



Western Washington University
Western CEDAR

Office of Survey Research

Institutes, Centers, and Offices

5-1-1995

Portfolio Analysis and Cognitive Development at Fairhaven College

Marie Eaton

Western Washington University

Gary (Gary Russell) McKinney

Western Washington University

Joseph E. Trimble

Western Washington University

Jacqueline M. Andrieu-Parker

Western Washington University

Follow this and additional works at: https://cedar.wwu.edu/surveyresearch_docs



Part of the [Educational Assessment, Evaluation, and Research Commons](#)

Recommended Citation

Eaton, Marie; McKinney, Gary (Gary Russell); Trimble, Joseph E.; and Andrieu-Parker, Jacqueline M., "Portfolio Analysis and Cognitive Development at Fairhaven College" (1995). *Office of Survey Research*. 382.

https://cedar.wwu.edu/surveyresearch_docs/382

This Report is brought to you for free and open access by the Institutes, Centers, and Offices at Western CEDAR. It has been accepted for inclusion in Office of Survey Research by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.

Portfolio Analysis and Cognitive Development
at Fairhaven College

(Report 1995-01)

Marie D. Eaton
Gary R. McKinney
Joseph E. Trimble
Jacqueline M. Andrieu-Parker

May, 1995

Reports produced by the Office of Institutional Assessment and Testing (OIAT) are distributed routinely to a broad readership, including: Western Washington University administrators, deans, department chairs, offices, units, faculty and staff; assessment liaisons at other Washington State universities and colleges; and selected state government agencies and committees. Moreover, most reports are available by request for additional distribution to individuals, offices, committees, or other units both on and off campus. When presenting statistical information, the OIAT keeps in mind the wide-ranging interests, needs and backgrounds of its readership. Even when analyses become complex, results are presented so as to be readable by a wide audience. For interested parties, data utilized in OIAT reports are available for separate analyses.

Executive Summary

This study was undertaken to establish a technique for quantifying nontraditional assessment outcomes data, to ascertain the effectiveness of the Fairhaven methodology of education, and to provide feedback about that methodology to Fairhaven instructors and administrators. Two assessment tools were utilized: the Perry scheme and the Measure of Intellectual Development (MID). The Perry scheme is a stratified model of cognitive development; the MID is a rating system that allows researchers to assign scores to Perry scheme positions. For both, student writing samples are the most commonly used form of input data.

In lieu of letter grades, Fairhaven students submit written evaluations. (See Appendix C for a discussion of student self-assessments.) These evaluations are collected in portfolios. For this study, writing samples were taken from 126 student portfolios. All were Fairhaven graduates, randomly selected for the study. From student numbers, they were identified as having entered Western/Fairhaven between the years of 1969 to 1988, and having graduated from Fairhaven between 1980 and 1990. Participants were about equally divided by gender (48.4% male versus 51.6% females) and admit status (53.3% native versus 46.8% transfer). Participants were overwhelmingly white, non-Hispanics (89.7% of those indicating ethnicity).

Four samples were utilized: one set each of Student Self-Evaluations taken from courses early, middle, and late in a students' academic career, and the senior year Summary and Evaluation paper, a more extensive piece that calls for students to summarize and reflect upon the total of their educational experience.

The Center for the Study of Intellectual Development (CSID), an independent organization located in Olympia, served as raters for the Fairhaven samples. Their results were sent back in the winter of 1992. Along with the Fairhaven sample, results from writing samples taken from "traditional" college students were available, as well as results from a study similar to Fairhaven's done at The Evergreen State College. All were rated by CSID raters and allowed for some small degree of comparison.

From MID ratings, scores were grouped into Perry scheme categories. Writing samples taken early in Fairhaven students' academic career had an average Perry position of 3.37. The average position for samples taken at the mid-point was 3.45, and the average position in the senior year (the late sample) was 3.68. Statistical tests indicate that this change was statistically significant ($F = 14014.74$, $df = 115$, $p = .001$). In other words, the cognitive abilities of Fairhaven students show improvement from early in their academic careers to late. Moreover, the score for the senior-year reflective piece averaged 4.20, a good indicator of the improvement in cognitive abilities of Fairhaven students in this sample. Furthermore, a considerable number of the cohort ranked at Position 5 of the Perry scheme (nearly 20%). According to some researchers, writing at this level nears a professional level; it is balanced, informed, and reasoned.

Comparative results indicated that the Fairhaven cohort outperformed the cohort of "traditional" school students, and fared about equal to the cohort of Evergreen State College students.

Introduction

Many issues drive the contemporary assessment effort. These include the concern with effective classroom instruction, an institution's collective sensitivity to students' needs, and a desire on the part of all university personnel--faculty, administrators and staff--to know what methodologies and strategies enhance a students' academic career both in and out of the classroom. Another important aspect of assessment is accountability--both fiscal and academic. Tax payers want to be *shown* that they are getting good value for their money, not just told so. For fiscal issues, providing data to demonstrate accountability can be relatively straight forward. For example, the state can show that it pays X amount of dollars on average to educate Y number of students and compare the findings to those of other states' systems. Proof of academic excellence, on the other hand, can be more elusive. How does an institution account for how much a student has learned--for the "value added" by the institution?

A common way to illustrate academic accountability is by collecting and presenting academic statistics. These statistics often include such figures as the number of credits earned, scores earned on standardized tests, college grade point average (gpa), etc. Grade point average, especially, speaks particularly clearly: a student took a certain class and earned a **B**. As long as the curriculum met high standards, the number assigned to that B, a 3.0, is meaningful. Add the grades earned in each class together at the end of a student's academic career, compute an average, and you have a traditional statistic that is not only some measure of accountability, but also a tool from which to develop *other* methods of accountability.

But what if your college or university is one of those untraditional sorts that does not assign grade point averages to course work--a school like The Evergreen State College, or Fairhaven College at Western Washington University? At these schools, portfolios rather than letter grades are used. Students write about their coursework: what they think they have learned, how they feel they have grown intellectually, how the course work may be germane to their specific area of academic interest, and other issues. The instructors, too, write assessments of the students. All of this writing is collected in a student's portfolio, which the student may then share with prospective employers or graduate schools. Read individually, the portfolios offer a solid accounting of a student's intellectual growth. Indeed, alumni surveys indicate that Fairhaven graduates have no more problems entering graduate schools or the workforce than students from other colleges at Western. According to the people who participated in an alternative approach to education, narrative assessment worked well for them. Yet because a student's profile *is* done through words, sentences, and paragraphs, administrators at schools like Fairhaven cannot rely on gpa or other similar statistics to summarize individual student performance or to discuss college trends. Thus, just as students sought Fairhaven for an alternative education, Fairhaven must seek alternative assessment methods.

The Perry scheme, and research on cognitive development associated with it, provides an appropriate alternative. Conceived by William G. Perry, Jr., the Perry scheme is based on a hierarchy of cognitive development stages. This hierarchy was eventually assigned position

numbers and these position numbers eventually became the grist for statistical analysis. Although there are some acknowledged limitations in the Perry scheme, due to the homogeneity of his sample, it still provides a useful framework for analysis, especially for schools where traditional grades are not given.

Perry developed his framework based on extensive interviews with students. From those interviews, he was able to identify patterns in the development of the complexity of thought over time. Perry studied/interviewed students longitudinally, from frosh year to senior year in college. Changes in students' thinking were identified (and later stratified and modeled) "...by studying the form of students' cognitive structures. These structures have been likened to a set of assumptions, or a belief system, through which students perceive and conceptualize reality."

As it now exists, the Perry scheme consists of nine "Positions" with "Transition" stages in between. In general terms, intellectual and ethical development, as explained by the Perry scheme, begins with simple dualism, moves into modified dualism, then discovery of relativism, and eventually commitments in relativism. (See Appendix A for the full Perry scheme.)

A truncated version of the Perry scheme

- | | |
|--------------------------------------|---|
| Position 2 | True Authorities must be Right, the others are frauds. We remain Right. Others must be different and Wrong. Good Authorities give us problems so we can learn to find the Right Answer by our own independent thought. |
| Transition | But even Good Authorities admit they don't know all the answers <i>yet!</i> |
| Position 3 | Then some uncertainties and different opinions are real and legitimate <i>temporarily</i> , even for Authorities. They're working on them to get to the Truth. |
| Transition | But there are so many things they don't know the Answers to! And they won't for a long time. |
| Position 4a | Where Authorities don't know the Right Answers, everyone has a right to his own opinion; not one is wrong! |
| Transition
(and/or)
Transition | But some of my friends ask me to support my opinions with facts and reason.
Then what right have They to grade us? About what? |
| Position 4b | In certain courses Authorities are not asking for the Right Answer; they want us to think about things in a certain way, supporting opinion with data. That's what they grade us on. |
| Position 5 | Then <i>all</i> thinking must be like this, even for Them. Everything is relative but not equally valid. You have to understand how each context works. Theories are not Truth but metaphors to interpret data with. You have to think about your thinking. |

¹ AndrieuParker, Jacqueline M. (August, 1989). *Effects of Age and Education on Cognitive Development Using the Perry Scheme* (Master's Thesis). Western Washington University; Bellingham, WA.

Since the Perry scheme is concerned with neither task-specific nor domain-knowledge academic studies, it is particularly useful in educational systems incorporating interdisciplinary programs, collaborative learning environments, learning communities, team teaching, and other strategies that emphasize general cognitive development--schools like Fairhaven College and The Evergreen State College.

Related to the Perry scheme is the Measure of Intellectual Development (MID).² The MID is a rating instrument designed to assess, among other things, an individual's placement in the Perry scheme. It focuses on cognitive/intellectual development and is the tool that allows statistical analysis of Perry scheme concepts; indeed, "(t)he MID is scored by raters who have trained extensively in the general Perry scheme...."³

For this study, the Center for the Study of Intellectual Development rated 126 Fairhaven College Student Self-Evaluations (SSE's). These SSE's are the heart of the Fairhaven program and create a wealth of available student writing samples. For each course or seminar students are required to submit a written self-evaluation. Additionally, students are required to submit a more extensive reflective piece, the Summary and Evaluation paper (S&E) at the end of their senior year. Raters at the Center for the Study of Intellectual Development read four sets of written responses from each participant: SSE's taken from early, middle, and late in the student's academic career, plus the S&E paper done at the end of the senior year. The early sample was taken from the students' freshman year (or if a transfer student, in their first quarter at Fairhaven), and the late sample from their senior year (same for transfers). If the student was a Fairhaven or Western native (i.e., started their academic career at Fairhaven as an incoming freshman), the middle sample was taken from around the late sophomore to early junior year; if the student was a transfer, the sample was taken from roughly the half-way point of their time at Fairhaven.

All cohorts in this study were Fairhaven graduates. They were randomly selected. From student numbers, they were identified as having entered Western/Fairhaven between the years of 1969 to 1988--or roughly twenty years--but as having graduated from Fairhaven between 1980 and 1990--or roughly ten years. Participants were about equally divided by gender (48.4% male versus 51.6% females) and admit status (53.3% native versus 46.8% transfer). Participants were overwhelmingly white, non-Hispanics (89.7% of those indicating ethnicity).

²This paragraph draws extensively from *Interpreting MID Ratings* (revised 1/91), a handout written by William S. Moore and supplied by the Center for the Study of Intellectual Development, Olympia, WA.

³MID ratings are normally threefold: "...two individual raters' ratings and the final, or reconciled, rating." Technically, "individual ratings on the MID are represented by a 3-digit number which reflects the dominant and (if necessary) the subdominant position(s) rated in the essay. This system extends the Perry scheme continuum from 4 steps... to 10 steps." The MID scale runs 222, 223, 233, 333, etc. A score of 223 "represents dominant position 2 opening to position 3, while a score of 233 represents dominant position 3 but opening to position 2." These ratings can then be quantified—as 2.00, 2.33, 2.67, 3.00, etc.

Findings

From the original MID ratings two scores were computed. First, the MID ratings were converted to numbers, using the following scale: 222 = 2.00; 223 = 2.33; 233 = 2.67, etc. These numbers were then grouped into Perry scheme categories as follows: 1.68 to 2.32 = position 2; 2.33 to 2.67 = transition 2 to 3; etc.

For the most part, the writing samples taken from the early and late parts of a Fairhaven students' career will be the most useful for this study. They are both course-based, thus relatively similar and comparable, plus they are easy to identify: frosh year at Fairhaven and senior year at Fairhaven--although the traditional meaning of the terms frosh and senior are, in this study, somewhat moot. This is because the sample was not "tight" in the sense that the students entered Fairhaven as frosh and four or five years later graduated. Some students in the sample entered Fairhaven in 1969, and graduated in 1988. The students may have been around 18 when the first sample was taken, closing in on 40 when the last sample was taken, and could have been any age in between when the middle sample was taken. This fact is worth mentioning since it may be that age may have some effect of cognitive development, that with or without college, aging alone may change the nature of a person's cognitive abilities. And while very few students in the sample had time lapses as extreme as nearly twenty years, quite a number had untraditional, of not outright lengthy periods of time pass between writing samples. To mitigate this potential weakness in the sample, this report will draw out a smaller, "tightened" subcohort. The description of this subcohort will be found later in the report.

The final reflective piece--the S&E assignment done in the senior year--is different enough from the course-based writing samples that its presentation will be noted as the senior-year reflective sample, as opposed to the senior-year course sample.

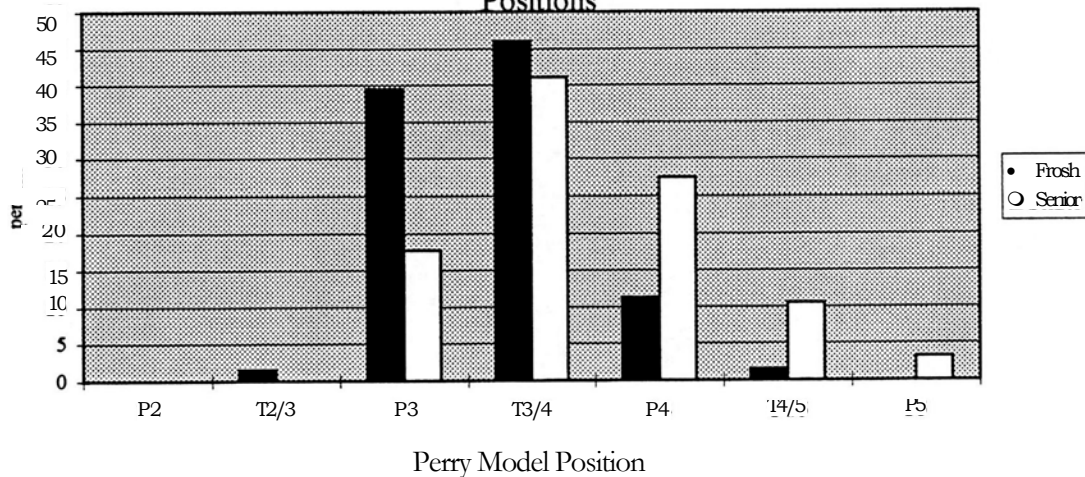
One final note: whatever the findings may indicate, they should be considered trends of interest, or indicators of where future studies might go, but are not the kind of hard facts that a stringently-controlled statistical study might produce. These findings are important, but should be seen in the context of an exploratory work--a first attempt that may help shape methodologies for future studies.

Caveats notwithstanding, however, using first the scores based on the MID ratings, findings indicated that writing samples taken early in Fairhaven students' academic career had an average score of 3.37. The average score for samples taken at the mid-point was 3.45, and the average score in the senior year (the late sample) was 3.68. Statistical tests indicate that this change was statistically significant ($F = 14014.74$, $df = 115$, $p = .001$). In other words, the cognitive abilities of Fairhaven students show improvement from early in their academic careers to late. Moreover, the score for the senior-year reflective piece had an average score of 4.20, which would seem a solid indicator of the improvement in cognitive abilities of Fairhaven students in this sample.

Perry scheme positions of Fairhaven cohort

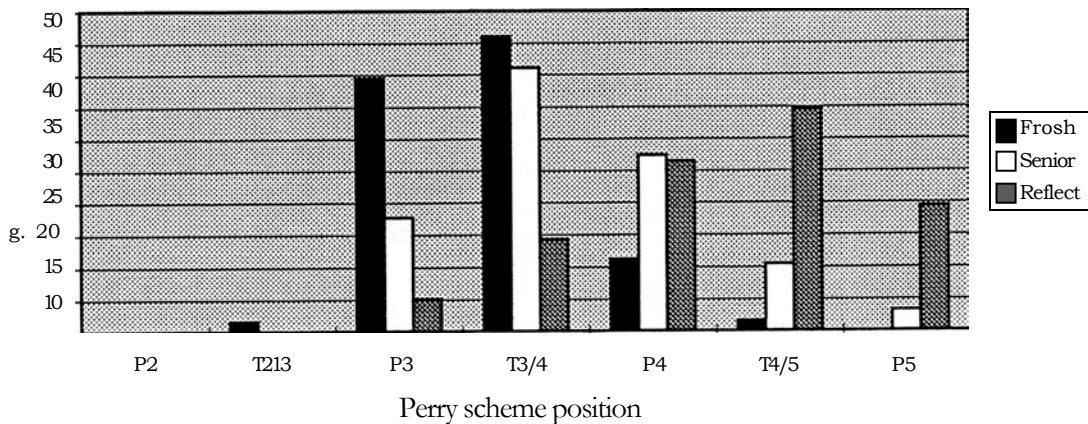
When converted into Perry scheme positions, the frosh course samples placed most Fairhaven students at Position 3 (39.5%) or in Transition from Position 3 to 4 (46.0%). The senior course sample placed most Fairhaven students in Transition from Position 3 to 4 (41.4%), or at Position 4 (27.4%). In other words, they moved up approximately one position. (See Figure 1.)

Figure 1: Comparison of Fairhaven Frosh/Senior Perry Scheme Positions



Moreover, rankings for the senior reflective piece sample indicated a considerable percentage of Fairhaven students in Position 5 (19.4%), as well as indicated more students in Transition from Position 4 to 5. (See Figure 2.)

Figure 2: Comparison of Fairhaven Frosh, Senior and Reflective Piece Perry Scheme Positions



Comparison data findings

Also available for this study were data provided by Center for the Study of Intellectual Development, which has collected writing samples from traditional grade-driven colleges, so-called "Normal" schools. (See Appendix B.) These findings have been used by some researchers as a comparative tool--a report published by The Evergreen State College, for instance. For anyone interested in a much more detailed study of Perry scheme findings and MID scores, The Evergreen State College study was extensive and provides a dynamic range of analyses.⁴

Because of the singularity of the findings for this report, the temptation to use findings from both of these sources to provide some modicum of comparison was strong. However, some equally strong caveats must be mentioned before any such comparisons are made. First, the "Normal" school findings were collected over a number of years from a variety of projects around the country. The collating of the data was deliberate, but informal, and meant from the beginning to be nothing more scientifically "serious" than that. The findings are useful, but not normative—although they do come from so-called grade-driven "Normal" schools.

Second, the data collection differences between Fairhaven and Evergreen samples and "Normal" school samples are considerable. At both Fairhaven and The Evergreen State College, the writing samples were taken from student portfolios. These portfolio samples came from students who had as much time as they needed to write them, not to mention the opportunity to revise them as many times as they wished. For the "Normal" school findings, researchers collected writing samples in various ways, but mostly by having students write an essay from a prompt--usually as a sort of "in-class" assignment, with little, if any time for revision.

There are also differences between the samples collected at Fairhaven and Evergreen. The Evergreen sample was relatively "tight". It included graduates between 1986-88 who attended only Evergreen before earning their degrees. They were "natives" (i.e., had been admitted as frosh), and completed their degrees without transferring credits from other institutions (what other Western assessment reports have dubbed "pure natives"), and took no more than five years to earn those degrees. The Fairhaven sample, as mentioned earlier, was a much different looking one. Although it included only graduates, they were graduates between 1980-90, and included transfers as well as natives. Moreover, while in the Evergreen sample students all graduated with five years, for the Fairhaven sample anywhere between twenty and four years may have passed between entering and graduating. (As mentioned, what will be done to allow a better comparison of Fairhaven and Evergreen findings is to create a subcohort from the Fairhaven sample that more closely reflects the Evergreen sample.)

As well, at both Fairhaven and Evergreen, students generally started at a higher Perry scheme position than did "Normal" school students. For comparison purposes, the best place to start is with everybody at the same place, then measure progression (or regression). You can, of course, compensate for that inequity by measuring how far each group progressed from the point

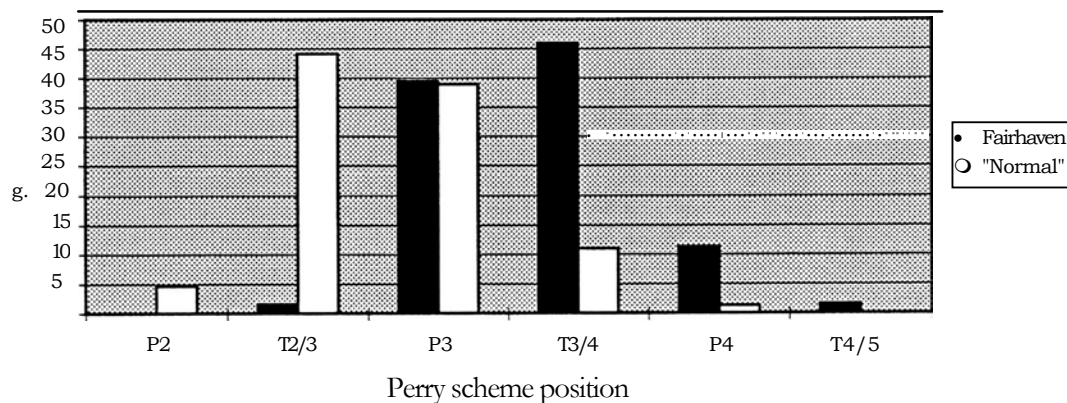
⁴ Thompson, Kirk (1991). *Learning at Evergreen: An Assessment of Cognitive Development*. Washington Center for Undergraduate Education. Olympia, WA.

they started at and compare those figures, but doing so is a compromise--especially for a cognitive development study--and should be strongly stated as such. The argument could be made, for instance, that given the caliber of student Fairhaven and Evergreen started with, the "Normal" school student may have had the same rate of progress--and vice versa.

Finally, regardless of what the outcomes of comparisons may be, it would be absolutely unfair to make any statements about which kind of school is doing a "better" job, an untraditional school like Fairhaven or a grade-driven "Normal" school. There are entirely too many unresolvable differences between the samples for any such bold conclusions. Regardless of what the numbers may state, they must be taken in context of the limitations they are burdened with.

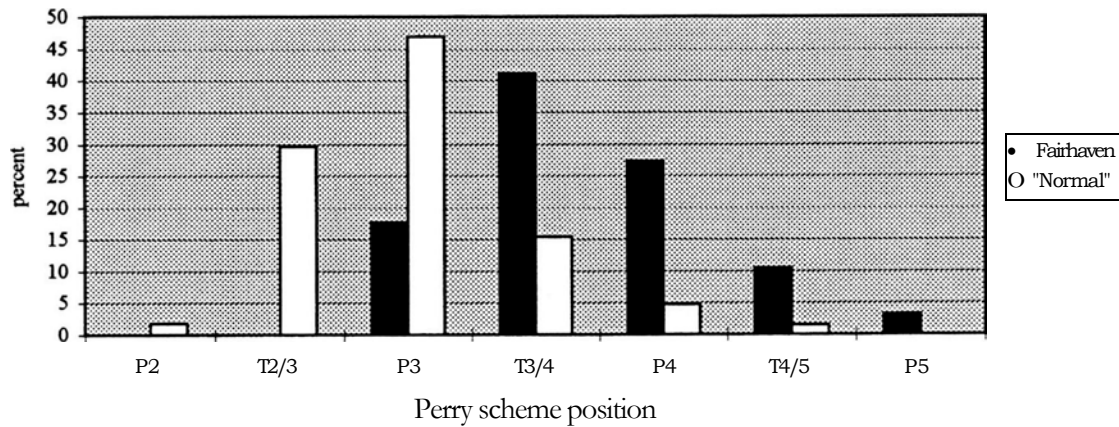
Yet even with all these caveats, the presentation of the findings may still be useful by allowing some perspective on the singularity of the Fairhaven findings, and so we feel they are worth presenting. First, to reiterate the Fairhaven Perry scheme position findings: most frosh at Fairhaven begin at Position 3 (39.5%) or in Transition from Position 3 to 4 (46.0%). For "Normal" school findings, most students were in Transition from Position 2 to 3 (44.1%) or in Position 3 (38.9%). (See Figure 3.)

Figure 3: Comparison of Fairhaven and "Normal" School Frosh Year Perry Scheme Positions



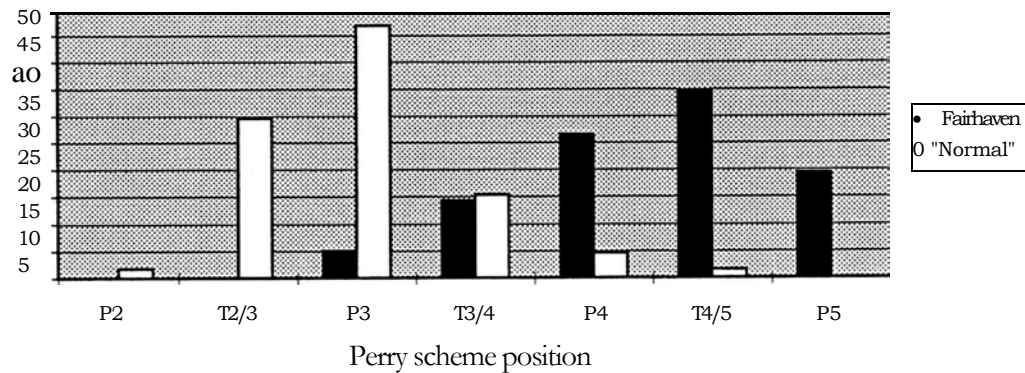
Findings for the senior-year course sample indicated that most Fairhaven students were in Transition from Position 3 to 4 (41.4%), or at Position 4 (27.4%). In other words, they moved up approximately one position. For "Normal" school findings, most students were in Transition from Position 2 to 3 (29.7%), or in Position 3 (46.9%). (See Figure 4.)

Figure 4: Comparison of Fairhaven and "Normal" School Senior Year Perry Scheme Positions



Findings for the senior-year reflective piece indicated an even stronger disparity between Fairhaven seniors and "Normal" school seniors. (See Figure 5.)

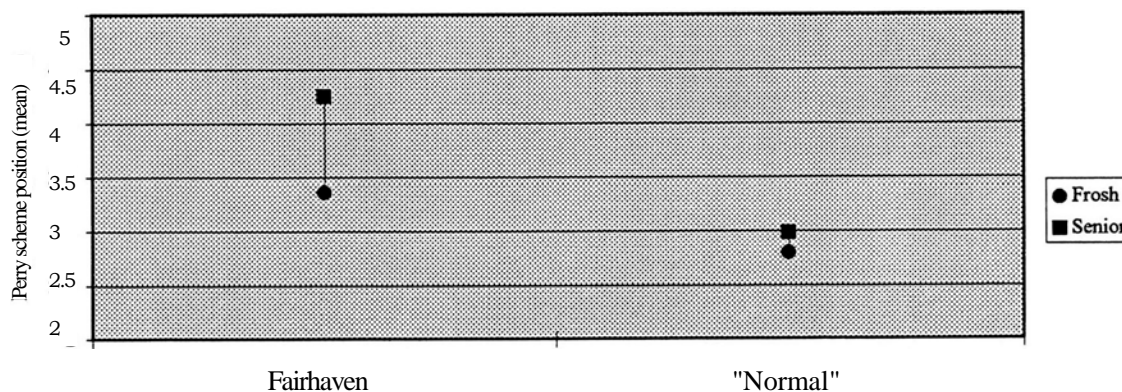
Figure 5: Comparison of Fairhaven Senior (Reflective Sample) and "Normal" School Senior Perry Scheme Positions



One way to make more visually clear the differences between Fairhaven findings and "Normal" school findings is to compute the average Perry scheme position for each set of frosh and seniors. The Perry scheme position average for the Fairhaven cohort was 3.36 for frosh and 4.25 for the senior-year reflective piece. The Perry scheme position average for the "Normal" school cohort was 2.80 for frosh and 2.98 for seniors. As can be seen in Figure 6 below, it is quite evident that the Fairhaven cohort not only started at a higher position in the Perry scheme but finished higher than the "Normal" school cohort. Moreover, they not only achieved a higher final average, but had a much higher increase in change from frosh to senior year. For the

Fairhaven cohort that change was +.89 positions, while for the "Normal" school cohort the change was +.18 positions. (See Figure 6.)

Figure 6: Comparison of Fairhaven Frosh/Senior Reflective and "Normal" School Frosh/Senior Average Perry Position



Fairhaven subcohort compared to Evergreen findings

The subcohort developed from Fairhaven findings to more favorably resemble the cohort used at Evergreen consisted of students who had graduated between 1988 and 1990 and took no more than five years earning their degrees. At 23 cases, the subcohort was relatively small, but also much "tighter." Compared to the overall cohort, some interesting findings resulted. Using only the course-based frosh/senior writing samples, the overall cohort increased its average Perry scheme position from 3.36 as frosh to 3.70 as seniors (a difference of +.34), while the generally younger subcohort increased its average Perry scheme position from 3.33 as frosh to 3.61 as seniors (a difference of +.25). For this particular kind of writing assignment, it would appear that a student's age made only a slight difference in how well he or she performed.

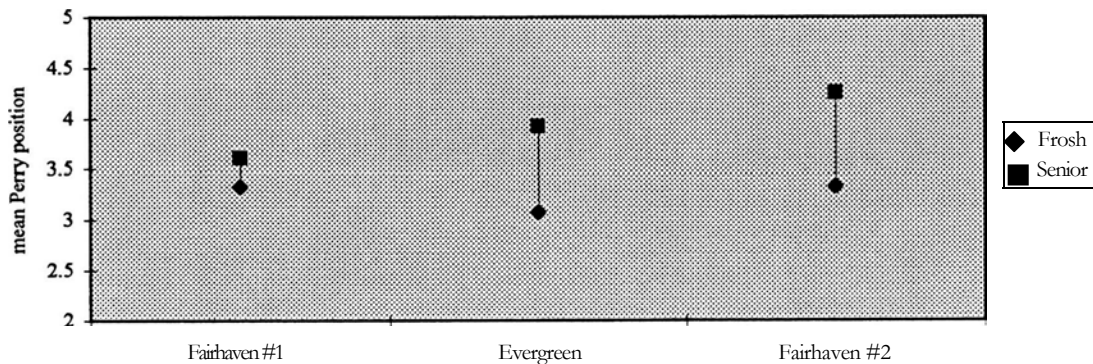
On the other hand, when using the senior-year reflective as the backend standard rather than the senior-year course sample, findings were considerably different. Using the senior-year reflective sample, the overall cohort increased its average Perry scheme position from 3.36 as frosh to 4.25 as seniors (a difference of +.89), while the subcohort of younger students increased its average Perry scheme position from 3.33 as frosh to 4.25 as seniors (a difference of +.92). This may be an area of study interest for cognitive development researchers, or Fairhaven faculty, or both. Apparently, the reflective writing assignment brings out something powerful in students--with age having little to do with the outcomes.

Still, for the direct Fairhaven/Evergreen comparison, one problem remained. At Evergreen students prepare a draft and discuss it with their faculty before they submit a final copy to their portfolio. Whether they use it or not, they get feedback before the final submission. This is not like Fairhaven's course-based SSE's, which do not have a built-in feedback step. The Summary and Evaluation paper done in the senior year, however, does have that extra step. Fairhaven students have the option to revise their paper after discussing it with their faculty

advisor. Thus, the Fairhaven senior-year paper is the best sample to use when comparing findings at Fairhaven and Evergreen. Unfortunately, Fairhaven frosh do not submit a paper that includes feedback before revision, so the course-based SSE will have to suffice for the frosh year sample. This is admittedly a compromise, though not a terribly dire one.

Yet the other set of Fairhaven findings, the change from frosh to senior year using only the course-based SSE's, was also interesting to present, mainly because of how illustrative it is of the power of the writing prompt and/or writing process on the measure of cognitive development. As presented earlier in this report, from course-based SSE's samples taken in the frosh and senior year at Fairhaven, the difference in average Perry scheme position was $+0.25$, while the difference using the senior-year reflective piece was $+0.92$. At Evergreen the difference between frosh and senior year samples was $+0.84$. Thus, depending on which Fairhaven senior-year writing sample was used for comparison purposes, the Fairhaven and Evergreen cohorts looked either considerably different or very much alike. (See Figure 7.)

Figure 7: Comparison of Fairhaven Frosh/Senior Course Samples (#1) and Frosh/Senior Reflective Sample (#2) to Evergreen Average Perry Scheme Position



Conclusions

It is true that this report can offer no absolutes, no hard, scientific facts. Moreover, conclusions are by necessity going to be limited because of the array of cohort disparities, the lack of genuine normative data, writing sample differences, collection protocol variances, and other technical problems. Really, there are few fields of study more complex than the study of how people think. Yet despite all of the reports shortcomings, there is at least one conclusion that can be reached: if the measure of how well Fairhaven is serving its students were to rest solely on the data in this report, then Fairhaven is serving those students, and thus by default the taxpayers, well. There can be no doubt in that. Especially as indicated by the senior-year reflective pieces, Fairhaven students' levels of cognitive development improve considerably from what they were as

frosh. Indeed, quite a number of the cohort ranked at Position 5 of the Perry scheme. According to some researchers, writing at this level approaches "writing we are familiar with as professionals-balanced, informed, reasoned." While there is always room for improvement, there is not much more that can be asked of an undergraduate program than to help students reach or near such a plateau.

Moreover, we suspect that if a rigorously designed study ever were conducted, it would probably yield conclusions relatively close to the ones found in this report. Marked improvement would be documented; increased abilities would be quantified. To borrow from the sociological lexicon, the findings in this report would exhibit robustness. In other words, no matter how you sliced and diced the material, the basic assertions would remain: the students are learning, and doing well. In a more tightly controlled study more side issues might be better addressed, comparisons to other programs might be more accurate, and certainly there may be a wealth of data with which Fairhaven itself may find useful in curriculum development and to further discourse amongst faculty, staff, administrators and students. But the basic conclusion that both the students attending Fairhaven and the taxpayers supporting Fairhaven are being well served would remain unquestionably true.

⁵ Anson, Chris M. (1989). *Writing and Response: Theory, Practice, and Research*. National Council of Teachers of English, Urbana, Illinois. Chapter 16: Response Styles and Ways of Knowing, pgs 332-363.

Appendix A

The Perry Scheme of Cognitive and Ethical Development

Perry Scheme of Cognitive and Ethical Development*

Position 1	Authorities know, and if we work hard, read every word, and learn Right Answers, all will be well.
Transition	But what about those Others I hear about? And different opinions? And Uncertainties? Some of our own Authorities disagree with each other and don't seem to know, and some give us problems instead of Answers.
Position 2	True Authorities must be Right, the others are frauds. We remain Right. Others must be different and Wrong. Good Authorities give us problems so we can learn to find the Right Answer by our own independent thought.
Transition	But even Good Authorities admit they don't know all the answers <i>yet!</i>
Position 3	Then some uncertainties and different opinions are real and legitimate <i>temporarily</i> , even for Authorities. They're working on them to get to the Truth.
Transition	But there are so many things they don't know the Answers to! And they won't for a long time.
Position 4a	Where Authorities don't know the Right Answers, everyone has a right to his own opinion; not one is wrong!
Transition (and/or) Transition	But some of my friends ask me to support my opinions with facts and reason. Then what right have They to grade us? About what?
Position 4b	In certain courses Authorities are not asking for the Right Answer; they want us to think about things in a certain way, supporting opinion with data. That's what they grade us on.
Position 5	Then <i>all</i> thinking must be like this, even for Them. Everything is relative but not equally valid. You have to understand how each context works. Theories are not Truth but metaphors to interpret data with. You have to think about your thinking.
Transition	But if everything is relative, am I relative too? How can I know I'm making the Right Choice?
Position 6	I see I'm going to have to make my own decisions in an uncertain world with no one to tell me I'm Right.
Transition	I'm lost ill don't. When I decide on my career (or marriage or values) everything will straighten out.
Position 7	Well, I've made my first Commitment!
Transition	Why didn't that settle everything?
Position 8	I've made several commitments. I've got to balance them--how many, how deep? How certain, how tentative?
Transition	Things are getting contradictory. I can't make logical sense out of life's dilemmas.
Position 9	This is how life will be. I must be wholehearted while tentative, fight for my values yet respect others, believe my deepest values right yet be ready to learn. I see that I shall be retracing this whole journey over and over--but, I hope, more wisely.

*From Perry, W.G., Jr., "Cognitive and Ethical Growth: The Making of Meaning." In A. Chickering and Associates, The Modern American College. San Francisco: Jossey-Bass, 1981, Chapter 3, pp. 76-116.

Appendix B
Measure of Intellectual Development:
Comparative Data

Measure of Intellectual Development: Comparative Data

	N	Mean	Psn 2	Tr 2-3	Psn 3	Tr 3-4	Psn 4	Tr 4-5	Psn 5
Class									
Frosh	1695	2.80	4.7	44.1	38.9	11.0	1.3	-	0.1
Soph	367	2.88	1.9	42.0	37.6	15.3	2.7	0.5	0.1
Junior	358	2.91	2.5	33.0	47.2	15.4	1.4	0.3	0.3
Senior	337	2.98	1.8	29.7	46.9	15.4	4.7	1.5	0.1
Age									
18	378	2.87	1.1	40.5	45.0	11.4	2.1		
19	229	2.81	1.3	48.9	38.9	7.9	3.1		
20	200	2.87	0.5	41.0	44.5	11.5	2.5		
21	116	2.91	0.9	35.3	46.6	15.5	1.7		
>22	99	2.90		43.4	41.4	10.1	2.0		
Gender									
Male	526	2.92	1.7	40.1	37.2	15.7	4.3	0.5	0.1
Female	1287	2.89	1.0	37.2	47.0	11.8	2.4	0.3	0.1

Psn = Position; Tr = Transition

Source: Moore, 1982/86

Appendix C

Student Self-Assessment:
Thinking About the Way We Know

STUDENT SELF-ASSESSMENT: THINKING ABOUT THE WAY WE "KNOW"

Marie D. Eaton

Narrative student self-assessment as an evaluation procedure provides a rich source of information for faculty about student learning, and also serves a unique role in encouraging students to become more engaged and empowered in their own learning. This paper describes the use of narrative student-self assessment in both a non-traditional interdisciplinary undergraduate college which uses self-assessment as the primary mode of evaluation and in a more traditional community college which uses self-assessment within the context of letter grades. The benefits found and the problems faced in the commitment to self-assessment are addressed.

Assessment of student learning is a major thrust in higher education today. Colleges and universities increasingly are being asked to provide evidence of how our students are affected by their college experience. Some of this pressure comes from our own commitment as educators to know more fully what happens to students in their college years. Moves toward increasing assessment activity has also come as the result of state-mandated requirements to examine "outcomes" of the college experience, often to justify funding. As Pat Hutchings said: 'T's clear now that assessment isn't going away, but how will it change our work on campus? What conception of undergraduate learning does it imply? How can it alter the ways we think about and work with students - or with one another?' (1990, p. 1) The special challenge for non-traditional colleges is to develop assessment procedures that have a "fit" with our institutional missions and philosophies.

For a number of colleges, student narrative self-assessment has provided one alternative. In this paper, some of the parameters of narrative student self-assessment will be discussed in the context of two institutions, one which uses narrative self-assessment with faculty response as the primary mode of evaluation and one which uses self-assessment in the context of letter grades. The following discussion will examine these two environments and address some of the benefits found and the problems faced in the commitment to self-assessment.

Student Self-Assessment at Fairhaven College: Fairhaven College (FHC) at Western Washington University, an interdisciplinary undergraduate college within a larger regional university, has used narrative student self-assessment as the primary means of evaluation since the college was established in 1967. There are two major components to the self-assessment process: self-assessment of work in classes and self-assessment of the college experience.

The development of student self-assessment skills is a central part of the Fairhaven experience. Fairhaven does not give letter grades. In order to receive credit for any Fairhaven class, students must write narrative self-evaluations (SSEs) of progress and accomplishments in the class. The faculty member responsible for the class responds to these evaluations in writing. Copies of evaluations and responses become part of both the students and the faculty's permanent files.

All Fairhaven students take a capstone seminar in which they write "Summary and Evaluation" papers (S&E). In these papers students describe and critically evaluate their experiences in college, paying attention both to ways in which the institution helped or hindered their progress and to their own developing knowledge of subject matter and themselves as learners. The Summary and Evaluation Paper requires students to take a self-evaluative stance as they reflect back on their college experience and is usually a rewarding experience for students.

'The Advanced Seminar is one of Fairhaven's meaningful rituals, making graduating a meaningful experience. I was obsessed for weeks by the process of summing up and evaluating my entire, life-long, education.'

"This seminar has provided a wonderful structure within which I have been able to thoughtfully look back over my 4 years, reviewing, questioning, bringing to articulation a portrait in words of my experience here...Writing my S&E was a chance for me to come to a sense of completion with what I have accomplished at FC and to also see I take with me much work still to be done."

Student self-assessment at Seattle Central Community College: Seattle Central Community College (SCCC), an urban community college, uses a standard letter grading process for evaluation. SCCC has been experimenting with SSEs for the past three years. One discrete class, "Ways of Knowing," focuses on the development of self-assessment skills. In this class, students write and talk about their own education in order to develop a vocabulary to evaluate their own learning experiences.

Marie D. Eaton, Dean, Fairhaven College, Western Washington University, Bellingham, WA 98225-9118.

Along with readings and seminars on learning and learning styles, students practice self-assessment by evaluating their own educational experiences in other classes in which they are concurrently enrolled (Waluconis, 1990).

Narrative self-assessment is also used in many of the Coordinated Studies (theme-based blocks) programs at SCCC. The extensive self-evaluations from these 18 credit programs resulted so often in students owning and becoming more involved in their own education that faculty have begun to discuss ways to include SSEs in other discrete courses. Although SCCC has retained a traditional grading structure, some instructors now use self-assessment as a final assignment in class or as an evaluation process for individual assignments. This paper will discuss these two experiences with self-assessment and address some of the benefits found and challenges faced in the commitment to student self-assessment.

The Agenda and Context for Using Self-Assessment

In both institutions, the premise for using student self-evaluation is simple; one way to discover what students are learning is to ask them. Self-assessment helps students find the learning that happens in the space of mediation between self and knowledge, in the transaction of self and environment. SSEs should not be included as an afterthought, but should be integral part of goals of class, imbedded as part of the curriculum as a supplement to other work and discussion. Deciding to use SSEs as part of the evaluation process does not mean that faculty give students complete control over determining standards or criteria for performance, but rather that faculty encourage students to reflect on their own participation in the learning process and to find the connections between knowledge and their lives.

SSEs can be a simple record of learning and a moment of accountability, but at their best they are also a process of self-discovery. As students "name" it, something happens. They begin to construct the "meaning" of what they did. Frequently the SSEs become an "epistemic" writing experience -through the writing something is discovered that was not clearly seen before. As one students self assessment said:

this did not occur to me as I was trying to write the papers. It only occurred to me right now, as I'm typing this." (Taylor, 1990)

Educational theorists have written about the connection of reflection to the learning process. Kolb's work on the learning cycle (Kolb, 1981) included 'reflective observation' as an essential part of a four stage process. Theorists describe learning which leads to synthesis and self-development as distinctly different from learning defined by the acquisition of the objective, factual content of a course.

These changing views about the nature of 'learning' and relationship between assessment and learning are receiving more attention in the academy today. Faculty increasingly share some assumptions about learning which guide the development of assessment processes: Learning includes more than gathering facts and concepts in any one content area; accountability should include the voices of students; learning is more likely to occur when students have a sense of ownership, engagement and agency and are encouraged to move beyond the stance of 'received knower to construct their own knowledge; learning involves making an action out of knowledge - using knowledge to think, judge, decide, discover, interact, create; learning succeeds to the degree that it gradually assists the learner to take control of his or her own learning process. SSEs are an important part of the evaluation process in this kind of learning climate. Additionally there are benefits in both faculty and student development from the inclusion of SSEs as part of the evaluative process.

A Different Kind of Conversation about what Happened in Class: Reading SSEs in a student's own language often provides insight into cognitive and affective development that may or may not have been an overt objective of the course. Access to the student's own description of the experience gives a faculty member a better understanding of the kind of learning that is not easily tested.

"I knew upon arriving at Fairhaven that my old ways of learning were going to be challenged, which is exactly what I wanted. I have always been an expert at memorization and regurgitating information to satisfy an instructor or requirement of the class (le grades). I have also for many years been silent, afraid of my own voice, intimidated by others' knowledge and ease with which they spoke...I have learned to ask questions of my self and others...I feel as if I've been gently forced through the material to ask deeper questions, requiring deeper answers and to realize that the learning, my education, will continue as long as I'm open to new information or ways of looking at the work. For the first time in my life, I feel as if I'm being educated." FHC¹

¹A11 quotes marked with SCCC are from students at Seattle Central Community College and are taken from Carl Waluconis' work on self-assessment (Waluconis, 1990) and all quotes marked with FHC are from students at Fairhaven College.

'During this quarter I realized that to accomplish something extraordinary you've got to step out and attempt something you're not comfortable with. That one insight is worth any length of time.' SCCC

'Where once my world was black and white, good vs evil, I am beginning to see beyond the need to draw boundaries in our thought processes.' FHC

More Explicit about Learning Outcomes: SSEs also give the instructor a clearer idea about what students perceive to be the most significant areas of learning. Many times what students learn is not what we planned when we wrote the syllabus. Narrative self-assessment allows us to tap the power of their language, their own 'voices' to describe what happened for them in the class. For example, concerning a Chemical Dependency and Domestic Violence class, a student wrote:

'In terms of writers or others involved in the field, I was introduced to a host of professionals who are doing a great deal of research and work in the fields of domestic violence and voice. In looking at lesbian battering, I see myself continuing to read updates on what is being done to make services available to lesbians, and to follow the breakdown of the silence surrounding the issue in the lesbian community.' SCCC

Other students had similar experiences of stepping beyond the syllabus and the class requirements.

'American Sign Language is a foreign language. I had to forget the use of complete, descriptive sentences in ASL, and instead concentrate on concepts. The key to learning ASL is knowing that a concept has to be created and a formulation of images connected.' SCCC

'Within the learning of this rudimentary, building block level of algebra, nothing would be gained by my trying to assert my voice or inflict my opinion upon the proceedings of the class. I find that learning Algebra is like learning the most succinct language of all. If within this language I chose the incorrect 'word, the 'meaning of the sentence' would be totally erroneous.'" SCCC

SSEs can be a form of action research, giving feedback on the effectiveness of our efforts as educators. From their reflections, faculty learn about the strengths and weaknesses of curriculum and pedagogy. SSEs provide glimpses of where certain practices over-challenge or under-challenge students in their learning, and about where practices inhibit, rather than promote students' progress (Taylor & Marienau, 1989).

Feedback about the learning process is found in a wide variety of SSE exercises and does not need to occur only at the end of a term. The 'one minute papers' suggested by Patricia Cross and her colleagues (1988) are a kind of SSE. This strategy asks students to reflect at the end of each session about what they understood from the day's work and to identify and skills or ideas they still do not grasp. Faculty who use this kind of strategy report:

"I just never know this much about my students' thinking,' he told us. Wanting to understand more, I asked him, 'So, the power of Classroom Assessment is in giving you more information about students. Is that right? And he paused and said, 'Well, yes, it's information. But really, you know, the bigger difference is that I never thought to *ask* these questions before.'" (Hutchings, 1990)

The use of the self-assessment process instead of or in addition to grades may change students' and faculty's relationship to subject matter. Although the assessment process ought at minimum to provide an indication about whether students are learning what faculty members believe they are teaching, typically any assessment or evaluation process is surrounded by questions that have little or nothing to do with the content or the students relationship to the content. As Pat Hutchings indicated, most of these questions are all too familiar to faculty. "What do I have to do to get an A? Why do we have to do this paper? Why don't you just tell us what you are looking for? Do we have to know this?" (1990, p. 5) Additionally, when graded tests and other more traditional forms of assessment are used, sometimes the material used to gather assessment data is that which is easy to measure, rather than what might be most important to know. If narrative self-assessment is used as an evaluation procedure for an assignment or a class, there can be a shift toward understanding the material rather than wringing a grade out of the class assignments. Assignments can be tailored to what suits the material being studied rather than what is easy to grade.

'That is what I enjoy most about this class (Anthropology), actually being able to enjoy the terms and concepts. It isn't about memorizing from a book, but about thinking.' SCCC

Shift in Student Responsibility and Locus of Control: Through the narrative faculty response, students are given more concrete feedback on the nature and quality of their work which gives them more power to define themselves as students. As one student remarked:

"The self-assessment process helps me understand not only that I am considered a good student, but why I am considered a good student This kind of feedback gives me the tools to improve." FHC

Through the self-assessment process, students also often describe some new insights about themselves as learners.

'I kept thinking this would get easier once I wrote it down. It only got harder. I kept hitting wall after wall, coming to no conclusions with my ideas and my time was running out fast A classmate called me two days before it was due and said, 'I want to read your notes, let's go have dinner.' We ended up just talking about things we'd been afraid to say in class because we thought we were wrong. It dawned on me that these 'wrong' things were the things we thought to be most important about the readings and they directly related to the questions on the exam. Suddenly, we both began writing furiously. We both had our answers. Before this dinner I had thought two things: 1) my writings aren't good enough to let anyone read, and 2) I do not need anyone else's input on my writings; that will only distract me. I was dead wrong. SCCC

"Another important idea I expanded upon this quarter was my ability to speak out, to use my voice. This idea is probably the most connected idea of this quarter because of the fact that I've used it in every class and area of my life. In English, I was using my voice the second week of class when I read my paper on lesbian and gay youth aloud. In Japanese, I found my voice when I found the courage to talk with my teacher face to face about my grade at midterm. And at home, I found my voice when I told my lover that I needed time alone and I told myself that yes, I was a victim of all forms of childhood abuse." SCCC

Additionally, using the self-assessment process instead of or in addition to grades requires that students confront their own learning and participation in the learning process more directly. As one student said:

"When I take a graded class, I can just live with the C+, but when I have to write a Self-assessment, I have to take responsibility for what it was I did or did not do that earned me that grade. It makes me confront myself more directly. The process makes me be more honest, both with the instructor and with myself." FHC

"Giving yourself a grade (in a way) probably contributes more to your strengthening as a student and an individual than receiving a student and an individual than receiving a grade from a teacher (someone else). It is easier to disregard some other person's analysis of your efforts if perhaps you are given a low grade. On the other hand, your ego may be overly inflated because you received a high grade. The self-assessment makes students look more closely at their efforts and puts a demand on students to be honest with themselves: a difficult but righteous thing to do.' FHC

Life Long Learning: Most faculty agree that effective adults are those who are able to assess accurately their own efforts and use the assessment to improve future attempts. Most of us share Hutchings' view of the goal of a college education.

The object here is graduates who know their own strengths and weaknesses, can set and pursue goals, who monitor their own progress and learn from experience. There's considerable evidence now that students who are self-conscious about their processes as learners are better learners, that they learn more easily and deeply, and that their learning lasts. The fashionable label for the skills in question here is 'metacognitive,' but whatever you call them they represent a kind of learning that speaks to a belief that learning is personally liberating, self-empowering, and for *all* students." (1990, p.7)

We hope that part of the college experience will be the development of these skills of self-assessment. However, they may not develop for some students without practice and feedback. Through the self-assessment process, Fairhaven students often show growth in becoming more self-reflective, developing self-evaluative skills and carrying them forward into other areas of their work. Although this phenomenon is recognized by faculty, we are only now beginning to take the steps to document some of this growth through a project using the Measure of Intellectual Development (MID) which uses the Perry model of cognitive development to track student development through their own writing. The following quotes from student evaluations over time illustrate this kind of growth. The kind of evaluative statements made become more sophisticated and more reflective over time as the following excerpts illustrate.

Student #1 Year one: 1 really don't know howl can evaluate myself or the class. I learned a few things - a lot that was covered was new to me. I didn't fully participate, but I did attend whenever I could."

Year three: "Although I did not find the time to accomplish all that I would have liked to, I feel a sense of accomplishment at the completion of this study... I hope that my contribution to the class has provided some new insights for some and at least opened up some new areas of discussion. I felt that at times I could have expressed myself better.

Year five: The work I did this quarter, though mostly research and the formulation of questions for further inquiry, was probably the most important study I have undertaken. What began as a follow-up research project for clarifying what I had learned in the previous two quarters has become the basis of what promises to be the most important product of my education." FHC

Student #2 Year one: "I attended this class every day. I participated in discussions and field study. I did a research paper on Janis Joplin and I feel I did a very thorough method of research."

Year three: " This class was sometimes difficult for me. At times I felt extreme emotions toward the different ideologies expressed during class. However, these different ideologies helped me examine and change my own attitudes and ideologies. At other times I felt unchallenged and apathetic. Although my attendance was average, it could have been more regular toward the end of the quarter.' FHC

Paulo Freire, in his discussion of pedagogy, argues that students must be given work that they can think of as theirs; the work they do

must matter, not only because it draws on their experience, but also because that work makes it possible for students to better understand, and therefore change, their lives. The self-assessment process can assist students to "...perceive critically the way they exist in the world with which and in which they find themselves; (so they can)... come to see the world not as a static reality, but as a reality in process, in transformation,' (Freire, 1984), and can help students articulate and recognize that they have learned more than the class syllabus advertised as they reflect on the ways learning will continue after the class ends.

"I don't know what my major will be, but what I have learned about critical thinking, working with other people in groups or as partners, and being able to visualize things as they are being related to me, will be of benefit to me throughout my life. Equally important is the realization that I have a right and a responsibility to question what I don't understand or agree with. I hope that I can instill this in my son..." SCCC

Changes in Power Relationships: When grades are not the only driver for doing the work in the class, students often find there are intrinsic reasons for tackling the material and concepts presented in the course. Additionally, they often begin to recognize that their responsibility for experiences in the learning situation. They become their own best critics. The self-assessment process demystifies authority. Even if grades are assigned, no performance or achievement can be merely labeled with a letter; the students substantive description also carries the weight of evaluation and makes the work, not the letter symbol assigned, real.

"I feel that I accomplished everything that was asked of me during this seminar. My only question would be: did I accomplish all that I might have expected from myself?...I don't feel I was able to gain as complete an understanding of leadership" and the "biography" as I feel I should have. I think I would need more study in these fields to feel completely comfortable with them. I feel I might also have been more assertive in class." FHC

Using SSEs gives students a voice to describe their own experience in the class, and also gives them some power. The evaluation is not relegated only to others, but is also involves the self. Faculty traditionally have enormous power and control through grades (the "sacred GPA"). SSEs gives some of that power back to the student.

"It is not grades that define me or my learning, a reality that I can easily forget at times." SCCC

"I learned that it was up to me to take responsibility for my learning and I stopped placing the blame on the course or the instructor." FHC

Using SSEs is not without problems and challenges, however. When students express concern about narrative grading, the focus usually centers around their fears about access to other programs in academia. The currency of the academic world is the GPA and students compete in that world. Their fears are often justified as many programs do use GPA as an initial screening method. However, most colleges using narrative self-assessment have been able to work successfully with graduate programs, law and medical schools and scholarship committees to help them interpret narrative evaluations and determine appropriate equivalencies. This step does require extra time and commitment from faculty and staff.

Additionally, inviting students to connect their learning to their own lives and to examination the relationship of self to current and past learning situations can sometimes be emotionally laden. Many faculty are neither comfortable with the kinds of self-disclosure which can happen, nor are they prepared to help students when they confront the kinds of issues which may arise. When faculty and students set mutually agreeable parameters early in a course to guide the self-assessment process and when appropriate resources for talking through the "unexpected learning" are identified, this difficulty can be largely avoided. Not all learners enjoy or value the process of self-assessment. As Taylor (1990) reported:

"One woman described it (an SSE) as 'psychological ka-ka' and indicated that she would do it only because it was a requirement, but 'kicking and screaming all the way.' And, despite our suggestions for a shift in perception, her 'self-assessments' have really been program critiques." (p. 23)

However, most students, when interviewed at the end of their programs, view SSEs as a valuable and important part of their learning experiences in college. Apparently there is something about self-assessment which they are able to generate to other areas of their lives. The ability to examine one's accomplishments in a particular learning environment sharpens the ability to evaluate oneself in a variety of other arenas.

There are some additional potential problems which center around the faculty's perception of the importance of the narrative grades. Writing narrative responses to the student's self-assessment requires concentration and commitment. Some faculty respond in vague or relatively superficial ways, or slip into the use of clichés which find their way into all evaluations, robbing them of the personal focus. Other faculty find it difficult to be constructively critical. The narrative process then becomes simply an affirmation of all the student did well with little critical dialogue about those areas which could have been improved. Both these kinds of responses undercut the power and purpose of the self-assessment process.

There are also some administrative considerations which must be addressed when considering the use of narrative evaluations, particularly if they are considered as a replacement for letter grades. The first is simply the increased amount of paper flow. Grades

don't take up much room (4 digits each) and are easily stored. The narrative evaluations require triplicate forms, filing cabinets, and staff time to process them.

The commitment to the use of narrative evaluations has implications about the se of classes offered. Although students in large classes could still be encouraged to write self-assessments, either for individual assignments or as summaries of a class experience, personal responses from faculty to these evaluations are difficult to impossible to do for large classes.

Finally, the curriculum must provide avenues for students to learn the skills of self-assessment. Most students come to college with little or no experience in taking a reflective look at their own learning.

"I found the Selfassessment difficult to write. I've never had to do an S.E. before, so I hope they will get less difficult as I progress..." FHC
For many students, the self-evaluation can become a reprise of the syllabus or a reciting of events in the class. For example:

"We read a progression of autobiographies for the class. The first is a short chronicle of events lodged in familiar time and place; it matched my initial idea of what an autobiography could be. Then we read the diary of a women. It used a complexity of prose and structure I had not seen before...The last autobiography, like the first, is a chronicle of events, but more specifically a chronicle of a life's work." FHC

Both Fairhaven and SCCC have addressed this concern by becoming more self-conscious about teaching the skills of self-evaluation. Using drafts of the self-assessment, feedback, prompts and focused questions, we are attempting to provide students with a more structured experience to build these skills.

Summary

Previous research has indicated that students who were given an opportunity to regularly reflect on their learning and life at college described the satisfaction gained from being offered the chance to engage in self-assessment. Perry (1970) indicated that students often regarded the interview about their previous years work as a highlight. Students in colleges which have incorporated self-assessment into the curriculum concur. They are eager to discuss and study their own learning and development.

'Student enthusiasm was noticeably high throughout the quarter. It felt to me in the front of the room as if a current of water was rushing to fill a space where previously a vacuum had existed...Here was time in their studies to reflect on the higher learning for which they were paying and to which so many people were dedicating so much time. Here was time to 'jump off education as an industrial treadmill and time to contemplate and hold seriously the knowledge and processes to which students were being introduced.' (Waluconis, 1990)

Even though there may be difficulties in integrating self-assessment into a college curriculum, we believe that the benefit to students is substantial and justifies its use. Given a world in which paradigms are shifting rapidly, growth in student ability to be self-reflective and to evaluate both performance and process may be one of the most important outcomes of a college experience. The use of narrative self-evaluation is one method to develop those skills.

References

Cross, K.P. & Angelo, T.A. Classroom Assessment Techniques: A Handbook for Faculty. Ann Arbor: National Center for Research to Improve Post-Secondary Teaching and Learning. University of Michigan, 1988.

Freire, P. Pedagogy of the Oppressed. New York: Continuum, 1984.

Hutchings, Pat "Assessment and the Way We Work" Closing Plenary Address, Fifth AAHE Conference on Assessment, June 30, 1990.

Kolb, D. "Learning Styles and Disciplinary Differences." in A.W. Chickering & Associates, The Modern American College. San Francisco: Jossey-Bass, 1981.

Perry, W. Forms of Intellectual and Ethical Development in the College Years: A Scheme. New York: Holt, Rinehart & Winston, 1970.

Strohm, M. Address given at the National Conference on Student Centered Learning, Bellingham, WA, 1988.

Taylor, K. 'Self-Assessment: Discovery of Self and Self-Development in the Adult Learner.' Draft chapter for an anthology on non-traditional education. 1990.

Taylor, K. & Marienau, C. "Self-Assessment: Reflections of the Past Which Helps Set Future Directions.' In Proceedings of the Ninth Nation Conference on Adult and External Degree Programs, sponsored by the Alliance and American Council on Education, October, 1989.

Waluconis, C. 'Student Self-Evaluation: Student Outcomes As Learning.'" Presented at the Washington State Assessment Conference, 1990.
