learning situation and can participate to the full extent of his or her capacity. For the time, then, I am satisfied to accept the Piagetian framework as a fruitful one, worth further exploration, discovery and testing. And the cooperative atmosphere of the ADAPT Program frequently provides a social context in which those activities can seriously go forward.

## References

- <sup>1</sup> See Prof. Petr's article, Chapter 6; Prof. Narveson's, Chapter 9
- <sup>2</sup> Chapter 13 below deals with evaluation.
- <sup>3</sup> See Professor Narveson, *Ibid.*
- <sup>4</sup> See Professor Moshman, Chapter 1.
- <sup>5</sup> See Professor Fuller and Campbell's essay on the learning cycle. As will be clear, I assume the reader has an understanding of the features explained there. I also stress the social dimension attaching to group exercises of those cycles.
- <sup>6</sup> I should reiterate, I suppose, that the distinction we are using is not the ordinary concrete-abstract division that properly applies to language or to ideas. Rather we are working with a distinction of operations. Concrete thinkers love abstractions and generalizations. But they have great difficulty in assessing whether a particular generalization or formula is appropriate to a given context; in selecting among several of them as proper for a particular use; and in manipulating several of them in relations to each other. Tell such a thinker which formula to use and he will dutifully and cheerfully apply it regularly -- without every questioning why he is doing so or whether he should. This ready dutifulness is one of the major sources of the student confusions which makes professors gasp in dismay. People using formal operations can choose among various possible resolutions to problems can consistently test alternatives, thinking reflexively as they do so. They can hold variables constant, think analogically or proportionally, and not squirm in the face of that intellectual weasel "mutatis mutandi." For further analyses of this distinction, see Prof. Moshman, Chapter 1, Professor Petr, *Ibid.* and Professor Thornton, Chapter 7.
- <sup>7</sup> See Professor Moshman, Chapter 1 on disequilibrium and self regulation.
- <sup>8</sup> See Professor Petr's remarks on the advantages of learning cycles.
- <sup>9</sup> While I would not argue an identify of independence and formal thought, I would suggest in this case two areas of overlap. First, this student seemed to have thought through and correlated the various factors in a complex social situation. Second, she was able to think about her choices reflexively, to examine them dispassionately and to explore alternatives consciously--all signs of formal thought. Her thinking in social matters seemed to have progressed beyond mere bullheaded insistence on a formulaic notion of freedom, which I would regard as rather more concrete.
- <sup>10</sup> Professor Narveson, *Ibid.*
- <sup>11</sup> Jean Piaget, *The Moral Judgment of the Child*, 409-412. In this book Piaget frequently reflects on the necessary function of peer interaction in learning: the quoted passages here are from his conclusions which accounts for their apodictic form. Where he speaks elsewhere on the social transmission aspect of learning, this component is regularly present. (See e.g., "Development and Learning," reprinted in "Journal of Research in Science Teaching," (2,1964), p. 180-181.)
- <sup>12</sup> Professor Petr, *Ibid.*
- <sup>13</sup> *The Norton Introduction to Literature: Poetry*, J. Paul Hunter, ed. (N.Y., 1973).
- <sup>14</sup> There are other aspects of using learning cycles in teaching composition. See Professor Bergstrom's article, Chapter 10.
- <sup>15</sup> Professor Narveson, *Ibid.*
- <sup>16</sup> This instance provides insight into the difficulty and frustration attached to the construction of learning cycles. Repetition is so pervasive in the *Proverbs* passage that I had not thought

they could miss it. But they did--perhaps because of its very pervasiveness, more likely because they had not learned to look upon repetition as a significant language feature, like metaphor. I had underestimated the variety of figures they would find, in part because I had chosen the passage with one thing in mind. And I had not considered the propensity of readers only to see what they have learned to look for and to cling to it. That error cost precious time.

<sup>17</sup> It occurs to me that this learning cycle might form a model for a learning cycle in the humanities. Those of us who have been trying to make up learning cycles in English have been occasionally struck with envy at the elegance of some of the cycles available in math and science. There is a neatness to mathematical proportion and to the constant conditions available to the sciences which is rarely replicable in literary studies--and, some of us say, in life. (I say "rarely" because Professor Narveson's cycle commonly known as "the limerick exercise" approaches such elegance.) However, given that literature and composition do not lend themselves to such precisely planned exercises, it may well be that the way to proceed here is with a rather few tools which will work differently to illuminate different texts.

<sup>18</sup> My thinking on these matters, many readers will recognize, has been influenced by William G. Perry's *Forms of Intellectual and Ethical Development in the College Years: A Scheme*. Passim, (New York, 1970). Perry, like Piaget, sees a good deal of parallel between intellectual and moral development. Perry is particularly suggestive on the subject of the forces in students which make them resist development in certain areas (e.g., the Bible as literature) and of the forms such resistance takes. See also Professor Williams, Chapter 14.