

**Research team members
who contributed to this
research**

Tamar Ben-Ur
Glen Rogers

**Research and Evaluation
Committee**

Zita Allen
Jean Bartels
Lucy Cromwell
Mary Diez
Austin Doherty
Marcia Mentkowski
Georgine Loacker
Kathleen O'Brien
Timothy Riordan
Stephen Sharkey

**Educational Research and
Evaluation**

Karen Adair
Tamar Ben-Ur
Lynn Chabot-Long
Lynne Kleinman
Marcia Mentkowski
Judy Reisetter
William Rickards
Glen Rogers
Kathleen Schwan Minik
Beverly Weeden

Epistemological Development During and After College

Longitudinal Growth on the Perry Scheme

Judith Reisetter Hart William Rickards
Marcia Mentkowski

Educational Research and Evaluation
ALVERNO COLLEGE
Milwaukee, Wisconsin

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Alverno College Institute

3400 South 43rd Street

PO Box 343922

Milwaukee, WI 53234-3922

Phone: 414-382-6000

www.alverno.edu

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ABSTRACT

In 1973, Alverno College implemented an outcome-oriented, ability-based curriculum. Concurrently, it developed a student assessment system, and then an educational research and evaluation program to address validation issues and to deal with faculty and staff questions about teaching and learning in a developing and dynamic curriculum. One of the College's first strategies was a longitudinal study of all students who entered in 1976 and 1977. The study was designed to provide a broad picture of student and alumnae development, abilities, learning, and performance. Using a range of measures from different theoretical frameworks, the study triangulated (a) the development and performance of students in the curriculum with (b) perspectives and careering of students and alumnae and (c) other external frameworks, including intellectual and ethical growth and development. In a time series design, students completed measures at entrance, after two years at Alverno, after three and one-half years at Alverno, and then five and one-half years after Alverno. One measure is based on William Perry's (1970) Scheme of Intellectual and Ethical Development. Perry describes development of students across nine positions from an essentially dualistic view of knowledge and value (positions 1 and 2) through multiplicity (3 and 4) to relativism (5 and 6) and finally to reasoned commitments (7, 8, 9) that guide behavior and major life choices.

This report describes results from the student and alumnae measure using the Perry Scheme. As operationalized through Knefelkamp (1974) and Widick's (1975) Measure of Intellectual Development (MID) (Mines, 1982), participants completed three brief essays (Best Class, Decision, and Career) that were scored, using the Alverno criteria and judgment process (Mentkowski, Moeser, & Strait, 1983). Judgments place the individual essay in relation to the Scheme. In general, participants showed a pattern of general, gradual growth during the college years within an early position of multiplicity and then showed growth after college to higher levels toward relativism. However, within this larger pattern there were differences among individuals and essays. In general, students who did not enter Alverno direct from high school entered at higher positions and progressed further in the Scheme. The Best Class essays showed changes in how individuals thought about their own learning processes; the Decision and Career essays showed changes in their thinking about personal identity and ethical issues. The authors draw implications for higher education practice.

INTRODUCTION

The development of students as thinkers has remained a central purpose in higher education, although embedded in the expectations of coursework and graduation. A major effort in the higher education assessment movement is to generate additional evidence to triangulate with curriculum expectations and students' course-based performance in order to make the case that students are benefiting as a result of college. As higher education faculties continue to define the outcomes of college and to address issues of student achievement of curriculum goals, developmental theory has been a significant perspective guiding these complex issues (Chickering, 1981; Mentkowski, 1983; Pascarella & Terenzini, 1991; Loxley & Whiteley, 1986). Developmental perspectives become one source of corroborating evidence for validating and addressing accountability and improvement concerns—provided that related, external measures are appropriate for broadly-based college outcomes studies.

These cognitive-developmental frameworks and instruments can provide insight into how students think and a foundation for addressing the student as thinker. Likewise, developmental perspectives provide another framework for how students learn and develop. This can support a faculty's continual learning about their teaching (Riordan, 1993). The frameworks provide a picture of student learning and development that can be used by faculty and staff to continually question and draw implications for revising curricular components in relation to their own teaching.

In 1976, as Alverno College initiated its educational research and evaluation

efforts to examine the worth, value, and effectiveness of its new outcome-oriented, ability-based curriculum, we selected a series of measures (e.g., moral, ego, and intellectual development; learning styles; generic abilities) as one part of a longitudinal study. The study spanned ten years for all students entering the college in 1976 and 1977, in order to yield insight into their continued development from entry to five years after college. We chose William Perry's (1970; 1981) Scheme of Intellectual and Ethical Development because it held the potential to integrate developmental concerns with teaching and learning applications.

The Alverno longitudinal study focused on the following guiding questions in relation to the Scheme:

- To what extent do our students change during and *after* college? What patterns emerge from the Perry Scheme and how do they contribute to our thinking about adult epistemological development?
- Are there differences among students on a combination of maturational factors that might include age and life experiences prior to college? For example, do young students entering direct from high school show different patterns of development compared with those who transfer to the college, who return to school as a new life task or after establishing a career?
- To what extent can we attribute changes to the curriculum or make productive relationships to teaching and learning?

Earlier publications (Mentkowski, Moeser, & Strait, 1983; Mentkowski & Strait, 1983; Mentkowski & Doherty,

1983 revised 1984; 1984; Mentkowski, 1988) reported on patterns and trends during college, and demonstrated that some of student change on the Perry Scheme during college could be attributed to student performance in Alverno's ability-based curriculum. In the current report, we integrated longitudinal data from five-year alumnae to provide a fuller picture of development during and after college.

Perry's Scheme of Intellectual and Ethical Development

William Perry's (1970) Scheme of Intellectual and Ethical Development charts the growth of college students from *Dualism* to *Multiplicity* to *Relativism* and into *Commitment* that characterizes fuller adult roles. The theoretical Scheme describes a series of nine positions. In the original research, participants moved generally from Position 2 to Position 7 over the college years.

Perry's original research—completed by a team over several years—involved Harvard college students. At the end of each year in college, an interview with few if any probes encouraged students to describe “what stood out for them” over the last year. Perry described the nine positions through four major positions: *Dualism*, *Multiplicity*, *Relativism*, and *Commitment*. The Scheme suggests that students enter college as dualistic thinkers: “right” answers exist and authorities have those answers. As they progress through college, students appreciate multiple perspectives. They understand that uncertainty exists, and that knowledge should be questioned, and that it is developed in context. We adapted the following description from Perry (1970, 1981).

Dualism Modified into Multiplicity (Positions 1–3): At these positions, students order their worlds in dualistic, dichotomous, and absolute categories. In *Dualism*, knowledge is presumed to be absolute and known to authorities. There are absolute rights and wrongs. Therefore, knowledge is viewed as a collection of facts, and the teacher's role is to give the students the information. By Position 3, the student is able to recognize alternative perspectives. In *Multiplicity*, most knowledge is absolute, but there are grey areas, and learning is a game of trying to figure out what each teacher wants, and teachers have different views. Though all opinions are seen as having equal claims to “rightness,” the student still hopes that the universal truth will be found.

Relativism Discovered (Positions 4–6): The recognition of multiplicity leads to the understanding that knowledge is contextual and relative. In *Relativism*, the student realizes that grey areas are the rule rather than the exception, and there is a growing awareness that not all opinions are equally good. The student is now capable of metacognition and complex analytical skills. Students can critique their own ideas as well as those of others, recognizing that not all opinions are equally valid in all circumstances. It becomes clear that the context in which facts are presented matters.

Commitment in Relativism (Positions 7–9): In *Commitment*, knowledge is probabilistic. The student is able to evaluate and synthesize contradictory data. The student makes evolving commitments and consciously considers alternatives. Students are working to establish their own identities in commitments made to ideas, values, behaviors, careers, and to other individuals.

The Perry Scheme has been extensively researched, though no study using his framework has utilized the interview strategy to the degree that Perry did. In general, Wright (1992) argues that the overall validity of the positions has been supported. Though the Scheme has only been minimally used to research the effectiveness of particular learning orientations (e.g., collaborative learning), this framework can provide a construct and methodology for studying learning in college.

While Perry's research was based on extensive interviews with students, two graduate students working with Clyde Parker at the University of Minnesota, Lee Knepfelkamp (1974) and Carol Widick (1975), and later Knepfelkamp and Ron Slepitzka (1976), had some success in operationalizing the Scheme in Knepfelkamp and Widick's Measure of Vocational, Educational, and Personal Issues. Knepfelkamp and Widick used written protocols and asked respondents to write brief essays which they then rated in relation to the Perry Scheme positions using "cues" (Measure of Vocational, Educational, and Personal Issues: Knepfelkamp (1974); Widick (1975), now titled the Measure of Intellectual Development (Mines, 1982). Students completed three brief essays on a "best class," a recent or significant "decision," and a "career" decision. At the start of the Alverno Longitudinal Study (1976), this work was the only available source of measurement. It was this original work that Mentkowski, Moeser, and Strait (1983) further developed in Alverno College's longitudinal study. Based on 3,000 essays from women who participated in the study, and a review of Perry's original work, they developed and validated criteria and judgment, processes. The studies at

Alverno were particularly useful in validating criteria and a process of judgment, as well as in developing the breadth and depth of the criteria for use with the Alverno sample and after college (Mentkowski, Moeser, & Strait, 1983). Moore (1983) and colleagues have continued to score the Measure of Intellectual Development, primarily using the Knepfelkamp team's cues and judgment process, at the Center for Applications of Developmental Instruction, now called the Center for the Study of Intellectual Development.¹

Can the Perry Scheme assist us in understanding more about teaching strategies and their effectiveness for student learning? Early studies claimed a positive impact for instruction. (Knepfelkamp, 1974; Knepfelkamp & Slepitzka, 1976; Widick, 1975; Widick, Knepfelkamp, and Parker, 1975). The explicit goal of these educational programs was to advance students from dualist to relativistic constructions over the course of the semester. Pascarella and Terenzini (1991), in their comprehensive review of the effects of college, report that there is some evidence that college instruction can be designed to facilitate development along the Perry Scheme. Stephenson and Hunt (1977) reported mean changes along the Perry Scheme when students were instructed via an experimental intervention that focused on human identity within the context of literature and psychology. The instruction emphasized challenges to the students' values and cognitive constructs within a supportive teaching paradigm. These studies discuss how their results were generally related to broad teaching strategies used by the instructors. Further research needs to be done to examine what more specific teaching strategies are most appropriate for facilitating growth.

There has been sustained interest in the Perry Scheme over the last 20 years. Related articulations of epistemological developmental Schemes based on interview- and instrument-based research have been forthcoming in relation to *dialectic thinking* (Basseches, 1984), *reflective judgment* (Kitchener & King, 1981; King & Kitchener, 1994), *epistemological reasoning* (Baxter Magolda & Porterfield, 1985; Baxter Magolda, 1992, 1994) and *women's ways of knowing* (Belenky, Clinchy, Goldberger, & Tarule, 1986). Although the current work is embedded in the original Perry Scheme and methodology, we have been informed by this recent thinking and applications along with our own statistical and qualitative analysis.

Traditionally, Measure of Intellectual Development-based research has employed aggregate scores from student work; we have followed that framework. However, we also find a compelling need to look at individual student "growth trajectories" and patterns of development and to integrate these perspectives with the more scale-like analysis. At the same time, we recognize that we are not working with well-developed models for examining these growth curves in the richer context of classroom practices; we are grappling with techniques for summarizing and presenting this kind of inquiry. We find that such work adds to faculty conversation about development and teaching.

The current study reports on the epistemological development of women in the Alverno College Longitudinal Study from college entry to five years after college. The earlier work found that students entered college at dualism and progressed to multiplicity (Mentkowski, Moeser, & Strait, 1983; Mentkowski,

1988). Except for Baxter Magolda's work with first year alumni (1994), we are not aware of studies examining longitudinal development after college on the Perry Scheme. Our current study expands the research base into the alumna years and extends the picture of longitudinal development into post-college experiences.

METHOD

The Measure of Intellectual Development was completed by longitudinal study participants to measure epistemological development according to the Perry Scheme using the Alverno criteria and judgment process (Mentkowski, Moeser & Strait, 1983) an outgrowth of earlier work (Knefelkamp, 1974; Widick, 1975) (see also Moore, 1983). Participants completed this instrument four times: three times during their college years and one time as five-year alumnae. In this section, we review the setting for and design of the study, sample definitions, procedures for data collection, scoring and establishing reliability, background variables included in the analyses, and data analyses strategy.

Setting

Alverno College is a four-year liberal arts college for women in Milwaukee, Wisconsin, with 2,500 degree students enrolled in either a weekday or weekend time frame. Generally, students are from southeastern Wisconsin, are first-generation college students, and work during and after college. Since 1973, graduation from

Alverno has required students to demonstrate eight abilities to an explicit level of effectiveness in the context of disciplinary or professional content: communi-

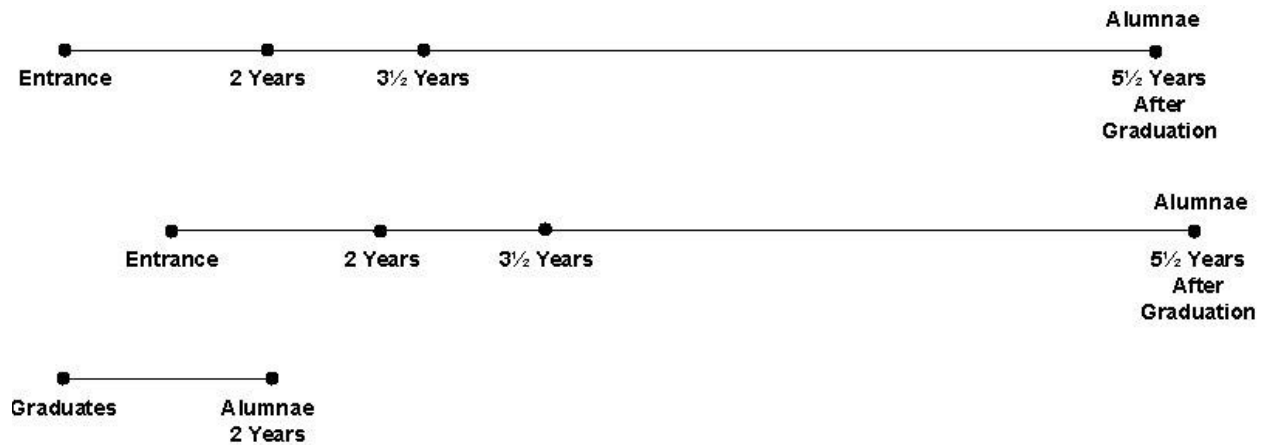


Figure 1: Alverno Longitudinal Study Design

cation, analysis, problem solving, valuing, social interaction, global perspectives, effective citizenship, and aesthetic response. Faculty have determined and taught these abilities in general education courses and in a variety of disciplines. They have made them explicit through criteria and assessed them in multiple modes and contexts through their student performance assessment system. Alverno has tested these abilities by collaborating with many other institutions and their faculty through a variety of consortia that cross the educational spectrum from elementary to professional schools (Consortium for the Improvement of Teaching, Learning, and Assessment, 1992).

Design

The Alverno College Longitudinal Study of student and alumnae abilities, learning, development, and performance from entry to five years after college is a comprehensive study of student learning outcomes in relation to the curriculum and college mileau. Participants contributed over a ten-year period. They completed a battery of human potential instruments three times: during college: entrance (*T1*), after two years at Alverno (*T2*), after three and a half years at Alverno when many were near gradua-

tion (*T3*), and five and a half years after Alverno as five-year alumnae (*T4*).

Seventeen measures of generic abilities, learning styles, motivation, ego, moral, and cognitive development were administered along with in depth, confidential perspectives interviews (Mentkowski & Much, 1980, revised 1985; Much, 1979); surveys of student and alumna perceptions and background characteristics (Mentkowski & Bishop, 1981; Alverno College Office of Research and Evaluation, 1985); and behavioral event interviews (McClelland, 1976; 1978a; 1978b; 1987) of alumnae performance. The latter serves as a criterion measure for alumnae performance across roles, including professions. Student participation rates ranged from 84% to 99%; for alumnae, participation ranged from 59% to 88% across the components of the study.

This time-series design enables causal judgments in the absence of a control group of other colleges, or normative comparisons to standardized norms, because we control time and allow student achievement levels in the curriculum to vary based on number of successfully achieved, sequential performance assessments at the time of data collection).

Table 1: Participation Rates on the Measure of Intellectual Development by Sample Frame Definitions

Sample Frame Definition	Number Collected	Number in Sample Frame	Percent of Participation
Graduates in the Longitudinal Study sample frame ^b , as five-year alumnae	215	306	70%
Graduates and Non-Graduates in the Longitudinal Study Sample Frame ^c , as Five-Year Alumnae	239	358	67%
Graduates and Non-Graduates in the Longitudinal Study Sample Frame ^c , as Five-Year Alumnae who Participated at Four Times of Assessment	141	358	39%

^a This sample frame includes all students who entered Alverno in 1976 or 1977 in either the Weekday or Weekend College time frame and who graduated by the time of data collection for five-year alumnae.

^b The same as above, except excludes those who did not complete at least five human potential measures during at least two of the three administrations during the student years. Failure to meet this eligibility inclusion rule for prior completion may have resulted either from non-participation or from not being on campus during an administration. Lack of completion of the initial assessment of human potential measures, in itself, led to designation as ineligible for subsequent administrations.

^c The same eligibility rules as the category immediately above, except it *includes* alumnae who did not graduate.

Students were further identified by student population type at entrance which included age, prior life experience, and other background variables. These groups were identified to better describe Alverno students and to examine differences in change patterns.

Sample

The longitudinal sample is composed of all women who entered college in Fall 1976 or Fall 1977 (N = 770). The 1977 class included students who enrolled in both a weekday and a weekend time frame. Rules for inclusion in the sample frame and the estimate of participation rates vary according to the question applied to the data (see Table 1). The

sample can be allocated to answer questions specifically about graduates, about graduates included in the longitudinal sample frame who met eligibility rules by completing a number of instruments at two of the three administrations during the college years, or about alumnae. This last category includes both graduates and non-graduates, and is the longitudinal sample we use when responding to more specific questions about development of women over the ten-year timespan. All prior essays from those who completed the Measure of Intellectual Development at the T4 administration were included in the current scoring set and were used for the current analyses. Of the 358 alumnae who were eligible, 248 (69%) completed the Measure of Intellectual Development. Complete data on at least

one of the three essays in the Measure of Intellectual Development protocol across all four times of assessment are available for 141 participants on Essay A (564 Best Class essays), 140 participants for Essay B (560 Decision essays), and 125 participants for Essay C (504 Career essays), for a total of 1,628 essays. These numbers vary because participants either did not complete the entire protocol of three essays or because their essay was considered unscorable. This fully longitudinal sample is the primary sample for analyses in this report.

Students are women of traditional and nontraditional age. The age range of the sample at entrance to college was 17 to 53, with a mean of 24 years for this particular instrument. In comparison to the current enrollment, the longitudinal sample tended to be younger, with fewer students from cultural and racial backgrounds other than Caucasian. Students in the longitudinal sample are typically first-generation college students (79%) who worked before, during, and after college. Most women had a professional major such as business and management, nursing, education, or communications, and 96% graduated. As five-year alumnae, they report paid employment as their primary activity (85%). Five years after college, 71% have married, 47% have had children, and 49% have enrolled in some type of post-college educational experience.

For these analyses, the sample was further broken down into four groups based on age, prior education, and work experience. The grouping brings forth a clearer understanding of differences that characterize student life and increases attention to the significance of such differences in understanding the Perry Scheme. The nominal population group-

ing has been developed in Alverno's longitudinal study to see how population differences might be understood further, beyond age. The types are as follows:

- *Direct from high school* (age 17–19, these students are entering directly from high school);
- *Delayed college-new life task* (These are older students, with few if any college transfer credits and work histories in jobs not requiring college preparation²);
- *Transfer student-returning task* (These students' work histories do not require college preparation and they enter with more than ten units of transfer credit);
- *Pre-established career* (These students enter with employment histories at a level requiring college preparation).

Group specifications are shown more precisely in Table 2.

Procedures

Measure of Intellectual Development

Instead of using oral interviews as did Perry, much of the research with the Perry Scheme as originally conceptualized identifies the positions from paper and pencil responses. Researchers have typically used these instruments: The Measure of Intellectual Development (MID) (Knefelkamp, 1974; Knefelkamp & Slepitz, 1976; Widick, 1975), the Learning Context Questionnaire (LCQ) (Griffith and Chapman, 1982), and the Learning Environment Preferences (LEP) (Moore, 1989). The first is comprised of prompts and essays; the second

Table 2: Alverno Longitudinal Study Student Population Type: Summary of Defining Differences

Alverno Longitudinal Study Student Population Type				
Defining Variables	Direct From High School	Delayed College-New Life Task	Transfer Student-Returning Task	Pre-Established Career
Age	17.8	30.9	30.1	35.2
Transfer Credits	2.1	1.3	32.3	27.3
Entrance Career Level (Paid) ^a	1.1	1.4	1.4	3.1
Employed as RN before Alverno	0%	0%	0%	60%

Note. Alverno Longitudinal Study Student Population Type is defined at entrance to college. Table entries are for means of the variable for the Student Population Type or for the percentage of students in that type for whom the defining variable is characteristic.

^a The construction of the scale is described in Ben-Ur and Rogers (1994, June): *Measuring alumna career advancement: An approach based on educational expectations*. It has five levels: *Highest in Field or Organization (5)*, *Directors/Advanced Professionals (4)*, *Professional College-Level (3)*, *Prefer Some College (2)*, *No Degree Required (1)*.

^b There was one participant (2% of the "Transfer Student-Returning Task") who entered Alverno immediately after obtaining an R. N. degree but was not employed as an R. N. before Alverno.

is multiple choice. Generally research with these instruments has supported the overall validity of the Perry positions (Wright, 1992).

In earlier work (Mentkowski, 1988; Mentkowski, Moeser, & Strait, 1983), we administered the Measure of Intellectual Development to students three times during the college years. Generally, the students entered college in the *Dualism* position and progressed into *Multiplicity*. However, at graduation few were rated as being at *Relativism*, and none of the students were at *Commitment*. Perry (1970), on the other hand, found that 75 percent of his sample had reached the level of *Commitment*.

Pascarella and Terenzini (1991) note that subsequent research has not supported Perry's *Commitment* in college students. One potential interpretation is that paper and pencil methods do not elicit

adequate descriptions of thinking. Others have suggested that Perry's initial finding could be an artifact related to the context of his sample, the late 1960's. The issues discussed in the interviews may have been so emotionally and socially charged that they appeared to be complex enough to require further stages.

King and Kitchener (1994) and Baxter Magolda (1992) have noted that Perry seems to switch emphasis at position 5, where the focus moves from cognition or epistemology to a focus on commitment in identity. Focusing more strictly on the development of the structure of knowledge has led these and other researchers to suggest that *Relativism* is the highest level of adult thinking and have chosen to focus only on Perry's first five positions.

Researchers using the Measure of Intellectual Development have found college students to be moving primarily

through three of the earlier positions: Modified Dualism (Position 2), Multiplicity (Position 3) and Early Relativism (Position 4) (Pascarella and Terenzini, 1991).

Scoring

According to the scoring procedures each full position is indicated through a three-digit code (222, 333, 444, etc). Between the different positions, there are also two possible transitions, one position being considered dominant. This is explicated in the three-digit code (e.g., 223 or 233) with the position being represented by two digits considered the dominant position. In this case, virtually all evidence or criteria would be indicative of the position considered dominant.

Judgments about a position are made according to specified criteria. They are made by an expert scorer and/or by consensus with a team of expert scorers. The criteria used by Perry were first developed from the Harvard interviews; additional “cues” were articulated by Knepelkamp and Widick and others working with Knepelkamp (Moore, 1983) in the development of the Measure of Intellectual Development. Criteria were developed at Alverno based on these cues, a re-examination of the Perry work, and responses to Alverno essays using the prompts from the Measure of Intellectual Development (Mentkowski, Moeser, & Strait, 1983). Alverno researchers also developed a consistently applied judgment and scoring process to underscore the validity of the ratings.

Alverno researchers use three terms to describe the scoring process used with the Measure of Intellectual Development essays: analysis, judgment, and rating.

Analysis refers to reading the essay and identifying evidence that characterizes one or more Perry positions. Judgment refers to the more explicit application of Perry position criteria to examples in the essays. Judgment, however, always occurs in interaction with continuing analysis and documentation. Rating refers to assigning an actual three-digit rating to the particular essay that is the product of both analysis and judgment (Mentkowski, Moeser, & Strait, 1983).

Reliability

Because the scores are rendered in a three-digit format, four different approaches to reliability are possible. *Absolute agreement* requires that all three digits be exactly the same. *Dominant position* equates scores accordingly (e.g., 233, 333, and 334 would all be considered equivalent). *Transition* equates the two scores which are possible in transition between positions (e.g., 223 and 233), but distinguishes them from full position scores (e.g., neither 223 or 233 is the equivalent of 222 or 333). With the exception of the *absolute position*, each of these employs some flexibility. Moore (personal communication, July 18, 1991) has suggested a fourth alternative, *within 1/3 position*, which means that a rating would be considered reliable with the ratings on either side in the linear scale (e.g., 223 would be equivalent with 222 or 233).

Our earlier work (Mentkowski, Moeser, & Strait, 1983) considered dominant position the most practical and defensible index of agreement, which we achieved at a median level of 76% for about 3,000 essays. It fully reflects the divisions of Perry's original Scheme, but avoids relying on finer discriminations about “how much” evidence of a second position war-

rants transitional notation. Reliability in current work is also reported *within 1/3 position*. This recognizes the more mathematical properties of the *position* scale (i.e., that any position is qualitatively most like its most proximal positions) and permits equivalence among proximal transition scores (e.g., 223 and 233), but not for transition scores which cross a position (e.g., 233 and 334).

William Moore (personal communication, 1991) has indicated that current reliability standards for the Center for Intellectual Development and for the work with The Evergreen State College target inter-rater agreement at 90% *within 1/3 position*. Based on available data, we targeted both our inter-rater agreement and current-prior agreement (agreement between scores from rescoring reported here and scores from our first scoring reported earlier) at 80% *within 1/3 position* (plus or minus). Overall, our agreement during training ranged from 74% to 80% at dominant position to 88% to 91% *within 1/3 position*. This represents some improvement on the standards for scoring and the scoring performance of the prior Alverno scorers. This is expected since we have the benefit of the scoring manuals (Mentkowski, Moeser & Strait, 1983) which they created and which allowed for this kind of improvement.

Current Scoring

As mentioned, the Measure of Intellectual Development (MID) was one of 17 human potential measures administered as part of a broader longitudinal study. In completing the task, participants are asked to write three brief essays on the following themes: Classroom learning (Best Class, Essay A); decision-making (Decision, Essay B);

and career choice (Career, Essay C). These essays were scored in order to make a judgment about the placement of the individual in relation to the Scheme according to criteria developed to explicate each of the Perry positions (Mentkowski, Moeser, & Strait, 1983).

We selected the scoring sample for the work included in this report according to the completion of the Measure of Intellectual Development at the fourth or alumna time of assessment. If the Measure of Intellectual Development was completed then, all other completed essays for that individual were also included in the scoring sample and were rescored. Typically the participants completed either two or three assessments during the student years. This resulted in a scoring sample of 859 protocols. Since each protocol contains three separate essays, 2,577 individual essays were included in the scoring sample. Because this process included interleaving essays scored by the prior scoring teams, it was also possible to calculate reliability figures for the current scoring team. Overall, current-prior agreement ranged from 77% to 86% at dominant position to 90% to 93% *within 1/2 position* for the interleaved essays.

We photocopied essays and masked longitudinal identification numbers and times of assessment. The essays were then sequenced according to new ordinal identification numbers through randomization. Scoring progressed for each essay separately. This process was done in order to keep the scoring team (Reisetter Hart and Rickards) blind to the time the particular essay was written, the identity of the individual writing the essay, and the cohort of the individual. Despite these efforts, the scorers could occasionally infer whether the essay was

Table 3: Best Class Essay (A) Mean Scores Reported by Student Population Type and Time of Assessment

Student Population Type	<i>n</i>	Time 1	Time 2	Time 3	Time 4
Direct From High School	70	2.94	3.15	3.40	4.08
Delayed College-New Life Task	26	3.96	3.92	3.84	4.81
Transfer Student-Returning Task	27	3.93	4.04	3.96	4.59
Pre-Established Career	17	4.00	4.65	4.76	5.88
Overall Mean	140	3.45	3.65	3.76	4.14

written by a student or an alumna, because of the content of the essay.

Each scorer first independently rated each essay and recorded the recommended rating and all relevant criteria. The scorers then met for consensus. Each essay was reviewed, criteria and relevant themes were discussed and agreed upon, and recommended ratings were proposed. The two scorers then assigned a final rating and recorded agreed upon criteria. If there was disagreement, the third author provided an analysis and score and the team assigned a final rating. We scored 1,628 essays included in this report.

Data Analysis

Aggregate trends for each essay were analyzed for four student population types and four times of assessment through a Student Population Type (4) X Time (4) repeated measures Multivariate Analysis of Variance (MANOVA) for unequal ns and interval lengths. Orthogonal a priori linear, quadratic, and cubic contrasts were specified in the MANOVA. Based on aggregate scores, this analysis produces a broad picture of the changes on the Perry Scheme over time, including main effects and interactions through time with student population types at entrance to college.

RESULTS

Aggregate Trends

In the mean scale scores reported in the next sections one unit or interval represents $\frac{1}{3}$ of a Perry position—for example, moving from a scale score of 2.00 to 3.00 is equivalent to the passage from the Perry position 223 to 233.

Best Class (Essay A)

The repeated measures Multivariate Analysis of Variance (MANOVA) for unequal ns and interval lengths, with a priori linear, quadratic and cubic contrasts—yielded a statistically significant linear effect, $F(1,137) = 51.77, p < .001$. The mean scores for the position judgments at each time of assessment for the Best Class Essay are presented in Table 3. In relation to their descriptions of their “Best Class” in the aggregate, the findings suggest that individuals enter college in a transition between *Dualism* and *Multiplicity*. During the college years, these individuals still retain some of their dualistic positions, but continue developing into full *Multiplicity* with the beginnings of *Relativism*. The alumnae show continued growth post-college, well past *Multiplicity* into *Relativism*. The degree of growth in the post-college years, as indicated by the change in the

Table 4: Decision Essay (B) Mean Scores By Student Population Type and Time of Assessment

Student Population Type	<i>n</i>	Time 1	Time 2	Time 3	Time 4
Direct From High School	64	2.45	2.77	3.32	4.14
Delayed College-New Life Task	25	3.44	3.80	3.76	4.76
Transfer Student-Returning Task	23	3.83	3.78	3.78	4.61
Pre-Established Career	14	4.14	3.79	4.14	4.57
Overall Mean	126	3.09	3.27	3.48	4.40

scale score—is roughly equivalent to that which is experienced during college.

The MANOVA results also yielded a statistically significant student population type effect, $F(3,137) = 11.67$, $p < .001$. These analyses suggest that all groups gained similarly over the time period. Post-hoc t-tests comparing pairs of population types collapsed through time demonstrated that the group *Direct From High School* started at a lower position and remained at a relatively lower position across the ten-year longitudinal timespan.

Decision (Essay B)

The repeated measures MANOVA for unequal *ns* interval lengths, with a priori linear, quadratic, and cubic contrasts, yielded a statistically significant linear effect, $F(1,136) = 50.94$, $p < .001$. The mean scores for the position judgments at each time of assessment for the Decision Essay are presented in Table 4. The aggregate results suggest that in relation to a “recent decision,” individuals enter college in an transition between dualism and multiplicity. During the college years, these individuals still retain some of their dualistic positions, but continue developing into full multiplicity with the beginnings of relativism. Alumnae show continued

growth post-college, well past multiplicity into relativism.

The MANOVA results also yielded a statistically significant student population type effect, $F(3,136) = 17.76$, $p < .001$. Post-hoc t-tests comparing pairs of population types collapsed through time demonstrated that the group *Direct From High School* started at a lower position and remained at a relatively lower position across the ten-year longitudinal timespan.

Career (Essay C)

The repeated measures MANOVA for unequal *ns* interval lengths, with a priori linear, quadratic and cubic contrasts, yielded a statistically significant linear effect, $F(1,122) = 44.62$, $p < .001$. The mean scores for the position judgments at each time of assessment for the Career Essay are presented in Table 5. The aggregate finding suggests that in relation to their “Career Choice,” individuals enter college in a transition between dualism and multiplicity. During the college years, these individuals retain some of their dualistic positions, but continue developing into full multiplicity with the beginnings of relativism. Alumnae show continued growth post-college, well past multiplicity into relativism.

Table 5: Career Essay (C) Mean Scores Reported By Student Population Type and Time of Assessment

Student Population Type	<i>n</i>	Time 1	Time 2	Time 3	Time 4
Direct From High School	71	2.87	3.07	3.32	3.97
Delayed College-New Life Task	26	3.35	3.96	4.03	4.11
Transfer Student-Returning Task	27	3.63	3.78	4.18	4.81
Pre-Established Career	17	3.82	4.00	4.29	5.29
Overall Mean	141	3.23	3.48	3.74	4.32

The MANOVA results also yielded a statistically significant student population type effect, $F(3,122) = 15.50, p < .001$. Post-hoc t-tests comparing pairs of population types collapsed through time demonstrated that the group *Direct From High School* started at a lower position and remained at a relatively lower position across the longitudinal span.

General Results

Overall, a Population (4) X Time (4) multivariate analysis of variance for unequal *ns* and repeated measures was conducted for each scale, orthogonally testing for a prior linear, quadratic, or cubic aggregate change across the four times of assessment for four distinct population groups in the study. Post-hoc analyses further localized for whom change occurred. All scales for the Measure of Intellectual Development showed statistically significant overall linear growth.

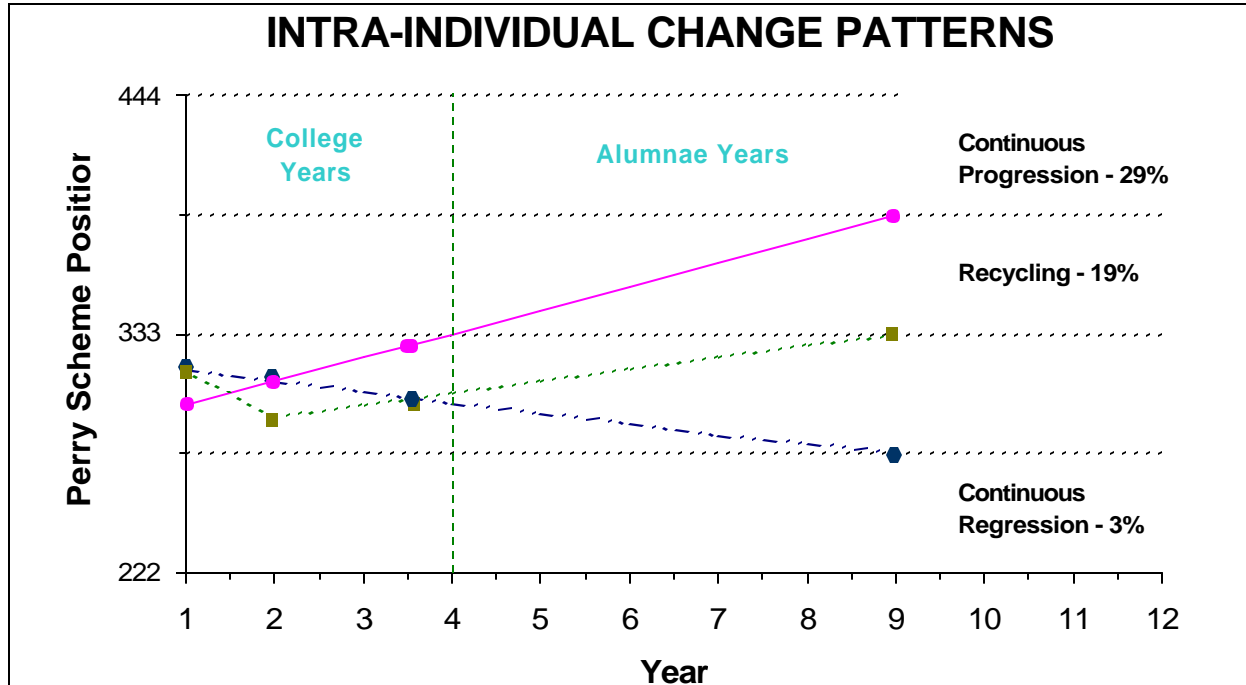
Overall, the results from the student and alumnae essays showed a gradual increase in the trend of position scores, although the overall means stay within a position range of 233 to 334. However, while the mean scores allow us to chart an estimate of change for the population as a whole, it also masks much of the intra-individual change. Individual

change patterns may have considerable importance for how we define and understand the transition position 233. For example, does growth occur within this position that might be better articulated? Or do the criteria by which we come to these judgments embrace too many different characteristics and limit our ability to make meaningful distinctions?

Intra-Individual Patterns

In order to help qualify the aggregate analyses, intra-individual trajectories were sorted into sub-groups (e.g., Continuous Progression, Recycling, Continuous Regression)³. Growth lines for 3 of these groups are displayed in Figure 2. This analysis of individual essays provides additional insight into the structural changes that are evident as students and alumnae move through the years. The intra-individual groupings differ by the content of the essay and the criteria that are met.

For example, in the “Best Class” essays, alumnae who were classified as demonstrating Continuous Progression grew by 2 or more scale points over the longitudinal study (e.g., from 3-position 233 to 5-position 334). Near graduation and as alumnae they were more frequently able to link their performance as learners in classroom contexts with their perform-

Figure 2. Intra-Individual Change Patterns on Best Class Essay (A)

ance as thinkers more generally. These alumnae were increasingly able to identify and grapple with the ethical and conceptual issues inherent in course content. In a separate survey of the longitudinal participants, those in the Continuous Progression group were significantly more likely to report continued involvement in life long learning activities ($r=.19, p<.05$) (e.g., continuing education, self-reflection and involvement in professional activities). They were also more likely to place importance on civic and cultural participation ($r=.22, p=.01$).

The qualitative analysis of these essays also helps to delineate the transitions between the positions, especially for the beginning students, and helps extend related developmental domains, such as self-processing, where students demonstrate thinking about their own thinking in relation to dimensions of the self.

In addition, we present a summary of developmental themes that have emerged in this analysis in Appendix A. This table has implications for teaching in that it articulates domains of student thinking that characterize relationships in the classroom. The inclusion of the Decision and Career essays in this research extends the evidentiary base from which to examine these aspects of student development. In relation to the theory, we attempt to further articulate the role of self and decision-making in examining student thinking through the Perry Scheme.

As an example, the development of the role of self is addressed in three essays in Appendix B. These respondents, representing Dualism, Multiplicity and the transition into Relativism, demonstrate how they include elements of themselves in their decision-making. At Dualism, the rationale is absolute and often externalized:

...I decided to drop certification...because I could no longer afford to continue my education financially.

Elements of self are brought into the equation for decision-making in Multiplicity, but they are tentative and experimental:

Usually I go more by how I feel when I get to the end...When I have two or three very good alternatives after eliminating the others, I try to figure out which is the least complicated and the most ideal.

As she moves toward Contextual Relativism, she is able to articulate and elaborate definitions of herself:

...I decided that regardless of what life brought I must pull myself together and start to accept reality and move on toward living for the future as opposed to clinging to the past.

DISCUSSION

Developmental Perspective

The aggregate results suggest that individuals enter college in a transition from Dualism to Multiplicity. During college, individuals retain some of their dualistic perspectives but continue to develop into the full multiplicity position and eventually move into the beginnings of *Relativism*. As alumnae, they show continued growth after college, well past *Multiplicity* into *Relativism*. The aggregate results also suggest that there is an independent effect of student population type. Throughout the ten-year time span, the results suggest that all groups gained similarly. However, the group of

17–19 year olds who entered college direct from high school started college at a lower position and remained at a relatively lower position throughout the ten-year longitudinal timespan. These data extend the Perry Scheme into the adult years longitudinally, and provide a fuller picture in relation to the Scheme. We are therefore in a better position for understanding development during and beyond college. We also are in a position to contribute a holistic picture of the Alverno student as she integrates the larger world into her development as a thinker.

In general, one can note that while there is significant growth on the Perry Scheme, these results do not replicate Perry's original findings—that is, that students move from *Dualism* through *Multiplicity* early in the college years, then through *Relativism* and contextual thinking, and that they are reaching toward *Commitment* by graduation. But these results do mirror other work with the Measure of Intellectual Development and that of other, related instruments regarding development in the college years. By comparison, approaches using interviews or fuller writing samples *have* shown development toward more contextualized, integrated thinking during college (Baxter Magolda, 1992; MacGregor 1987; Pavelich & Fitch, 1988).

Nonetheless, what we have learned about our students provides a fuller picture of their development during and beyond college. In particular, results provide a focus for thinking about the structural changes that are involved in the transition between positions two and three. These findings suggest a need for a closer analysis of the dynamics of the transition within the limited range of

Dualism-to-Multiplicity, an approach supported by Perry (1981) himself in his later work.

Curricular Accountability and Improvement Perspective

While contributing to the utility of developmental perspectives, these results also address curricular accountability and improvement concerns. The scores on the Measure of Intellectual Development reflect growth through college and beyond in student and alumna epistemological reasoning. The content of the essays shows some generalization of thinking from college to other life domains than classroom learning (e.g., decisions, career considerations). The results, then, provide a basis for more directly examining the impact of instruction and evaluation of curriculum in this longitudinal study. The data can be incorporated into a fuller triangulated design meant to explore how students change as a result of the curriculum. This development will become a third source of data along with faculty expectations and student performance in the curriculum in our upcoming analyses.

Although our students do show change, the degree of change is not as great as that predicted by Perry's original Scheme or other work based on interview data (e.g., Baxter Magolda, 1992; Pavelich & Fitch, 1988). On the measurement reported on here, the students in the aggregate show development across only one-third of one position. From a curriculum accountability and improvement perspective, we must take up the question of whether this is adequate or appropriate. Indeed, other studies using the Measure of Intellectual Development have shown a similar gradual rather than dramatic rate of "progress" during the

college years (Pascarella & Terenzini, 1991).

However, we have concerns about the use the Measure of Intellectual Development as a measurement tool for the use of the Scheme for curricular improvement purposes. In some ways it works very well for accountability purposes because of its measurement qualities, in that it converts judgments about position assignments using qualitative criteria into scalable scores that can be demonstrated as reliable and used for quantitative statistical analysis, especially in relation to other measures (Mentkowski, Rogers, Deemer, Ben-Ur, Reisetter, Rickards, & Talbott, 1991). However, for curricular improvement purposes, the Measure of Intellectual Development procedures seem in some ways to truncate the range by pulling for multiplicitic responses. For example, the "Best Class" essay prompt asks for "as much detail as possible" just as the "Decision" prompt asks the respondent to describe the process used in making a decision. Both the use of concrete details and the descriptions of a sequential process are criteria used in scoring at position 3, Multiplicity. This therefore limits usefulness for faculty interpretations of *degree of change*.

While the range of scores might be truncated, this narrow range might be especially useful for further explaining the development of the beginning students (e.g. freshman), though limiting what we might be able to learn about upper division courses and more advanced students. For example, we might be in a position to better illuminate a broader picture of development from the beginning student (from position 222) to an intermediate student (from position 333 or 334). We might then be able to

suggest even further delineation between the positions that is more descriptive of a developmental pattern.

While we may be seeing an essential Dualism to Multiplicity transition, we are not seeing the kind of evidence-based thinking that we would expect in the transition to Relativism *and* in upper division coursework. Our first response is to question the utility of the Measure of Intellectual Development. Any longitudinal study is limited by the instruments employed at the start. This study is no exception. Despite intensive efforts over several years to improve the criteria for judgment and rescoring all the essays reported on here, the data *are* essays and they are written in a broad rather than specified context. However, it is critical that the results be interpreted within the context of the Alverno curriculum, so that faculty can interpret and evaluate the development that is demonstrated. For example, how are the results related to the students' developing ability to effectively write in complex ways in presenting and supporting opinions? What relationships are there between the performances that are required in upper division course work and degree completion and the more casual applications of reasoning that appear in the essays? How are the results related to the students' developing ability to effectively write in complex ways in which they present and support opinions in the context of the discipline?

In light of these critical comments about the usefulness of the Measure of Intellectual Development as an instrument for curricular improvement, some might raise the question of whether or not the Perry Scheme itself is a meaningful construct for examining the development of college student thinking.

However, our experience would lead us to propose that the utility of the Scheme should be kept separate from the utility of the instrument. The experience of faculty suggests that the phenomena that Perry describes still seem characteristic of students today and can inform teaching practices. This viewpoint is strengthened in that other methods of instrumentation do show change that is more congruent with the Scheme than with the Measure of Intellectual Development. In effect, the Perry Scheme may be a transitional Scheme that bridges the earlier explanations of the development of college students and more recent thinking about epistemological reasoning. In particular, it serves to open up the reasoning of students in relation to curriculum while preserving the context of their experiences.

The demonstration of potential maturation effects better focuses attention on the remaining effects of time (i.e., in part, for the years in college). There are many claims that students are changing during the college years, often without much evidence beyond intuitive judgment. With the results gathered from these cohorts, we have demonstrated that change is occurring and have described its progress within a particular developmental scheme and instrumentation across a ten-year time span. This sets the stage for the next set of questions. Traditionally, accountability and improvement questions often assume that curriculum is the primary independent variable. With this evidence, that change is occurring and that a certain portion is attributable to maturation, the research effort must now move in more complex directions that sharpen the focus on curriculum effects.

Pedagogical Perspective

This directive to focus on curricular effects opens the way for tapping another Alverno research strategy with more likely implications for improvement: practitioner-based inquiry (Alverno College Research and Evaluation Committee, Office of Research and Evaluation and additional Faculty and Staff, 1993). However, the current findings can be interpreted in light of issues in postsecondary teaching and learning. Examining the results from a pedagogical perspective, the basic findings emphasize strategies that would increase the students' awareness of and capacity to deal with *Multiplicity*. One interpretation is that this is, simply, where students are and therefore that is what they need. A second derives from the educational goal of supporting the students' progress through *Multiplicity* into the ability to work effectively with *Relativistic* arguments before the end of the college curriculum. We actually want them to progress into developing thinking contextually across a variety of life domains. This has clear implications for what we need to address in individual courses as well as across disciplines.

The Perry Scheme, its applications, and the considerations that emerge from these findings allow instructors to analyze curricular materials from these developmental perspectives with greater confidence in order to meet individual differences in student needs. For example, courses that are pitched at different levels can be shaped to a degree according to the Perry Scheme. Beginning courses are typically aimed at foundation knowledge and introducing multiple perspectives. Intermediate courses typically deal with thinking within a discipline, meta-analysis, metacognition, and

developing and supporting arguments. And advanced or senior level courses deal with the evaluation of arguments in multiple contexts or integrating personal stances into disciplinary perspectives. (In the Alverno curriculum, broad abilities, such as analysis and valuing, are taught across the curriculum to reinforce intellectual and; ethical development).

In addition, the instructor has the capacity to use the Scheme of various developmental positions to focus more closely on the transitions that are targeted in individual courses—a thought we might want to connect to our notion of working on transitions on the Scheme and exploring them given our explicit criteria developed for the Scheme this longitudinal study. For example, as students are introduced to new material and its applications, they may be expected to end the course by being able to make judgments about when to use particular procedures and to evaluate their effectiveness according to different contexts.

Better understanding of individual developmental differences among students and the patterns that characterize their development through the curriculum does inform Alverno faculty judgments about teaching and learning processes and contributes to using multiple strategies within courses. Such a foundation provides Alverno instructors with another framework for appropriately engaging students in complex material. Further, the findings support Alverno faculty's current focus on an analysis of course instruction for teachers working with students in their beginning years as a foundation for the more complex expectations of intermediate course work (Rickards & O'Brien for the Alverno College Intermediate Student Study Committee, 1995).

CONCLUSION

In sum, students and alumnae show longitudinal development—over a ten-year timespan—on three domains (classroom learning, decision making, and career decision making) on the Perry Scheme of Intellectual and Ethical Development. This kind of development is regularly promised by most colleges. For the Alverno sample, this kind of growth continues after college for alumnae, a hoped for but not guaranteed finding.

Students in four student population groupings show this pattern of growth. Thus, students who come to Alverno direct from high school, those who transfer to Alverno with some college experience, those who begin college well after high school and take up college learning as a new life task, and those who come with pre-established careers, all develop intellectually. Those coming direct from high school without prior college or career experience do develop, but they begin at an earlier level of development and do not “catch up” to the other groups over time. This suggests that there is a maturation effect that needs to be considered in causal linking of broad, intellectual development to curriculum. Earlier results on this sample suggest such a link, but clearly, development on the Scheme is some kind of combination of who the student is when she comes to college and her performance in the Alverno curriculum. It is heartening that growth on the Perry Scheme does accrue for the “returning student” as well as for the student direct from high school. The beginning or returning Alverno adult student is gaining similar kinds of benefits from college; her liberal arts and professional degree is not just a certification that enables her to advance at work. Of most interest, however, is who benefits, who does not, and why.

There are intra-individual patterns in development. It is these patterns that drive further comparisons between intellectual growth patterns and other domains also measured as part of this study. These patterns and comparisons are the most promising in furthering our understanding of intellectual development. They provide better information for faculty who are interpreting the meaning of broad patterns of intellectual development as a backdrop for their daily interactions with students.

The measurement applied to the essays that formed the basis for judgment of student development in relation to the Perry Scheme has advantages and limitations. These are associated, to a degree, with the purposes of longitudinal studies as long as this one. The study helps provide a broad picture of development that can be related to other developmental frameworks and performance interviews completed post-college. It does not provide a window into the kind of complex thinking processes that are critical to successful performance in the disciplines or professions either during or after college. This is partly because the purposes of the measurement are to cross settings and disciplines to enable a broad look, essential to taking a post-college perspective on alumnae development. Alumnae move into quite different roles and settings. Finding a way to understand development in college and how it continues seems an impossible task, especially when an in depth understanding is dependent on studying *development in context*. Knowing that alumnae do continue to grow intellectually is but a first step.

Thus, this kind of longitudinal research is a support for but not a substitute for other kinds of studies, especially given

the current demands in higher education for college outcomes studies that satisfy accountability and improvement purposes simultaneously. At this point, these findings are a backdrop and background for curriculum development. Faculty interpret these results in ways to inform their thinking about teaching and learning because they are understanding more about their students. They see these results as frameworks that should be considered as part of teaching; Alverno faculty see this kind of understanding as essential to teaching (Riordan, 1993). Nevertheless, faculty and staff need to use a host of other sources to use those interpretations effectively in solving everyday teaching problems, and in anticipating what a current student interaction might mean, while they are engaged in advising and classroom interactions.

Thus, these results can inform discourse at several levels in an institution committed to centering learning on the student and her development, and also to collaborative curriculum development. When faculty are interacting in their departments or other groups where they discuss student learning, knowing that the aggregate pattern for alumnae shows continued development is a support to finding better ways of engaging students in the kind of cognitive conflict that leads to growth. This kind of challenge is difficult. It implies risk for both the student and the teacher. Understanding that some students are not changing

during college and post-college is an impetus to question the Scheme's limitations in describing other forms of development. But lack of change also leads to probing why a student may not be making progress. For those students who do not change or who show recycling or regression, *why?* Faculty and staff analyze reasons collaboratively in the discourse around interpreting and making meaning from these findings.

Student and alumnae learning through discourse about their own development is also a goal. Our experience in discussing these findings with students in psychology classes suggests that many students are engaged in these same questions. They are looking for aids in their reflection on their learning and how it results from their involvement in college. This is, in part, because opportunities for self-reflection on learning are built into the Alverno curriculum. But it also seems that students are as curious about intellectual development as educators are. This level of discourse is one that remains to be explored further. We promised each alumna copies of all her essays written in relation to the Perry Scheme as an incentive for a fourth contribution. Following that one, our group discussions with alumnae were interesting and evocative. We hope to continue this conversation with students and alumnae in other settings. For now, faculty, staff, students, and alumnae appreciate having another lens on learning to aid their own understanding.

ENDNOTES

¹ 1520 14th Avenue Southwest, Olympia, WA 98502

² This scaling is derived from Alverno's Career Level Classification System (Ben-Ur & Rogers, 1994).

³ Continuous Regression refers to the small subsample that showed an overall decline of over the four times of assessment (e.g., 3% of the Essay A sample). Recycling refers to those who showed a decline from Time 1 to Time 2 or 3 and then returned, usually to a higher position at Time 4. Continuous Progression refers to those who showed substantial overall gains across the four times of assessment; on average, they gained more than one full position on the scheme.

⁴ Adapted by Judith Reissetter Hart and William H. Rickards from Perry, W. (1970). *Forms of intellectual and ethical development in the college years: A scheme*. New York: Holt, Rinehart & Winston.

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Appendix A: Conceptual Changes Across Selected Domains of the Perry Scheme of Intellectual and Ethical Development ⁴

Positions	Domains				
	Nature of Knowledge	Role of the Learner	Role of the Instructor	Role of the Self	Decision-Making
Position 2: Dualism	Knowledge is concrete, absolute, and resides with experts and authorities.	To acquire, store, and retrieve concrete knowledge as needed.	To effectively deliver concrete information to students and insure understanding.	Definitions of the self are based on directly received notions and are validated by external authorities.	Decisions are made without concern for process, often being intuitive. Decisions may be made by others and accepted as their own.
Position 3: Multiplicity	Knowledge is essentially concrete although there are gray areas that remain unknown and introduce multiplicity.	To learn how to learn, using the basic language and procedures to work through multiplicity.	To provide ways to maneuver through courses, including necessary procedures and skills, and to validate student performance.	To bring own values and identity into definitions of self. However, the student will be confused as their accuracy and will look to external sources to validate her.	Right decisions are made by using processes. External others provide assistance and external validation that the correct choice is being made.
Position 4: Relativism	Knowledge is uncertain, therefore can be constructed by anyone.	To think for self. To construct and support an opinion or argument.	To function as a guide to knowledge and learning, one who also has to construct and support positions.	To elaborate and develop values and viewpoints, and to take responsibility for the consequences. She is able to think about and analyze who she is and develops a rich description of the self.	Decisions are personally made, integrating values and viewpoints. Responsibility for the consequences and the implications are superficially accepted and owned.
Position 5: Contextual Relativism	Knowledge is contextually bound, therefore changes according to situation.	To use the context as part of individual construction, recognizing the inherent conflicts. To make abstractions across contexts, and to analyze multiple, interpretations, and viewpoints.	To function as an expert within a discipline, who can also be consulted regarding particular information.	To accept her own authority and expertise, and to appreciate the depth of her own personal feelings. To view the self as a whole person who is validated by internal standards.	Decisions are personally made. However, individuals understand that they are likely to change in different contexts. The delicacy of situations is recognized.
Position 6, 7, 8: Commitment	Knowing is contextual and individuals are responsible for constructing their own perspectives.	To construct personal truths based on developed, examined commitments. To personally resolve the inherent conflicts.	To act as an expert and guide within a discipline, and a role model for thoughtful action.	To make a personal commitment to a creation of the self.	A commitment to personally owned decisions is made. This includes committing to behaviors and consequences resulting from those decisions.