THE DEVELOPMENT OF LIBERAL ARTS COMPETENCES: A STUDY OF STUDENT PERCEPTIONS OF ACADEMIC EXPERIENCE AT HOPE COLLEGE

A Dissertation
for the Degree of Ph. D.
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Welcome Harold Bakker

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This is to certify that the

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Walter W. Hoek
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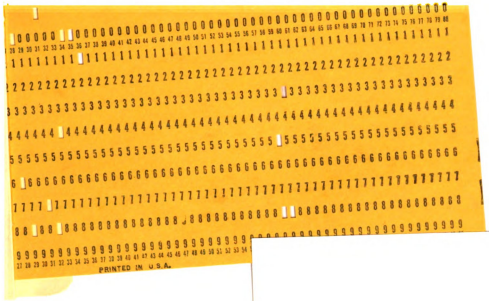

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ABSTRACT

THE DEVELOPMENT OF LIBERAL ARTS COMPETENCES:
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AT HOPE COLLEGE

By

Welcome Harold Bakker

The primary purpose of this study was to develop a profile of academic experience perceived by students to be characteristic of Hope College, to evaluate the probable effectiveness of that press in the development of competences associated with the phrase "liberally educated," and to suggest changes in college procedures that might enhance its impact on students. A secondary purpose was to see whether faculty, responding to the data instrument in terms of their own practices, could predict student responses.

A 60 item academic experience inventory, based upon Paul L. Dressel's concept of undergraduate curriculum, was used to survey all full-time students and faculty.[1] The 60 items are organized around four dimensions of contrasting experiences: Individual vs. Discipline; Problems vs. Abstractions; Flexibility vs. Rigidity; and Integration vs. Compartmentalization. Each item provides specific information about particular features of academic press.

The probable efficacy of the student reported experiences to promote liberal competences was judged against principles derived from a review of empirical literature identifying academic correlates of student development.

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Three major hypotheses suggested by the review of literature and the structure of the college curriculum were tested in relation to the four dimensions:

H_1 Students will perceive academic experiences by dimension differently by class level;

H_2 Students will perceive academic experiences by dimension differently by sex;

H_3 Students will perceive academic experiences by dimension differently by academic major.

Analysis of variance and covariance was used to analyze the dimension data. Hypothesis One was supported at the .05 level on all four dimensions. Hypothesis Two was supported on Dimension II, Problems vs. Abstractions. Hypothesis Three was not supported, although the analysis approached significance at .079 on Dimension III.

Class level means increased in magnitude by year on each dimension. Students perceived increasing focus on the individual, on application, on flexibility, and on integration of experience.

Item scores expressed as percentage of agreement by class level and overall provided additional insight. Eighty percent of the students, for example, reported that classroom assignments consisted of reading textbooks and studying lecture notes. Seventy percent did not feel that grading systems helped them to understand where they were weak and how they could improve.

Conclusions

The pattern of student response seems quite clearly to reflect the structure of the college's lower division core requirements and upper division major emphases.

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Incomplete returns from faculty limit generalization about use of the inventory for predicting student responses. However, statements that were quite specific about faculty behavior were better suited for prediction than those calling for faculty judgment of student attitudes.

Recommendations

Analysis of the patterns of response relative to the principles derived from the review of literature suggest that the college might increase its liberalizing impact by:

(1) thinking of a degree as the development of competences rather than an accumulation of course credits;

(2) making greater effort to connect student interests and requirements, especially during the freshman year;

(3) amplifying the lecture-text-test model to provide a greater variety of experiential learning;

(4) providing students with more feedback as to where they were weak and how they could improve; and

(5) instituting a systematic program of educational research to better determine the college's effect on student development.

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[1]Thomas R. Plough, "The Construction of An Experimental Inventory Reflecting the Character of Student Academic Experiences" (Ph.D. dissertation, Michigan State University, 1971), pp. 34-38; Paul L. Dressel, College and University Curriculum, 2d ed. (Berkeley: McCutchan Publishing Corporation, 1971), pp. 283-304.

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A DISSERTATION

Submitted to
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in partial fulfillment of the requirements
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DOCTOR OF PHILOSOPHY

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1977

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ACKNOWLEDGMENTS

A dissertation is the product of the work of many persons. The writer wishes to express special appreciation to Dr. Paul L. Dressel for getting him started on the study and to Dr. Walter W. Scott whose support and counsel made possible its completion. Thanks is due also to Dr. Thomas R. Plough for permission to use the "Dressel-Plough Academic Experience Inventory" in collecting the data.

The writer also wishes to thank his former colleagues at Salem College for the opportunity to participate in the "Project on Student Development" and thereby to become acquainted with the work of Dr. Arthur Chickering.

At Hope College appreciation is due to those students and faculty who responded to the survey and expressed their interest in its outcome. A special word of thanks is due Dr. Patrick Harrison and Dr. David Myers for their suggestions regarding the analysis of the data, as well as staff members at the Computer Center at Michigan State University.

Most of all, my gratitude goes to my wife, Alberta, whose willingness to assume additional responsibility made the entire doctoral program possible.

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CHAPTER I

THE PROBLEM AND INTRODUCTION

This study has its roots in problems of broad social significance facing private liberal higher education today: the present economic distress of many institutions, increasing public skepticism as to the value of liberal education, and the longer standing, more fundamental question of the state of liberal education itself. If learning is defined as the changing of behavioral tendencies through experience, this study aims to look at academic experiences reported as characteristic by students at a private, church-related liberal arts college of established academic reputation. The problem under investigation may be generally stated: Are the experiences reported such as to encourage the development in students of competences that might be considered desirable outcomes of a liberal education?

The concept of liberal education as the development of competences was expressed by William Cory writing on curriculum reform a century ago:

> You go to school . . . not so much [for] acquiring knowledge as [for] making mental efforts under criticism, . . . for arts and habits; for the habit of attention, for the art of expression, . . . for the habit of working out what is possible in a given time, for taste, for discrimination, for mental courage and mental soberness. Above all, you go . . . for self-knowledge.[1]

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[1]William Cory, Eton Reform, 1861, quoted by George G. Stern in "Student Ecology and the College Environment," in Research in Higher Education: Guide to Institutional Decisions (New York: College Entrance Examination Board, 1965), p. 52.

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The degree to which liberal arts colleges realize this goal, help students develop competences and thereby realize their institutional uniqueness depends to a large extent on the adequacy of their individual policies and practices. Research suggests that the academic socialization process is complex, involving the interaction of student with peer group, faculty, academic requirements, administrative regulations, and extra-curricular activities. Yet it is the academic core of curriculum and classroom related activity that provides the structure for socialization. As Parsons and Platt say:

> While living conditions, coeducational arrangements, or extra curricular activities are relevant to socialization, curriculum is fundamental. This area is the main context for socialization to the value pattern in both cognitive and affective respects.[1]

Chickering concurs:

> The . . . system of interlocking arrangements, curriculum, teaching, and evaluation . . . is the pervasive background against which all institutional figures are cut; it defines the terrain through which students travel, and influences the flora and fauna they encounter along the way; it sets the tone and substance, and provides the principal anchors for student-faculty contacts and relationships; it is, or can be, the principal contributor to students' intellectual diet, the meat and potatoes, bread and butter of student discussion.[2]

Curriculum, classroom and student-faculty interaction also are the independent variables in student development over which faculty have the greatest potential control. The problem in most institutions is

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[1]Talcott Parsons and Gerald M. Platt, "Age, Social Structure, and Socialization in Higher Education," Sociology of Education 43 (Winter 1970):27.

[2]Arthur W. Chickering, Education and Identity (San Francisco: Jossey-Bass Inc., Publishers, 1969), p. 323.

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that faculties do not look systematically at these variables. Attempts at increasing institutional effectiveness usually start at the secondary level of reshuffling course requirements rather than at the fundamental level of operations research into the teaching-learning environment. These activities also tend to start with the wrong assumptions or fail to ask the right questions, or both. For example, the dominant faculty assumption is that the values of liberal education result essentially from classroom contact with the disciplines.[1]

Nor has the question of what a liberal arts degree represents other than the completion of a prescribed pattern of courses been satisfactorily resolved. As Astin says:

> The major social justification for awarding degrees--perhaps its only justification--concerns the question of individual competence: possessing a particular type of degree is presumably an indication that the person either possesses certain abilities or has mastered certain types of knowledge or skill.[2]

The result of course reshuffling all too often is that changes in curriculum affect only what a student does during registration. The experiences the student encounters after registration in the classroom and in interaction with faculty--the academic press or operational curriculum--remain largely unaffected.[3]

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[1]Edward J. Shoben, Jr., "Problems of Person and Purpose," Liberal Education 58 (May 1972):178.

[2]Alexander W. Astin, "Challenge to the Credentialing Process," Liberal Education 58 (May 1972):183.

[3]David H. Bayley, "The Emptiness of Curriculum Reform," Journal of Higher Education 44 (November 1972):592.

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It is to the identification of the general characteristics of classroom, curriculum and student-faculty relationships--the academic press or operational curriculum--as viewed by students in a private, church-related liberal arts college of established academic standing that this study is directed. The problem has two additional dimensions: Are the experiences (1) supportive of the ends of the college as it views the nature of liberal education and (2) in the broader context of the literature of higher education, of the concept of liberal education and of the development of the competences of a liberally educated person?

Significance of the Study

Several factors suggest that there is a significant need to conduct this type of research in individual institutions:

1. Research which has thrown increasing light on how students develop and raised questions about the effectiveness of prevailing practice

In 1957, Jacob, in Changing Values in College, concluded that there were few changes in students' values during college, that the changes that did occur resulted primarily from student-student interaction, and that in only a few colleges with distinctive climates would formal academic experiences have much influence on student character.[1]

Five years later Sanford wrote in The American College:

> There is no doubt that college students gain in skill and information but . . . interviews with young alumni . . . reveal that very little of the content of college courses is retained three or four years after graduation. It seems that recognition

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[1]Philip E. Jacob, Changing Values in College: An Exploratory Study of the Impact of College Teaching (New York: Harper and Row, Publishers, 1957), pp. 5-10.

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> of this fact would be bound to lead to de-emphasis upon the content of the college curriculum, or to the study of ways to increase retention, or to the generation of theory concerning how the teaching of certain contents in other ways may favor the development of desired characteristics in the person.[1]

Katz, in a survey of five institutions conducted in 1970 and 1971 found only a small percentage of students ascribing great impact on their development to professors.[2]

Lehmann and Dressel in an earlier four-year longitudinal study found similar reactions toward the influence of courses and professors, although they did find instances where students reported significant influences from the formal academic program. They also found that the greatest value changes occurred during the first year or year and a half of college attendance.[3]

2. Research which shows widely varying views on what constitutes liberal education

Dressel and Lorimer, for example, found a wide range of faculty views toward the meaning of the liberal arts in their survey that was part of a series of studies dealing with liberal and professional

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[1]Nevitt Sanford, ed., The American College: a Psychological and Social Interpretation of the Higher Learning (New York: John Wiley and Sons, Inc., 1962), p. 806.

[2]Joseph Katz, "The Challenge to 'Body of Knowledge' Learning from Person-Centered Advocates," Liberal Education 58 (May 1972):143.

[3]Irvin J. Lehmann and Paul L. Dressel, Critical Thinking, Attitudes, and Values in Higher Education: Final Report of Cooperative Research Project No. 590 (East Lansing, Michigan: Michigan State University, 1962), pp. 267-269; Irvin J. Lehman and Paul L. Dressel, Changes in Critical Thinking Ability, Attitudes, and Values Associated with College Attendance: Final Report of Cooperative Research Project No. 1646 (East Lansing, Michigan: Michigan State University, 1963), pp. 157-160.

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[2]Ibid.

[3]Reece M
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education. One group held ". . . that any course can be liberal if it is taught with the purpose of broadening the perspective of the student and of developing his humanitarian attitudes and societal responsibilities."[1] The other polarity conceived of the liberal arts as a group of disciplines from which the student chooses one in which to become expert. For this group, the development of the whole man became the development of a narrow competence.[2]

3. Growth and the institutional identity crisis

The three decades since World War II have brought tremendous growth in American higher education. That growth has been built on the adoption in the nineteenth century of the German university research model in the development of the American university--an adoption that was more suited to the needs of an industrial society than the model of the academy. The result, as McGee notes in his recent study of the private college, is that the technical specialization of the German model has been imposed on American scholars. Consequently it has determined that they will not be college teachers but, rather, teachers of some specialty.[3] This growth and subsequent specialization has contributed to the confusion as to the purposes of liberal education and made it more difficult for faculty to engage meaningfully in dialogue about the issue.

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[1]Paul L. Dressel and Margaret F. Lorimer, Attitudes of Liberal Arts Faculty Members Toward Liberal and Professional Education (Teachers College, Columbia University: Bureau of Publications, 1960), p. 37.

[2]Ibid.

[3]Reece McGee, Academic Janus (San Francisco: Jossey-Bass Inc., Publishers, 1971), p. 33.

4. Social and technological change which suggests that education cannot be defined by possession of knowledge alone

Knowledge becomes rapidly obsolete. Individuals increasingly change careers or are forced to change careers during the course of a lifetime. The need to conceive of education as the development of competences enabling the individual to engage in continuous growth becomes more and more a practical necessity and less and less a theoretical abstraction. As Parsons and Platt note:

> The historical trend in the structure of Western society generally . . . has been toward greater differentiation, pluralization, and complexity. . . . The capacity of the individual to participate maximally in modern society necessitates attitudes and attributes compatible with this complex structure; these have been admirably described by Weber. They include: (1) the conscious capacity to control one's activities, that is, to remain autonomous and to avoid dependency; (2) the ability to achieve and compete in an open market; (3) the control of impulse and affect, particularly in regard to ascriptive solidarities; and (4) the effort to govern behavior by criteria of rationality even when . . . such standards cannot be perfectly achieved.[1]

5. Recent developments in non-traditional study

Since 1970 programs such as Empire State College, part of the State University System of New York, Minnesota Metropolitan State College in Minneapolis-St. Paul, and Evergreen State College in Washington State are making it possible for individuals to set up programs outside traditional channels, in keeping with their own goals, but within the framework of the liberal arts. Students may receive credit for life experiences and credit from college level proficiency examinations as part of their degree program. Similar and even earlier developments have taken place in Great Britain and, in some respects, are providing models for these programs in the United States.

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[1]Parsons and Platt, "Socialization in Higher Education," p. 10.

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Such departures from the traditional, well supported by state and foundation money, further demand consideration of the meaning of a liberal arts degree and of the role of experience in education. John Valentine notes:

> To the extent that colleges and universities expand this . . . response [for nontraditional study] and apply it to traditional as well as nontraditional students, they can provide safeguards of quality that they are probably most qualified and motivated to provide. To the extent they hold back in their response, a parallel system of post-secondary education may very well grow to immense size and strength in this country and embrace a range of quality wider than that embraced by our present system of higher education.[1]

6. The economic crisis

So much has been reported on the economic crisis currently facing higher education, and especially the private college, that it scarcely needs documenting. That there is a relationship between financial need and academic practice also seems obvious and suggests another reason for serious examination of the relation between operational practice and institutional aims. McMurrin observes:

> The situation is now so acute that whereas formerly we simply had a bankrupt educational philosophy, we are now faced with the prospect of numerous bankrupt colleges, colleges whose financial distress is sometimes apparently due at least partly to their failure to expend their resources wisely because they are not clear about what they are trying to achieve and therefore cannot effectively order their priorities.[2]

7. The "Benefits Crisis"

Interacting with problems of finance and purpose is increasing skepticism as to the usefulness of college education. Lenning refers to this as the "benefits crisis." A 1973 American Council on Education

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[1]John A. Valentine, "The External Degree," Liberal Education 58 (May 1972):208-209.

[2]Sterling M. McMurrin, "Purposes and Problems in Higher Education," AAUP Bulletin 60 (March 1974):6.

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survey found 70 percent of more than 60,000 students who had spent four years at 252 colleges and universities questioning the relevance of much of what they had been taught. New students, parents and the general public also are questioning the benefit of a college education as a result of current job placement problems.[1]

8. Increasing authoritative concern within the circle of colleges

On the recommendation of its Commission on Liberal Learning, the Association of American Colleges devoted its annual meeting in 1972 to the role of the liberal arts college and the direction of liberal education for the future. The Commission concluded that the traditional goals of liberal education are as important as ever but that the means of attaining them needed to be revised.

Subsequent to the 1972 meeting the Commission undertook a year long study to consider ways to develop a national strategy to stimulate change in undergraduate liberal arts education. That study has culminated in the receipt in November, 1973 of a grant of $595,000 from the Carnegie Corporation of New York to the Association of American Colleges and a consortium of four other national higher education associations. The principal objective of the funded project is to develop and assess a variety of undergraduate programs with a strong

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[1]Oscar T. Lenning, The "Benefits Crisis" in Higher Education: Eric Higher Education Research Report No. 1, 1974 (Washington, D. C.: American Association for Higher Education, [1974]), p. 1.

liberal education component as alternatives to the traditional disciplinary-based characteristic of most institutions.[1]

These factors--research questioning the impact of college, specialization which makes communication among faculty difficult and knowledge quickly obsolete, new approaches which challenge traditional programs, and societal changes which challenge the economic viability of institutions and of a liberal arts degree--all point up the significance of research focusing on academic press.

9. Particular local variables

An additional factor makes this more than an academic question. Motivated by both theoretical and pragmatic considerations, the college in which this study is being conducted has been engaged for the past several years in varying degrees of curriculum study aimed at revision of general education requirements.[2] One major attempt in 1971, heralded as a history making proposal, made no history. It was referred back to committee. Throughout this period no research into the operational curriculum, such as attempted here was conducted.

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[1]The other organizations involved in the project are the American Association of University Professors, the American Association of State Colleges and Universities, the Association of Community and Junior Colleges, and the National Association of State Universities and the Land Grant Colleges. See Willis D. Weatherford, "Commission on Liberal Learning," Liberal Education 58 (March 1972):31; Edward J. Shoben, "Commission on Liberal Learning," Liberal Education 59 (March 1973): 31-32; Chronicle of Higher Education, November 5, 1973; and Academe 7 (December 1973).

[2]Those considerations included giving students more responsibility for structuring their own programs, student criticism of certain academic requirements, and administrative desire to make the college more attractive for the process of academic recruitment.

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The Approach of the Study

The approach of this study is based on a structure for curriculum analysis developed by Paul L. Dressel. Dressel, too, sees the viability of the liberal arts college as dependent on its capacity to help students develop competences and grow as persons.

The first step in curriculum development for Dressel involves an assessment of where an institution is and where it wants to be in terms of academic emphasis. From more than 20 years of research, consultation, and writing in the field of curriculum development, Dressel has identified four significant variables on which he feels colleges differ academically. These variables, expressed as continuums with contrasting positions, provide a basis both for identifying the operational curriculum and for planning.

From this Dressel moves to the second and third steps--a consideration of elements and facilitating agents--and, finally, to his perception of competences. The elements are those considerations which require continuing attention in any institution, regardless of its position on the continuums--such things as provision for both liberal and vocational education, for breadth and depth, and for ongoing planning and evaluation. The facilitating agents are the structures and practices by which the college seeks to realize its objectives. These include various modes of organizing teaching and learning, variations in calendar, noncourse experiences, and selection, in-service education, and evaluation of faculty.

In Dressel's words "The competences themselves represent an attempt to capture the qualities implied by the phrase 'liberally

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educated.'"[1] Dressel suggests six that a student should develop:

(1) Knowledge of how to acquire knowledge and how to use it,

(2) A high level of mastery of the skills of communication,

(3) A conciousness of his own values and value commitments and an understanding of the values of others,

(4) An ability to cooperate and collaborate with others in studying, analyzing, and formulating solutions to problems, and in taking action on them,

(5) An awareness of, concern for, and sense of responsibility about contemporary events, issues and problems,

(6) The development of competences into a coherent, cumulative, and unified experience and the ability to apply these competences to his further development as an individual and to the fulfillment of his obligations as a responsible citizen in a democratic society.[2]

Dressel's continuum construct has been developed into a survey inventory by Thomas R. Plough. It is this instrument that was used to collect the data for this study.[3]

The illustration which follows describes the four continuums. The first contrasts experiences focused on the individual learner with those which emphasize the discipline to be learned. The second contrasts experiences which are problem oriented with those tied to exposition of theory and/or systems of ideas. The third contrasts flexible programs with those that are uniformly prescribed and imposed. The fourth contrasts programs which assist the student to organize his knowledge in meaningful ways with those which do not.

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[1]Paul L. Dressel, College and University Curriculum, 2nd ed. (Berkeley: McCutchan Publishing Corporation, 1971), p. 284.

[2]Ibid., pp. 285-287, [paraphrased].

[3]Rationale for use and description of the instrument will be developed more fully in Chapter IV.

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1.	Individual Student_ _ _ _ _ _	Disciplines
	Personal development Behavioral orientation Affective concerns	Mastery of content Structure and methodology of disciplines Scholarly objectivity
2.	Problems, Policies, Actions__	Abstractions, Ideas, Theories
	Competences Present and future oriented	Verbal facility Past oriented
3.	Flexibility, Autonomy_ _ _ _ _	Rigidity, Conformity
	Adaptation to individual's needs and interests	Prescribed program and standards based on demands of disciplines and/or 'average' student or ideal scholar
	Democratic	Authoritarian
4.	Integration, Coherence, and Unity in and from Learning Experiences	Compartmentalization, Inconsistency, and Discord in Learning Experiences

Each continuum section in the inventory contains 15 statements organized around the theme of that continuum and reflecting various emphases of classroom, curriculum and student-faculty relationships. By giving students an opportunity to respond in terms of their own experiences, the instrument yields data which not only provides a profile in relation to the respective continuum, but through responses to the individual items reflects the presence or absence of experiences that would help the student develop with respect to the competences Dressel has suggested.

Elaboration of the Problem and Hypotheses Tested

The problem of this study is analyzing the data gathered through the use of the Dressel-Plough "Academic Experience Inventory" in

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[1]Dressel, Curriculum, p. 22.

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relation to the general questions posed earlier. To recapitulate, this involves:

(1) Identification of the operational curriculum or academic press,

(2) Comparison and evaluation of these findings with the curriculum structure, emphases and college's concept of liberal education as these may be inferred from historical background, college publications and academic requirements, and

(3) Evaluation of the reported practices within the context of the larger issue of the nature of liberal education, the concept of competences and the concept of ends-means relationships.

More specifically, the problem will involve looking at the data by class level, sex and academic major. While the study was exploratory, preliminary reading of the literature and acquaintance with the structure of the college's curriculum suggested that students might vary in perceptions along the four continuums in relation to these three variables.[1] Stated in null form these hypotheses would be expressed as follows:

(1) There will be no significant difference in perception of academic experience by class level; i.e., from freshman to sophomore, sophomore to junior, and junior to senior years.

(2) There will be no significant difference in perception of academic experience by sex.

(3) There will be no significant difference in perception of academic experience by major.

Since operational curriculum in any college is determined by what faculty value and do within the constraints of the formal curriculum, an additional feature of the study will be to ask faculty also to

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[1]Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College On Students: An Analysis of Four Decades of Research, 2 vols. (San Francisco: Jossey-Bass Inc., Publishers, 1969), 1:125-128.

respond to the inventory. All full-time faculty will receive a copy of the inventory and a faculty answer form along with a letter describing the nature and purpose of the study.

The profile generated from the faculty responses will be compared with the profile of student perceptions to identify possible sources of institutional dysfunction; i.e., areas where what faculty consider to be their practice or emphasis is not so perceived by students.

Definition of Terms

Certain concepts which underlie or are basic to this study are here defined.

Education: May be thought of as the accomplishment of a fixed end or as process which equips the individual to engage in continuing growth. This study is based upon the conept of education as process. It connotes that the individual moves from dependence to autonomy, from indiscriminate behavior to discriminate behavior, from being other directed to inner directed, from aimlessness to commitment.

Curriculum: May be viewed as structured courses in accepted disciplines or as all the experiences the student has under the direction of the college. This study is based upon the latter definition.

Academic press: Refers to the characteristic emphasis of classroom, curriculum and student-faculty relations.[1]

The concept is related to Henry A. Murray's writings about personality theory. In his theory the concept of need represents the significant determinants of behavior within the person, and the concept of press represents the significant determinants of behavior in the

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[1]Theodore M. Newcomb and Everett K. Wilson, eds., College Peer Groups: Problems and Prospects for Research (Chicago: Aldine Publishing Co., 1966), p. 217.

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environment. A press is a feature of the environment which is relevant to the satisfaction or frustration of a need. In this sense, the concept of press indicates the way an individual views or interprets his environment and is unique for the individual.[1]

The term operational curriculum is being used interchangeably in this study with academic press.

Competency: This concept connotes the definition of educational objectives in terms of observable student behavior. It is based on the work of Ralph Tyler in the field of curriculum theory. Tyler does not suggest that all educational objectives are measurable but that conceiving objectives in terms of what one would like the student to be able to do assists faculty in selecting and implementing appropriate learning experiences.[2]

Developmental: Refers to the relationship between learning conditions and educational outcomes. Developmental research in higher education is exemplified by the work of Sanford, Katz, Jencks, Pace and Stern, Chickering and others.

Good defines development as "growth or change in structure, function, or organization, constituting an advance in size, differentiation, complexity, integration, capacity, efficiency, or degree of maturity . . . [which is] to be distinguished from most types of learning by the comparative durability or permanence of the developmental

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[1]Henry A. Murray, ed., Explorations in Personality: A Clinical and Experimental Study of Fifty Men of College Age (New York: Oxford University Press, 1938); Feldman and Newcomb, Impact of College, 1:124-125.

[2]June Grant Shane and Harold G. Shane, "Ralph Tyler Discusses Behavioral Objectives," Today's Education 62 (September-October 1973): 41-46.

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Summary

Liberal arts colleges share a number of purposes in common with other institutions of higher education. Among these are transmission of a cultural heritage, service to various constituencies and, to a greater or lesser degree, the advancement of knowledge. But the premise of this study is that the liberal arts college has a unique function--the development in each student of certain qualities that may be called liberal competences. These are: skill in the obtaining and use of knowledge, an awareness and refinement of one's own values and a sensitivity to the values of others, an ability to work with others in identifying and solving problems of mutual concern, an interest in ideas and issues, and a commitment and ability to engage in continuing personal growth and social service. To the extent that colleges as formal institutions are able deliberately to influence such development, they do so through their academic press--their unique combination of curriculum, classroom activity and faculty in interaction with students.

A number of studies suggest that liberal arts colleges are not as effective in stimulating the development of liberal competences as they might be.

The primary purposes of this study are: (1) to develop a profile of the academic press of Hope College through the aggregate of student responses to a new academic press instrument, the Dressel-Plough

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[1]Carter V. Good, Dictionary of Education, 3rd ed. (New York: McGraw-Hill Book Company, 1973), pp. 175-176.

Academic Experience Inventory; (2) to analyze and evaluate this profile in relation to selected literature on the development of liberal competences; and (3) based upon the findings, to formulate suggestions for further research and for possible changes in academic practice. At issue is what a liberal arts degree credentials and whether the college's facilitating agents--curriculum structure, classroom practices, and student-faculty interaction--are so organized as to best facilitate the development of liberal competences. A secondary purpose is to see whether faculty, responding to the inventory in terms of their own practices, can predict student responses.

Organization of the Study

Chapter I, PROBLEM AND INTRODUCTION, has provided an introduction to the research problem, a supporting rationale, a statement of the major questions and hypotheses to be investigated, and a description of the general approach of the study.

Chapter II, REVIEW OF LITERATURE, will review literature that identifies academic practices and elements of academic press related to the development of liberal competences as they are defined in this research.

Chapter III, THE COLLEGE UNDER STUDY, will provide information about the character of Hope College, its curriculum, its faculty and its students that will provide a backdrop for analyzing, interpreting, and evaluating the data from the academic press profile.

The specific approach of the study, the methods used to obtain the data and the means used to analyze the data will be described in Chapter IV, DESIGN OF STUDY.

Chapter V, PRESENTATION AND ANALYSIS OF DATA, will give profiles and analysis of perceptions of academic press by class level, by sex, and by major. In addition, the chapter will discuss responses by item and compare the overall student perception of academic press with what faculty thought it might be.

Chapter VI, EVALUATION AND RECOMMENDATIONS: "A DEGREE AND WHAT ELSE?," will evaluate the findings in relation to the literature on the academic correlates of liberal competence. Suggestions will be made for further research and for ways of enhancing the college's effectiveness in helping students become more liberally competent.

CHAPTER II

REVIEW OF LITERATURE:

ACADEMIC CORRELATES OF LIBERAL COMPETENCE

The empirical literature about impact of college has become extensive during the past two decades. Jacob (1957), Sanford (1962), McKeachie (in Gage, 1963), Feldman and Newcomb (1969), Chickering (1969), and Trent and Cohen (in Travers, 1973) have reviewed various aspects of this literature. The evidence suggests that while some students change much, some little, and some even regress between their freshman and senior years, in general they become less authoritarian, more independent, more interested in intellectual activities, and more liberal in socio-political attitudes and beliefs.[1]

While students do change during college, we still don't know a great deal about the specific determinants of change. We know even less when we narrow the focus to liberal competence and its relation to the structured teaching-learning matrix: the formal curriculum, teaching practices, teacher-student interaction, and study activities--the academic correlates of development. Discussing freshman-senior year changes, Trent and Cohen say: "The conditions contributing to such

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[1]Feldman and Newcomb, Impact of College, 1:48, 326; James W. Trent and Arthur M. Cohen, "Research on Teaching in Higher Education," in Second Handbook of Research on Teaching, ed. Robert M. W. Travers (Chicago: Rand McNally and Co., 1973), p. 1056.

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development . . . are not clearly defined. . . . The case for campus-wide impacts which are systematically related to differential educational practices is even more unclear."[1] Commenting in their review on the fact of differential college impacts, Feldman and Newcomb state: ". . . we have less to say in this area than we would . . . like. The reason . . . is simple: appropriate research is sparse."[2] Both Sanford and Chickering comment on the sparsity of research as to the affects of curriculum.[3] Referring to the impact of faculty, Newcomb is recently quoted as saying:

> There isn't . . . much evidence that faculty do have any effect on students. The fact is that students neither expect much faculty contact nor get it. In most colleges, the faculty goes one way and the students go another.[4]

Paul Dressel concurs with these opinions as to the sparsity of research relative to specific determinants of change.[5]

There is some evidence, and it becomes most coherent when read through the lenses that view late adolescence and early adulthood as an emerging period of development and socialization in an advanced technological society.[6] In this perspective, development is defined

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[1]Ibid.

[2]Feldman and Newcomb, Impact of College, 1:132.

[3]Sanford, ed., American College, p. 418; Chickering, Education and Identity, p. 206.

[4]Theodore M. Newcomb, quoted in Robert C. Wilson et al., College Professors and Their Impact on Students (New York: John Wiley and Sons, 1975), p. v.

[5]Telephone conversation with Paul Dressel, Michigan State University, East Lansing, Michigan, 8 July 1974.

[6]See Parsons and Platt, "Socialization in Higher Education," pp. 1-37; also Lawrence Kohlberg and Rochelle Mayer, "Development as the Aim of Education," Harvard Educational Review 42 (November 1972):449-496.

as growth through stages in a hierarchical fashion. Each stage builds on preceding stages and the developmental outcomes which can be empirically identified parallel the outcomes traditionally regarded as the desirable consequences of a liberal education.[1] Read in this manner it is possible to frame two questions in relation to the literature: (1) What does it mean empirically to be liberally competent; and (2) What are the academic correlates of such development?[2] These two questions structure this review. The problem of this chapter is to present a selected sampling of the literature in relation to these questions. Four sets of studies in particular stand out in developing the first concept and in providing a base for the second. All four are longitudinal. Two focus on single institutions; the other two are multi-institutional. They will be discussed in some detail.

What Does It Mean Empirically To Be Liberally Competent?

Study 1: The Perry Studies

Perhaps the best example of basic research that develops the construct of late adolescence as a period of intellectual development is that of Perry at Harvard.[3] Working with his associates in the Bureau

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[1]Douglas H. Heath, in his Growing Up in College: Liberal Education and Maturity (San Francisco: Jossey-Bass Inc., Publishers, 1968), pp. 274-278, has an excellent review in which he compares his empirical model with the philosophical models of Cardinal Newman, Whitehead and others.

[2]In other words, if we can operationally define or empirically describe the qualities of liberal competence we can then ask, What are the academic correlates, or as Douglas Heath puts it: "What is a powerfully liberally educating college?" See Douglas H. Heath, "What Is a Powerfully Liberally Educating College?," College and University Journal 12 (September 1973):12.

[3]The Perry studies also involved students from Radcliffe but is being classified in this discussion as one of the single institution studies.

of Study Counsel, Perry became intrigued with the apparent growth in thought and value structure of students who came to their office for academic counsel as the students moved from matriculation to graduation. As Perry recounts it: our first thought was simply to report, somewhat in the fashion of case studies, the experience of ". . . 20 or 30 students as they might tell us about it in open interviews at the end of each of their four years in college."[1] To paraphrase, we thought that the experiences might reflect the impact of relativism--the change in the conception of the nature of knowledge--as a phenomenon of the twentieth century. Indeed, an analysis of final examination questions given freshmen at Harvard during the years 1900-1960 documented a revolution in the weight given to questions on each examination requiring consideration in more than one frame of reference, that is, relativism.[2]

The study grew beyond that. Starting with the development of an instrument with which they could locate students on a continuum of intellectual and attitudinal development at the beginning of each of their academic years, they conducted three longitudinal studies of samples of Harvard and Radcliffe students during the period from 1954 through 1963. Using "open" interviewing procedures so as to minimize the imposition of structure on a student's thought by the structure of the questions, they

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[1]William G. Perry, Jr., Forms of Intellectual and Ethical Development in the College Years: A Scheme (New York: Holt, Rinehart and Winston, Inc., 1970), p. 6.

[2]Ibid., p. 4. Perry meant that there was almost a reversal in the number of questions which assumed knowledge to be relatively fixed to questions which assumed knowledge to be changing and relative.

asked each student in late May and June of each of his college years to recount what had stood out for him during the year.[1]

Perry continues: ". . . the variety in the form and content of the students' reports appeared at first to exceed our expectations and to exclude any possibility of orderly comparison. However, we gradually came to feel that we could detect behind the individuality of the reports a common sequence of challenges to which each student addressed himself in his own peculiar way. . . .[2] The sequence of these forms in our students' reports appear[ed] to us to manifest a logical order--an order in which one form lead[s] to another through differentiations and reorganizations required for the meaningful interpretation of increasingly complex experience. . . ."[3]

Specifically, the group felt that the students were moving through three general stages consisting of 3 positions each. In Stage 1 the student sees the world in dualistic terms: right-wrong, good-bad. Right answers for everything exist. In Stage 2 the student moves from dualism to relativism. He begins to realize that there are not right answers for everything, that uncertainty is legitimate and, therefore, diversity of opinion is legitimate. In Stage 3 he begins to recognize his own responsibility. If there are not right answers to everything, then he must make choices. He begins to experience the affirmation of his identity through commitment and realizes commitment as an ongoing,

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[1]Ibid., pp. 7, 18-19.

[2]Ibid., pp. 7-8.

[3]Ibid., p. 3.

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unfolding activity in a world of contingent and relative values.[1]

Schematically the development can be diagrammed as follows:

Main Line of Development[2]

The Modifying of Dualism			The Realizing of Relativism			The Evolving of Commitments		
1	2	3	4	5	6	7	8	9

Main Line of Development

Perry and his associates were convinced that this interpretation of students' reports made sense, but the question remained: Were they attempting to impose an order on the evidence that did not exist? Six judges, not knowledgeable of the research, were given a general description, a glossary of terms, and a chart delineating the positions of the developmental construct. Given unedited transcripts of interviews of individual students spanning their four years and randomly selected from each of the three study groups, the judges were asked independently to identify what point on the continuum the student had reached. If the scheme had validity, agreement among the judges as to the stage of development should be high. It was. Statistically the mean estimated reliability of the mean rating for individual interviews for each of the four years was found to be, respectively, +0.966, +0.875,

[1] Ibid., Chapter 1, passim.

[2] Ibid., p. 58.

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+0.872, and +0.916. The probability that these levels of agreement would occur by chance was less than five in ten thousand (.0005).[1]

Reflecting on the phenomenon of intellectual development, Perry says:

> Not all students are 'sophomores,' in this sense, in their sophomore year. Some come to college as 'juniors' or even 'seniors.' Some go all the way through college and somehow manage to remain schoolboys to the end. In the sense in which we are speaking, indeed, many people achieve the consequences of a college education without ever going to college at all. The function of a college, however, is to present to the students' attention in concentrated form all the questions that the sophomore in man has raised for himself through the ages. . . .[2]

> Modern pluralistic education . . . is criticized for not teaching commitment, indeed for leading students away from it. What we have been saying from our understanding of the records is that: (1) without a clear view of pluralism, commitment as we define it is impossible; and (2) commitment can be provided for and given recognition, but it can never be brought about or forced.[3]

> Perhaps the most critical point in most of the records comes at the moment where the student has indeed discovered how to think further, how to think relatively and contingently, and how to think about thinking. For here it is up to him in what crucial spirit he is to employ this discovery.[4]

The parallel between the direction and levels of Perry's schematic interpretation of empirical findings and the direction and levels of Dressel's hierarchy of liberal competences is striking.[5]

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[1] Ibid., pp. 11-14.

[2] Ibid., p. 33. Italics mine.

[3] Ibid., p. 37.

[4] Ibid.

[5] See Dressel's competences pp. 11-12 above.

For many students, apparently, the ideal becomes the real; what is and what ought become identical.

The basic question, of course, as it was for Perry, is whether the scheme can ". . . be considered a relatively enduring outline of major vicissitudes in human experience from adolescence into adulthood in a pluralistic culture." A solid answer could only be derived from repeated studies in diverse settings, but as Perry observes:

> To whatever generation the reader feels he belongs, he will surely find that the students' experience . . . echoes his own. . . . The scheme carries its own plausibility. . . . Its essentials may on occasion seem to reveal only the inevitability of the obvious, in the sense of 'How could life be otherwise?'[1]

Study 2: The Heath Studies

The second of these sets of studies was conducted by Douglas Heath at Haverford College during the period 1955 through 1965. Heath's studies are significant because he ties the concept of liberally educating to a theory of maturing. As Heath says: "To become mature, or fulfilled, has long been a prized goal of individuals in most cultures."[2] Liberal arts colleges are committed to such growth, to the development of the whole person, to self-realization and maturity.[3] But "the failure to identify specific behaviors indexing healthy development and then to develop procedures to relate them to specific aspects of the environment has limited research."[4]

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[1]Perry, Intellectual and Ethical Development, p. x.

[2]Heath, Growing Up in College, p. ix.

[3]Ibid., p. 2.

[4]Ibid., p. 216.

Heath's model of maturing has two components: dimensions of self and dimensions of maturing. Drawing on Sinott, Heath says:

> '. . .life does not reside . . . in any particular substance or combination of substances, or in any specific trait such as growth or reproduction or irritability. It is to be seen, instead, in the regulatory and organizing quality all living things display which results in their essentially purposive character, both in development and behavior. Living things are organisms.'. . . The . . . self . . . is . . . an 'organized system of structures and activities.'[1]

The principal structures and activities that define the self are schemata, intellectual and interpersonal skills, and valuators. Schemata refers to memory representations, self-concept, to what one believes to be his strengths and weaknesses. Skills refers to judgment, analytic and synthetic thinking, logical reasoning and imaginativeness, and the capacity to respond to others. Valuators are the individual's needs, motives, interests, and convictions.[2]

From theory and empirical research Heath posits five invariant developmental trends that define maturing. These are stability, integration, allocentricism, autonomy, and the ability to symbolize experience. To symbolize experience is to develop the power to represent one's experience as hunches, words, thoughts, or other symbols, to bring into awareness what one believes and values, to be able to reflect about one's personal relationships and their sources of strain and satisfaction. To become more allocentric is to become less dominated by one's own immediate needs, to become more tolerant, less authoritarian, and

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[1]Douglas H. Heath, Explorations of Maturity: Studies of Mature and Immature College Men (New York: Appleton-Century-Crofts, 1965), pp. 36-37.

[2]Ibid., p. 38-46.

more caring. To become more integrated is to minimize the internal conflict among valuators, to develop increasing congruence of the self image, to increase the organization of one's intellectual skills. To become more stable is to say that one's intellectual skills, values, self-image, and interpersonal relations become more resistant to disruption by threat. Finally, to become more autonomous is to become less manipulable by one's environment and less driven by infantile wishes and conflicts.[1]

A college becomes maturing (liberally educating) when the interaction of the students' values and personality structure with the values and expectations of the institution produce change in these directions.[2]

In a thoughtful, imaginative and systematic two-stage study Heath proceeded to substantially validate his theory and then apply it to an identification of maturing and immaturing college influences. Summarizing stage one of the study Heath says:

> From the ego psychologist's view, this study could well be titled Explorations of Ego Structure. The ego, as it matures, becomes a more stable, differentiated and integrated, autonomous, allocentrically organized structure which allows memories and experience to be more readily assimilated into consciousness.
>
> The burden of this book has been to pin this conception of ego development down to empirical measures. The research has woven a loose but highly interrelated web of findings that is consistent with the leading ideas of contemporary ego psychologists.[3]

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[1]Heath, Growing Up in College, pp. 6-17.

[2]Heath, Explorations of Maturity, p. 52.

[3]Ibid., p. 317.

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Study 3: The Wilson Studies

The third example is the work of Wilson and others on the impact of college professors. This research merges empirical data from two separate but interrelated studies conducted through the Center for Research and Development in Higher Education at the University of California, Berkeley during the period 1966-1970. Wilson explains the impetus for their research:

> . . . Studies at the Center and elsewhere . . . seemed to indicate that for most students, teachers and teaching were not major agents of influence, even in their intellectual development.
>
> The conviction that college teachers, at least some college teachers, do make a difference led us to search for new ways to address the question. The purpose of our research was to pursue the issue in more depth using data from faculty as well as from students and using measures of student change and development over a four-year period. The general research question we set out to address was: 'What are the ways in which different kinds of faculty members influence or fail to influence different kinds of students?'[1]

Study 1 collected a range of descriptive data from college and university faculty representing a diversity of institutions. What were faculty attitudes toward teaching? How did they value teaching as opposed to research and other responsibilities? What were the ways in which they went about teaching? What kinds of out-of-class student-faculty interaction did they engage in and encourage? What were their attitudes toward educational innovation and change? Analysis of these responses was used to plan strategy for portions of the second study.[2]

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[1]Robert C. Wilson et al., College Professors and Their Impact on Students (New York: John Wiley and Sons, 1975), p. vii.

[2]Ibid., pp. 5, 9.

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[2]Ibid., p

[3]Ibid., p

[4]Ibid., p

Study 2 built on the findings of the first study and relates attitudes and activities of teachers to student growth and development. Three coordinated surveys of faculty and students were involved: (1) faculty members in eight different institutions were surveyed in the spring of 1970 using a modified version of the Faculty Questionnaire used in Study 1; (2) students entering the same institutions were surveyed when they were entering freshmen in the fall of 1966 by other researchers at the Center in connection with their studies of student development; (3) in the spring of 1970, when they were graduating seniors students of those initial entering classes who remained enrolled in the eight institutions were resurveyed.[1]

"Faculty members' perceptions of their colleagues impact on students were obtained through questions that asked them to name two outstanding teachers and one faculty member 'who seems to have significant impact on the lives of students.'"[2] To increase reliability an effective teacher was defined as one who received nominations as either outstanding or impactful by two or more of his colleagues.[3]

Seniors also were asked to identify impactful faculty by naming "the teacher of 'the most stimulating course' they had taken and by asking them to name 'one faculty member who you feel has contributed most to your educational and/or personal development.'"[4] Again, to increase

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[1] Ibid., pp. 90-92.

[2] Ibid., p. 92.

[3] Ibid., p. 101.

[4] Ibid., p. 92.

reliability, an effective teacher, as seen by students, was defined as one who received nominations as most stimulating or contributive by two or more of his students.[1]

In addition, the senior questionnaire asked students to indicate the nature and range of their college activities, the kinds of faculty and peer interaction they had had, and the ways in which they felt they had changed both cognitively and affectively.[2]

Most important for this study was the operational definition used to define liberal development and to provide an independent measure of self-reported growth. Wilson notes:

> Although most faculty members perceived that they helped students acquire an appreciation for the values and methods of scholarly inquiry, and although most students said that they were stimulated intellectually, a nagging question persist(ed). Did the students really change intellectually? [And how do we conceive of 'intellectually'?] Often implicit in questions like this is a conception of intellectual change that stresses the acquisition of facts, theories, and methods of study.
>
> A different and somewhat broader conception stresses the development of interest in ideas and the personal openness to pursue them. This view . . . is concerned not with the acquisition of a specific body of knowledge which may soon become dated, but rather with the development of a positive attitude toward ideas which may help the student continue learning long after he leaves college. This second view is consistent with the tradition of liberal education enshrined in statements of purpose in most college catalogs and is the one that we used in our analysis .[3]

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[1] Ibid., p. 102.

[2] Ibid., pp. 91-92.

[3] Ibid., p. 134.

Wilson continues:

> The degree of intellectual change was measured by the Omnibus Personality Inventory (OPI) . . . . The theoretical and empirical character of the OPI makes it an appropriate measure of the sort of intellectual growth liberal arts programs presume to foster. It contains measures of four different kinds of intellectual interests: . . . Thinking Introversion . . . which measures interest in a broad range of ideas and in reflective thought; . . . Theoretical Orientation . . . indicating interest in logical, abstract, and scientific thinking; the Estheticism Scale reflecting artistic and literary interests; and the Complexity Scale which indicates preference for a flexible, open approach to problems.[1]

Two other scales, Autonomy and Religious Orientation assess "'. . . readiness or freedom to deal with ideas and new cognitive experiences.'" Together the six scores can be used to classify a student's "intellectual disposition" in one of eight categories along a continuum from ". . . broad, intrinsic intellectual interests and personal qualities of openness . . . to . . . restricted, pragmatic, and even nonintellectual concerns and . . . inflexible-personalities."[2]

The OPI had been administered to these students as freshmen; it was readministered to students remaining as seniors as part of the senior survey. It was assumed that if the students were receiving the expected benefits of a liberal education, they would show an increase in intellectual disposition over their four years of college study. The experiential correlates of students who increased in Intellectual disposition as opposed to students who did not or who regressed were

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[1] Ibid., p. 135.

[2] Ibid., pp. 135-136.

identified.[1] Those factors associated with liberal growth will be reported in the latter section of this chapter.

Study 4: The Chickering Studies

The fourth of these researches are those studies in college curriculum done by Arthur Chickering at Goddard College in the late fifties and early sixties, his thirteen college Project on Student Development which followed, 1965-1970, and the subsequent analysis of the Project on Student Development data which have contributed significantly to an understanding of the differential impact of colleges on student development.[2]

Chickering develops his view of the purpose of higher education and his model of student development in Education and Identity. He writes:

> Higher education once aimed to produce men prepared to engage with the society of man. But as the changes of the last fifty years have occurred . . . the focus has shifted from men to subjects, from persons to professionals. Consequently men themselves have become subjects--subjects to majors, to disciplines, to professions, to industries. Higher education and society are mired in frustration and conflict. These conditions will persist until men--not materials, nor systems,

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[1]To avoid the effects of extreme scores this analysis focused on students who entered with moderate intellectual dispositions, those in categories 4, 5, and 6. These categories are defined as follows:

"Category Four Intellectuality tempered by an achievement orientation and a disciplinary focus.
Category Five Interest in academic matters and achievement, but as a means toward an end.
Category Six Attenuated learning orientation with vocational and practical emphases." Ibid., p. 135.

[2]Chickering, Education and Identity, p. xi.

> nor institutions--again become the focus of education and the focus of human concern.[1]

He continues:

> Education and Identity suggests an alternative to higher education's increasing concentration on information and professional training. . . . Robert White . . . and Erik Erikson . . .[have] introduced us to 'identity,' and in so doing sharply reminded us that there is more to development in college than acquiring information and developing intellectual competence. But 'identity' is so abstract as to provide only a hazy guide for educational decisions, and its connotations have become so diverse that the term means very different things to different persons. . . . I have attempted to move 'identity' one step toward greater specificity and concreteness.[2]

In language parallel to that of Heath and Perry, Chickering describes seven major dimensions of development that occur during the college years--competence, the management of emotions, autonomy, identity,[3] interpersonal relationships, purpose, and integrity. He suggests how these interact with six major aspects of the college environment: curriculum, teaching, and evaluation, residence hall arrangements, relationships with faculty and administration, relationships with peers, institutional size, and institutional objectives.[4] "The thesis [he says] is not that all students change along all seven vectors, nor that the environmental conditions operate with equal force

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[1] Ibid., p. ix.

[2] Ibid., pp. ix-x.

[3] Chickering defines "development of identity as the process of discovering with what kinds of experience, at what levels of intensity and frequency, we resonate in satisfying, in safe, or in self-destructive fashion." Ibid., p. 13.

[4] Ibid., p. x.

for all students at all institutions, but that such changes do occur for some students and they can more frequently occur for others."[1]

Like Perry, Chickering sees the process of growth which he expresses as identity as moving the student from a simplistic duality, to a recognition of complexity, to a groping for purpose. From Zima Junction he quotes Yevtushenko:

> I scarcely had one single care in the world,
> my life, presenting no big obstacles,
> seemed to have few or simple complications--
> life solved itself without my contributions.
> I had no doubts about narmonious answers
> which could and would be given to every question.
> But suddenly this felt necessity
> of answering these questions for myself.
> So I shall go on where I started from,
> sudden complexity, self-generated,
> disturbed by which I started on this journey.[2]

But the heart of his work for this research is in the thirteen college study, the Project on Student Development. Thirteen small, privately supported, coeducational, liberal arts colleges, enrollments of 1500 or less, entered into a four year longitudinal study of institutional characteristics, student characteristics, attrition, and student development under the aegis of the Commission on Research and Development of the Council for the Advancement of Small Colleges and with the support of an NIMH Grant. Both colleges and students varied substantially. Included were such disparate institutions as Goddard, Earlham, and Shimer. Chickering suggests the range of characteristics in describing four of the institutions:

> They are Classic (required curriculum, comprehensive exams, emphasizes intellectual competence); Kildew (no required

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[1]Ibid., p. 5

[2]Ibid., pp. 5-6.

courses, independent study and self-evaluation, emphasizes personal development); Elder (traditional, selective, ample resources); and Savior (traditional, strong church ties, limited resources).[1]

Three measures operationally defined college environments in the Project Colleges: The College and University Environment Scales (CUES), the Experience of College Questionnaire, (ECQ), and the College Goals Rating Sheet. CUES gave a measure of student perceptions of general academic press along five dimensions. The ECQ, which was developed by Chickering in the process of the study to provide a more focused measure of environmental stimuli, asked students to report concrete experiences in several general areas, for example: how teachers went about teaching; the degree of student input in the structuring of courses; how they as individuals went about studying; the frequency and nature of student-faculty interaction; and the nature of their extra-curricular activities. The College Goals Rating Sheet, completed by faculty and administrators at the respective colleges, gave a composite of institutional goal orientation.[2]

Chickering used several instruments to define student characteristics. These included a biographical, attitudinal, and activities questionnaire, adapting materials from Educational Testing Service and the Center for the Study of Higher Education, Berkeley; Test of Religious Knowledge; Questionnaire on Religious Orientation; and the Strong

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[1]Arthur W. Chickering, "Undergraduate Academic Experience," Journal of Educational Psychology 63 (April 1972):135.

[2]For description of ECQ see Ibid., pp. 134-135, and the ECQ, copyright 1970, obtained from Chickering himself. The College Goals Rating Sheet is described in the orientation materials for the colleges participating in the study and is in the writer's personal files.

Vocational Interest Inventory. Most important, for comparative purposes, as did Wilson and his associates in their study of the impact of faculty, Chickering operationally defined student intellectual development through the use of the Omnibus Personality Inventory.

All students were surveyed as entering freshmen during the orientation period in September, 1965. Some of these students were retested at the end of their freshman year; others at the end of their sophomore year. In the spring of 1969, all students remaining enrolled, who were ready to graduate, completed the same instruments again.[1]

Early analysis of test-retest data showed a pattern of student development similar to that found in other research. Students had become more autonomous, more aware, more integrated, more aesthetically sensitive, more tolerant, more liberal in religious views, and less concerned about material possessions. Disappointing for the hypothesis of differential impacts, despite the major differences among the colleges and the students at entrance, the direction of net change was basically the same for the several diverse institutions. The averages had washed out the differences.[2]

However, when subsequent analyses of subgroups at different colleges who had similar scores at entrance were conducted a different pattern emerged. Chickering says:

> In general . . . these analyses of two and four year change for similar subgroups of students at different colleges yielded two major findings: both the amounts and direction of change varied from college to college; the relative positions of the colleges remained roughly

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[1]Arthur W. Chickering and John McCormick, "Personality Development and the College Experience," Research in Higher Education 1 (No. 1 1973):43.

[2]Ibid., p. 43.

> consistent for both two and four year change on most scales. Similar students who enter different kinds of colleges, do change differently. . . .[1] [These changes are] . . . systematically related to such factors as college climate, student characteristics, teaching practices and study activities, and student-faculty relationships.[2]

Summary

To summarize, although their terminologies differ, the research of Perry, Heath, Wilson and his associates, and Chickering shows that something other than intake of information can and often does occur to the young adult during college. Call it intellectual and ethical structure, maturation, the development of intellectual disposition or identity, the direction and nature of that development is essentially the same. And, if one assumes that the primary goal of liberal education is the development of the person or self, that the fundamental issue of liberal competence is not what one knows but what one is and is able to do, the research further suggests that one can move from a philosophical model of liberal competence to an empirical model. The question remaining is, What do these studies, and others, say about the academic correlates that foster such development? This information will be summarized in the remainder of the chapter under the following headings: Faculty-Student Relationships; Curriculum, Teaching and Evaluation; and Idiosyncratic Drive Patterns.

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[1] Ibid., p. 60. Italics mine.

[2] Ibid., p. 43. Italics mine.

What Are the Academic Correlates of Liberal Competence?

Faculty-Student Relationships

Wilson says the single most important variable associated with the development of intellectual disposition was intimate faculty-student contact, established in a variety of settings, over an extended period of time. Those faculty nominated by their peers and by students as impactful were those who had established that type of relationship with students. They were seen as accessible and they discussed with students cultural and campus developments regarded by students, as well as by themselves, as important.[1]

Perry says in a similar vein:

> The most pressing problem emerging from our study is . . . the question: 'What environmental sustenance most supports students in the choice to use their competence to orient themselves through Commitments . . . ?' For the majority . . . the most important support seemed to derive from a special realization of community. This was the realization that in the very risks, separateness and individuality of working out their Commitments, they were in the same boat not only with each other but with their instructors as well. . . . And they need to be confirmed that they are in this community by means of feedback from their faculty.[2]

Perry continues:

> The first of these requirements enjoins upon educators a certain openness--a visibility in their own thinking, groping, doubts, and styles of Commitment.
>
> The second requirement enjoins on educators the duty of confirming the student in his community with them--a membership he achieves . . . through his own making of meaning, his daring to take risks, and his courage in commiting himself.[3]

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[1] Wilson et al., Professors and Impact, pp. 107-148 passim.

[2] Perry, Intellectual and Ethical Development, p. 213.

[3] Ibid.

In summarizing his findings about the principal effects of Haverford, Heath relates:

> The seniors and alumni are very clear that the more enduring effects of the intellective life of the college are worked not through its curriculum, outside speakers, special programs, or other impersonal academic rules and procedures. . . . It is the lives of the faculty that educate. . . .
>
> The effective faculty are those who, out of genuine personal concern, seek out a young man to help him know himself and find his direction. . . .
>
> The men also value those faculty for what the men have not yet become, namely, those who are professionally competent but who do not let their intellectual competence shield them from 'being very human persons.'. . .
>
> Faculty were also appreciated for their ability to reveal new patterns and meanings within and between intellectual fields as well as for their demands that the students learn to analyze problems from diverse or more allocentric viewpoints. . . .
>
> Finally, a strong social commitment of an engaging and liberal faculty member also impressed young men who saw their teachers living in action their social beliefs.[1]

In his final analysis of patterns of change from the Project on Student Development (the thirteen college study) Chickering observes:

> Student-faculty relationships reflected strong and consistent correlations with change. At colleges where contacts with faculty members outside of class occurred more frequently, Autonomy, Impulse expression, and Complexity increased and Practical Outlook decreased. It's worth noting that the amount of time spent in conversations with advisors or with members of the faculty and administration in general seems to be less important than simple frequency and diversity of contact. The most developmentally fruitful arrangements, therefore, provide students with ready access to diverse faculty members, even if for only brief contacts. Then problems can be considered when they arise, interest[s]can be encouraged as they emerge, pleasures and excitements can be shared while they are fresh.[2]

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[1]Heath, Growing Up in College, pp. 203-205.

[2]Chickering and McCormick, "Personality Development," p. 64.

Parsons and Platt provide a theoretical explanation for these empirical findings. The role of the faculty member at this level of socialization is analogous to that of parent in earlier socialization. He, the faculty member, must play the role both of authority figure and nurturer.[1]

Feldman and Newcomb buttress this explanation with a pair of general propositions:

> 1. Insofar as the goals of an organization prominently include psychological changes on the part of its members, as ends rather than only as means to other ends, its goals can be furthered by processes of mutual support and mutual stimulation among members of whom changes are expected. . . .
>
> 2. The conditions that favor mutual stimulation and support must be described in interpersonal terms. They include, particularly, opportunity for continued interaction among the same individuals, allowing occasions for the discovery of mutual congeniality, preferably in varied settings--not just academic or just recreational or just residential, for example.[2]

Curriculum, Teaching, and Evaluation

Colleges do have curricula, teachers employ different teaching practices, and they develop particular modes of evaluation. What of these?

Curriculum. There has been little systematic study of the effects of curriculum on the achievement of particular goals. Trent and Cohen summarize well the state of research in this area:

> Most studies . . . merely note trends and describe what is being done throughout the country but ignore the relationship of the trend to the goals of the college or the relative

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[1]Parsons and Platt, "Socialization in Higher Education," pp. 25-27.

[2]Feldman and Newcomb, Impact of College, 1: 337.

> effectiveness of the courses. In other words, disappointingly few attempts at evaluating the effectiveness of the curriculum have been undertaken.[1]

Trent and Cohen do identify three examples of studies of particular approaches used in experimental settings. At New College, Hofstra University, Pace's College and University Environment Scales were used to see whether students in the experimental college perceived the social and intellectual climate of New College in a significantly different way from the perception other students had of the regular program. No significant differences were found.[2] At Penn State, an evaluation of student-oriented courses as opposed to knowledge-oriented courses had significantly better attendance throughout their duration than the knowledge-oreinted courses.[3] An experimental residential college within the College of Literature, Science and Arts at the University of Michigan which attempted to align experiences closer to students' expectations and stressed close faculty and peer contact as a means of personal development and intellectual stimulation was significant in reducing stress and loneliness, and in increasing the students' sense of dignity and competence.[4]

Differential Impact. Several studies have found consistent differences related to various fields of study in the classroom environments of different college courses. Astin surveyed undergraduate majors in 19 different fields at 246 colleges and universities and found statistically significant differences among the 19 fields on all 35 items checked. Subsequent factor analysis showed three bipolar factors:

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[1]Trent and Cohen, "Research on Teaching," p. 1032.

[2]Ibid., p. 1034

[3]Ibid.

[4]Ibid., p. 1035.

foreign language versus social science, natural science versus English and fine arts, and business versus history.[1] Gamson, analyzing faculty behavior as indicated by grading practices and nature of interactions with students, found distinct differences in faculty styles between the natural sciences and the social sciences, with the natural science faculty emphasizing performance and the social science faculty emphasizing personal values.[2] Vreeland and Bidwell, in applying a theoretical framework for analyzing the effects of academic departments, found that most science departments emphasized competence in the technical aspects of the discipline (technical goals) whereas the social sciences centered on producing changes in students' values and attitudes (moral goals).[3] Centra, using a modification of Pace's College and University Environment Scales, found that students' perceptions of the total climate at Michigan State University were related to the students' major field.[4] Such findings support the hypothesis that college environment is affected by the relative proportions of students and faculty in various fields of study.[5]

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[1]Alexander W. Astin, "Classroom Environments in Different Fields of Study," Journal of Educational Psychology 56 (October 1965):275-282.

[2]Zelda Gamson, "Performance and Personalism in Student-Faculty Relations," Sociology of Education 40 (Fall 1967):279-301.

[3]Rebecca S. Vreeland and Charles E. Bidwell, "Classifying University Departments: An Approach to the Analysis of Their Effects Upon Undergraduates' Values and Attitudes," Sociology of Education 39 (Summer 1966):237-254.

[4]John A. Centra, "Student Perceptions of Total University and Major Field Environments" (Ph.D. dissertation, Michigan State University, 1965.

[5]Astin, "Classroom Environments," p. 275.

Structure and Nature of Experiences. What seems to be most important for student development is the structure and nature of experiences, as opposed to the nature of the content. Learning, by definition, is the process by which experience develops new and reorganizes old responses. Feldman and Newcomb state the underlying principle: "Our best guess at the moment is that a college is most likely to have the largest impact on students who experience a continuing series of not-too-threatening discontinuities."[1] Heath stresses the same point in discussing the growth of Haverford students. "The principle psychological condition that promoted reflectiveness and extended the capacity of the men to symbolize their experience seems to have been their encounter with opposition and contrast."[2] And Perry notes:

> We gather from what our students have told us that the educational impact of diversity can be at its best when it is deliberate. When a teacher asks his students to read conflicting authorities and then asks them to assess the nature and meaning of the conflict, he is in a strong position to assist them to go beyond simple diversity into the discipline of relativity of thought. . . .[3]

Although seldom specifically stated, it is this principle of discontinuity that validates arguments for reform of the freshman year and reexamination of the typical sequence of undergraduate studies. Eddy, in College and Character, the Hazen Foundation Report on The Student in Higher Education, Marchese, Heath, and Wilson all argue these points.

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[1]Feldman and Newcomb, Impact of College, 1: 332.

[2]Heath, Growing Up in College, p. 225. See also, pp. 183-184.

[3]Perry, Intellectual and Ethical Development, p. 35.

Marchese says:

> Freshmen arrive eagerly each September expecting a new, challenging academic experience which will stretch their abilities and view of things, and confront instead an academic regimen much the same as they encountered in high school. . . . By late fall, the freshman dream is lost, and with it a large amount of precious educational capital.[1]

Heath says that students are most vulnerable during the first six to eight weeks of college. Wilson reports that few students identified lower division courses as ones that stimulated their growth toward intellectual disposition.

This same principle of discontinuity linked with the fact that socialization is most intense for both the adolescent and adult in the period immediately preceding and immediately following induction into an organization probably helps explain findings such as Lehmann's and Dressel's that the greatest value changes in college occur during the first one and one half years.[2]

Wilson says: ". . . courses . . . that make connections with the affective life, relate to student concerns, and involve readings which stir the imagination are more likely to facilitate the growth and development of students."[3]

Teaching and Evaluation. Teaching and evaluation have their effects as well. Wilson found that faculty identified as intellectually

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[1]Theodore J. Marchese, "Reexamining the Undergraduate Sequence of Studies," The Journal of Higher Education 43 (February 1972):112.

[2]Lehmann and Dressel, Critical Thinking, (1962), p. 267.

[3]Wilson et al., Professors and Impact, p. 181.

influential were characterized by presentation interest. They made or attempted to make their courses more interesting by relating course content to current social problems, by using examples from their own experience and research, and by trying to be dynamic, interesting and even showmanlike.[1] They also more often encouraged and provided for student participation by inviting student criticism of ideas and of courses and giving students responsibility for presenting topics, conducting panels, leading discussions and sharing their knowledge or experience with the class.[2]

The evidence concerning the differential effects of lecture versus discussion classes is abundant and consistent. McKeachie summarizes: ". . . the results point to the superiority of lectures for information learning and of discussion for achieving higher level objectives."[3]

Idiosyncratic Drive Patterns

More recent reviews point up the significance of ". . . interaction among instructional methods, learner characteristics, and subject matters."[4] Studies reviewed by Trent and Cohen indicated ". . . that students who achieved most in conventional lecture situations were characterized by moderate achievement and social needs and low creativity. Students characterized by high creativity or by high social needs tended

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[1]Ibid., pp. 145-146.

[2]Ibid., p. 158.

[3]W. J. McKeachie, "Procedures and Techniques of Teaching: A Survey of Experimental Studies," in Sanford, ed., American College, p. 321.

[4]Trent and Cohen, "Research on Teaching," p. 1028.

to perform best in small discussion groups."[1] There is also evidence that team-taught courses enhance student skill on questions requiring thought and reflection[2] and that students taking independent study increases both the number and variety of products (papers, reports, etc.) produced.[3]

Perhaps the best summary of the differential effects of college climates, and teaching and evaluation on student development is that of Chickering as he looked back over the findings of the Project on Student Development.

> [The] data suggest that when a college has a practical and instrumental emphasis combined with a mannerly, proper atmosphere, and enrolls relatively high proportions of students with a Vocational or Collegiate Orientation who score high on Practical Outlook, greater changes in Practical Outlook will occur and smaller changes in Autonomy, Impulse Expression, and Complexity, than at other colleges where these characteristics are not so prominent. When a college enrolls high proportions of Nonconformist students who score high on Autonomy and Impulse Expression, and low on Practical Outlook, Autonomy, Impulse Expression, and Complexity will increase more and Practical Outlook less.[4]

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[1] Ibid.

[2] Ibid., 1030.

[3] Ibid., 1032.

[4] The terminology practical, instrumental emphasis and mannerly atmosphere come from two of the five dimensions measured by Pace's College and University Environment Scales. Practical, instrumental emphasis suggests that status is gained by being in the right groups, by doing what is expected. Order and supervision are characteristic of the administration and of class work. For a fuller discussion of these and the other CUES dimensions see Feldman and Newcomb, Impact of College, 1: 345.

The terms vocational and collegiate come from a fourfold categorization of student subcultures postulated by Clark and Trow. Students who identify with the collegiate subculture supposedly focus their attention on social life and extracurricular activities; those in the vocational on the accumulation of courses and credits that will lead to a better job than they would have had without a degree. Ibid., pp. 232-233.

Autonomy, Impulse Expression and Complexity refer to scales from the Omnibus Personality Inventory discussed on pages 33 and 34 above.

> Teaching practices and the study activities they fostered bore strong and consistent relationships to changes among students in the varied subgroups. Where heavy use of lectures occurred there was less change toward increased Autonomy, Impulse Expression, and Complexity, and greater change toward Practical outlook. Where open arguments among students and between students and instructors more frequently occurred, and where students more often participated in decisions about course content and procedures, Autonomy, Impulse Expression, and Complexity increased more and Practical Outlook decreased.
>
> At colleges where teachers usually lectured in class, students preparing for classes usually invested substantially more time Memorizing than in other more complex mental activities, so Memorizing also is negatively associated with Autonomy, Impulse Expression, and Complexity, and positively associated with Practical Outlook. The amount of time invested in more complex study activities . . . was positively associated with increasing Autonomy, Impulse Expression, and Complexity, and negatively associated with Practical Outlook.
>
> Where 'intrinsic' reasons for study predominated . . . there were greater increases in Autonomy, Impulse Expression and Complexity, and smaller increases in Practical Outlook. Where 'extrinsic' reasons were more often of primary importance . . . opposite relationships occurred.[1]

Summary

The problem of this chapter has been two-fold: (1) to find studies that would operationally index those developments defined by educational philosophers as liberally educating; (2) to identify the academic correlates of such development. Four major studies suggest that students can and do grow in intellectual skills, clarification of values, ability to take on the views of another, and the capacity increasingly to assume individual and social responsibility--the qualities posited to be desirable outcomes of a liberal education--when;

(1) faculty interact with students on an open, supportive and continuing basis;

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[1]Chickering and McCormick, "Personality Development," pp. 62-64.

(2) curriculum and teaching practices connect materials to student interest and provide experiences congruent with behavioral outcomes desired;

(3) evaluation practices encourage both divergent and integrative thought as opposed to mere recall;

(4) the series of experiences from freshman through senior year provides appropriate discontinuities (cultural and value challenges) within a climate of institutional and faculty support;[1]

(5) and there is a clarity of goals and coherence of values among the faculty with a deliberate commitment to effect changes in the development of liberal competence as opposed simply to the commitment to effect academic changes or seek recruits for their respective disciplines.

But as Heath observes: "No [college] remakes any [student] into its own image . . . ; change is the product of the interaction of the students' values and personality structure with the values and expectations of the institution."[2] What is the nature of Hope College? What are its requirements? What kind of students does it attract? These are the questions to be dealt with in Chapter III, THE COLLEGE UNDER STUDY.

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[1]Feldman and Newcomb, Impact of College, p. 276, describe discontinuity as ". . . meeting new information and ideas, confronting different values and attitudes, facing new types of people. . . ."

[2]Heath, Explorations of Maturity, p. 52.

CHAPTER III

THE COLLEGE UNDER STUDY

Historical Development

Hope College is a private, coeducational, four year liberal arts school established in Holland, Michigan in 1866 through the efforts of Dutch immigrants to Michigan, Illinois, and Wisconsin and the (Dutch) Reformed Church of America.[1] In size, pattern of development, economic status, and curriculum structure it is typical of a number of Protestant, church-related, liberal arts colleges. Its enrollment in 1972-1973 when the initial data for this study were gathered was 2050, of whom 975 were men and 1,075, women.

The first 30 years the college was small, struggling, entertaining dreams of becoming a university, and sustained by religious faith--the pattern of poverty, piety and perseverance characteristic of so many midwestern church-related colleges. By the early nineteen hundreds the college had established itself, several of the current and then rather substantial buildings had been constructed, and the college had begun a pattern of slow but gradual growth. Its enrollment reached 500 in 1928, dropped during the worst of the depression years and then climbed to 540

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[1]The Reformed Church of America is Calvinistic in background, the institutional descendent of early Dutch settlement in New York and New Jersey. As viewed by denominational leaders, Hope was to be to the churches of the then West what Rutgers had been to the churches of the East.

in 1940-1941 before being cut by the nation's entry in World War II.[1]

The college's major growth has come since World War II. Its pattern of growth is illustrative of John Corson's thesis that the two components of a college or university's dynamic are its leadership and its character. He defines character as the core of tradition and momentum that stems from the heritage of decisions made during the course of an institution's life and the balance of its successes and failures.[2]

One of Hope's sources of character is its concept of Christian faith as interpreted through the Calvinistic tradition. Another is its particular pattern of academic successes.

Under the leadership of the Reverend Albertus C. Van Raalte, a number of Dutch emigrants, members of the Christian Reformed Church who were oppressed because of their secession from the State Church of The Netherlands, began colonization of an area on the eastern shore of Lake Michigan in 1846.[3] Those characteristics of Calvinism that have been associated with the so-called Protestant ethic--democratic political traditions; asceticism, thrift, and sobriety; individualism and self-reliance; rational empiricism; utilitarianism and material values--were abundantly present.

Van Raalte, who was university trained, felt strongly the need for a preparatory school and a college to provide educated ministers and

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[1]Wynand Wichers, A Century of Hope: 1866-1966 (Grand Rapids, Michigan: William B. Eerdmans Publishing Company, 1968), pp. 65-221 passim.

[2]John J. Corson, Governance of Colleges and Universities (New York: McGraw-Hill Book Company, 1960), pp. 177-179.

[3]Wichers, Hope, pp. 15-24.

teachers for these immigrants. He wanted his people to become Americanized without becoming assimilated into the larger culture.[1] The college, for which he donated land, he saw as his ". . . anchor of hope for this people in the future."[2] Christian education was an imperative, to seek and do God's will, to seek out and use knowledge to the end of man's dominion over the earth and to the fulfillment of God's purpose, a duty. Despite secularization of program this theme still resounds in recent college goals statements.

Probably an outgrowth, and certainly related to this religious thrust, is the college's interest in music and forensics. Physically, the religious dynamic was given its major expression in the construction between 1927 and 1929 of Dimnent Memorial Chapel, a project of President Edward D. Dimnent. Large enough to contain the then entire student body, with stained glass windows replicating famous European windows, the chapel reflected Dimnent's conviction that religious worship was part of general education.[3]

Academic Reputation

Since the publication of Origins of American Scientists in 1952, Hope has enjoyed an increasingly strong academic reputation, first in the sciences and, subsequently, in other departments. That study ranked Hope seventh among 490 colleges and universities in the nation in the production of graduates who subsequently received the Ph.D. or were listed

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[1] Ibid., p. 31

[2] Ibid., p. 37.

[3] Ibid., pp. 196-197.

as outstanding scientists in American Men of Science.[1] Five years later, in 1957, The Chicago Tribune placed Hope tenth among the top ten co-educational liberal arts colleges in the United States in an extensive survey conducted by that newspaper.[2] Most recently, 1971, the American Chemical Society ranked the college third among coeducational liberal arts colleges in the nation in the production of "eminent" scientists.[3] This academic reputation is now cited by entering students as their preponderant reason for selecting Hope.[4]

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[1] R. H. Knapp and H. B. Goodrich, Origins of American Scientists (Chicago: The University of Chicago Press, 1952), p. 22.

[2] The Chicago Tribune, 21 April 1957, Hope College archives.

[3] Hope College Catalog, 1973-1974, p. 15.

[4] Jencks and Riesman make a distinction between academic and intellectual that is helpful in understanding the recent development of Hope College. They say: ". . . an academic question is one raised by some lacuna or ambiguity in the data or interpretations of a world-wide discipline. In essence, it poses a professional problem, whose solution will advance 'the field.' In contrast, intellectual questions are of interest not just to people with an occupational interest in a particular set of ideas, but to intelligent men everywhere (including students), who find that life raises certain perennial problems to which they cannot help seeking solutions. Whereas academic inquiry is devoted to the liquidation of ignorance and the increase of knowledge, intellectual inquiry is dedicated to exposing foolishness and encouraging wisdom, or as it is now more usually called, intellectual maturity. From Christopher Jencks and David Riesman, "Patterns of Residential Education: A Case Study of Harvard," in The American College, ed. Nevitt Sanford (New York: John Wiley & Sons, Inc., 1962), pp. 735-736.

The Hope Faculty

At the time of the initial survey in 1973, Hope had 146 full-time faculty reflecting undergraduate or graduate experiences at 66 different colleges and universities. Nearly one-fourth (34) were alumni of Hope with another ten with baccalaureates from other Reformed or Christian Reformed colleges. Sixty percent held the Ph.D. or an equivalent terminal degree. Of the sixty percent with doctorates, most had earned them at major universities.

The faculty also tended to be fairly young in service, reflecting retirements and a significant enrollment expansion that occurred during the mid nineteen-sixties. About 50 percent (71) had been at Hope for from one to five years, another 28 percent (41) had been at Hope for from six to ten years, and the remaining 23 percent (34) had been at the college for from eleven to twenty-eight years. Nearly half (16 of 34) of Hope alumni on the faculty belong to this group of longest service.

Typically, faculty are expected to teach twelve semester hours per semester and accept an average load of fifteen advisees. While the number of preparations varies from department to department and with circumstances, the modal number is three.

Although Hope is a teaching institution, as most undergraduate colleges, both formal and informal reward systems encourage research for publication. During the period Fall, 1971, through Winter, 1973, forty-seven faculty published 105 articles, essays, poems or other works. It is interesting to note that 44 of the articles were produced by 17 faculty in the area of the natural sciences, a fact that may be explained in part by the hypotheses that research and teaching in the natural sciences are not as mutually exclusive as in some other areas of the curriculum and

that younger, research oriented faculty have been attracted to the college by its reputation in the sciences.[1]

The picture of faculty that emerges is that of an academically competent group, oriented to their disciplines, attracted by their backgrounds to the liberal arts college, some because of their church affiliation, and valuing scholarly activity as it is expressed through research and publication.

The Hope Student

During the period (1969-1973) encompassed by the classes involved in the initial survey, full time enrollment ranged between 1900 and 2100 students, about evenly divided between men and women. Consistently during the four years 50 percent of the enrollment came from Michigan. Including Michigan, slightly more than 80 percent of the students came from four states: Michigan, New York, Illinois, and New Jersey, reflecting geographical proximity, Reformed Church backgrounds, and an aggressive Eastern recruiting program. The balance of the enrollment came from an additional 35 to 39 states and some 20 foreign countries.

The number of students from Reformed Church backgrounds remained substantial during the four year period. Forty-seven percent of the students reported Reformed Church affiliation in 1969-1970, forty percent in 1970-1971, thirty seven percent in 1971-1972, and thirty-eight percent in 1972-1973. Since headcount enrollment increased from 2033 in 1969-1970 to 2124 in 1972-1973 and the number of students not reporting church affiliation increased sharply during the four year period (from 62 not

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[1]For a discussion of the problem of combining research and teaching in the liberal arts college see Reece McGee, Academic Janus (San Francisco: Jossey-Bass Inc., Publishers, 1971), pp. 35-36.

reporting in 1969 to 398 not reporting in 1972), the absolute number from Reformed Church backgrounds probably remained quite stable.

In 1969 and, again, in 1970, the college administered the Omnibus Personality Inventory during orientation week to first-time, full time freshmen.[1] The profiles for 1969 and 1970 (the seniors and juniors, respectively in the 1973 survey) are very nearly identical and both were fairly similar to national norms. However, in both years Hope freshmen did differ from the national norms by a statistically significant amount (not likely due to chance) on 6 of the 15 scales of the Inventory. And while the magnitude of the differences from the norms was small, the fact that they were not likely due to chance has significance for the interpretation and recommendations of this study.

The differences came on the scales for Thinking Introversion, Theoretical Orientation, Religious Liberalism, Social Extroversion, Altruism, and Masculinity-Femininity. In sum, Hope freshmen tended somewhat more than the norm to--

(1) Prefer action and application over ideas and abstractions,

(2) Prefer having theory explained to them,

(3) Be accepting rather than skeptical of traditional religious belief,

(4) Be slightly introverted,

(5) Be trusting and ethically concerned for others welfare, and

(6) Be somewhat greater in esthetic and social inclinations and sensitivity and emotionality.

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[1]The Omnibus Personality Inventory is a standardized, comprehensive research instrument that can be used to measure intellectual interests and aspects of personality that have a bearing on the kind of growth under consideration in this study. (See above, pp. 33-34.)

On one other scale (Practical Outlook) the 1969 Hope average approached statistical significance at the .05 level and the 1970 freshmen were statistically different from the national norm in being less likely to value material possessions and concrete accomplishments.

In 1970 and, again, in 1973 (Juniors of the initial survey and freshmen in the follow-up sampling, Spring of 1974) first-time, full-time freshmen responded to the self-report Freshmen Norms Inventory which the American Council has been administering since 1966. As with the results from the 1969 and 1970 administration of the Omnibus Personality Inventory, the profiles of the two classes are very similar and tend to be consistent with data from the Offices of Records and Admissions.

Academically, in both 1970 and 1973, 69 percent or more of the freshmen had high school averages of B or better which was better than the norm for all institutions, for all four year colleges and all Protestant four year colleges, and equal to the select norm group of private, non-sectarian colleges. It is interesting to note that despite this relatively high academic grade point average, average Scholastic Aptitude Test scores of 1031 through 1068 put Hope students in the middle range of measured academic ability and the college in the middle range of selectivity.[1]

Other data from the Freshmen Norms Inventory bearing on the orientations of Hope freshmen show that more came from families in which

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[1]For this definition of level of selectivity see Alexander W. Astin et al., The American Freshman: National Norms for Fall 1974, pp. 10-12 and Alexander W. Astin, "Recent Findings From the ACE Research Program: Implications for College Choice and Admission," College and University 43 (Summer 1969):341-356.

both parents had college degrees and graduate degrees than all other norm groups with the exception of the very selective, private non-sectarian institutions. And in 1973, Hope College freshmen exceeded all other norm groups in the percentage choosing the following career occupations:

Doctor (M.D. or D.D.S.)	15.3%
Educator (Secondary)	8.0%
Educator (Elementary)	7.1%
Research Scientist	6.2%
Social or Welfare Worker	4.4%

Taken together, the data from the Records and Admissions Offices, The OPI and the Freshman Norms responses suggest an academic and personal profile of the Hope College student. In general, he/she is bright--as measured by previous learning--not brilliant, diligent, socialized to value academic achievement, service oriented, socially sensitive, more interested in the application of ideas than in theory, and less concerned with material reward than students from other norm groups. In his service orientation, his valuing of academic achievement, and his orientation to professional goals, his value system seems congruent with the thrust of the college.

The Curriculum

Hope College offers two degrees: a Bachelor of Arts and a Bachelor of Music degree. For either a student must complete a minimum of 126 semester hours made up of a core of common and distribution requirements and a major.[1] The 1972-1973 catalog, in effect when the

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[1]Dressel reports that the most common curriculum pattern in the liberal arts college is a three-fold requirement. "The student is required to have contact with a number of different fields through a distribution requirement. He is required to take certain specific courses such as English composition and foreign languages. Finally he is required to complete a major." Paul L. Dressel, The Undergraduate Curriculum in Higher Education (New York: The Center for Applied Research in Education, Inc., 1963), pp. 44-45.

initial data for this study were collected, says the core

> . . . is to provide for each student a broad base of experience in the various fields of human activity which will enlarge his understanding of the world in which he lives, help him in disciplining his mind, and assist him in acquiring a vital Christian philosophy. . . .
>
> The second responsibility of the college is to help prepare each student to take his place, as a contributing member of society, either in a chosen vocation or profession or in a professional or graduate school in which he may continue his specialized training for a career. The requirement of a major . . . aims partially at fulfilling this need. . . . The basic course requirements aim at developing competencies which are important for most special vocations.[1]

Through these experiences the college hopes the student will realize four objectives: the ability to understand, evaluate and communicate ideas; a broadened awareness; the ability to engage in intensive study; and a sense of the interrelatedness of knowledge, experience and responsibility.[2]

The Liberal Arts Core

The basic structure of general education requirements goes back to a curriculum study of 1949-1954 in which a Ford Foundation grant for the study of critical thinking played an important part. The pattern in effect at the time of the survey, with only minor changes, comes from revisions of the earlier study which went into effect in September, 1964. The core requirement consists of eight elements, all but one of which is intended to be completed by the end of the sophomore year. They are

1. Introduction to Liberal Studies

A seven hour, two semester sequence required of all freshmen. It

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[1] Hope Catalog, 1972-1973, p. 66.

[2] Ibid., pp. 66-67.

consists of Introduction to Liberal Studies: English, 4 credits and Introduction to Liberal Studies: Philosophy, 3 credits which may be taken in either order.

In a very real sense Introduction to Liberal Studies: Philosophy is an introduction to the philosophy of liberal education as it is operationally expressed through the curriculum structure of the college. Liberal education is presented as that education primarily concerned with human development. ("I am a human being, help me to become one.") This development is seen to come as the individual increasingly participates in those activities that have characterized and humanized man: language, reason, and the major areas of human competence: science, social science, history, the creation of beauty, philosophy and morals, and religion. Through large group lecture and reading the student is introduced to the basic assumptions, issues and philosophical viewpoints of the natural scientist, the social scientist, the historian, the artist and others.[1]

Introduction to Liberal Studies: English is essentially a course in expository writing taught in the form of a topical seminar. Faculty assigned to this course organize their sections around a topic or theme, usually one of particular interest to themselves. Theoretically, then, students have a range of choices which may coincide with their own interests. In 1972-1973, for example, a freshman could have chosen from among such topics as "The Ecological Crisis," "Justice in the Middle East," "American Indian Points of View," "Life Styles," and "Mythology and Science Fiction."

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[1]See D. Ivan Dykstra, An Introduction to Liberal Education, (Holland, Michigan: Hope College, no date), 416 pp., passim. Offset printed, bound volume of lectures and study guide.

2. Cultural Heritage

An eleven or twelve hour sequence normally completed by the end of the sophomore year. It consists of a three credit survey of either music, art or theatre, usually taken during the freshmen year, a three hour introduction to history as a discipline, using a segment of either European or American history as content, and six hours of literature.

3. Social Science

A six hour sequence, usually completed by the end of the sophomore year. One course must be selected from either economics or political science--usually this is Principles of Economics or National Government; and one course from the areas of communication, psychology or sociology.

4. Science and Mathematics

An eleven semester hour grouping, eight hours in science and three in mathematics. Students must take at least two courses in the sciences, one of which must include laboratory experience, from appropriate offerings of the biology, chemistry, geology and physics departments.

5. Foreign Languages

At the time of the survey, the foreign language requirement could be fulfilled in two basic ways:

(1) Those entering with at least two years of foreign language in high school could complete the requirement by

(a) taking from 6 to 8 hours in that language commencing at the level determined by their performance on a placement test;

(b) taking the freshman year sequence (8 hours) in a language not previously studied;

(c) taking one semester of concentrated study of a given language under the auspices of an approved study program in a country where that language was spoken.

(2) Students entering with less than two years in a language in high school were required to make up the deficiency by completing 4 to 8 credits in any language before proceeding to fulfill the foreign language graduation requirement. The graduation requirement could then be completed by taking the 8 credit sophomore sequence of the same language or by using options (b) or (c).

6. Religion

A six hour sequence, usually completed by the end of the sophomore year. The first course may be selected from one of four specifically developed introductory courses. The second course may be selected from another of these four courses or from any other offering of the religion department.

7. Physical Education

Two one semester courses in Physical Education activities totaling two semester hours.

8. Senior Seminar

This is a three credit senior capstone experience intended to help the student develop a sense of the interrelatedness of knowledge, experience, and responsibility and, in particular, to understand how the Christian world-view can give meaning to the development of a personal philosophy of life. Students may select from among nine course options in fulfilling this requirement including, for example, "Christianity and Contemporary Culture," "Science and Human Values," "Christian Ethics," and "Religion and Drama."

In sum, the core provides a distribution ranging from 52 to 68 hours, depending on the status of the student's language proficiency at the time of entrance and differences of two to three hours depending on his selections in the cultural heritage and science and mathematics sequences.

The Major

At the time of the initial survey in the spring of 1973, Hope offered thirty four majors in twenty departments.[1]

By department, the largest number of officially declared majors were Economics/Business Administration, 72; Biology, 71; Psychology, 65; English, 63; Psychology/Sociology, 59; Political Science, 41; Chemistry, 40; Mathematics, 38; Music, 30; Art, 28; Religion, 25; and History, 24. In addition, the registrar's printout of majors for 1972-1973 listed 77 students with double majors in such combinations as biology/chemistry, chemistry/physics, or philosophy/religion. Further, 79 students were enrolled in one of the four composite majors--humanities, language arts, science, and social studies--designed for students aiming at elementary teaching certification. By sex, men predominated in majors in business, economics and the physical and biological sciences. Women predominated in English, music, art, psychology, the four elementary education composites and the psychology/sociology composite which is also used by a number of women as a subject matter major for elementary certification.

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[1]The majors were ancient civilization, art, biology, business administration, chemistry, classical languages, communications, economics, English, French, geology, German, history, humanities, language arts, Latin, mathematics, music literature and history, music theory, philosophy, physical education, physics, political science, psychology, psychology-sociology, religion, science, social studies, sociology, Spanish, speech and/or theatre, music performance, vocal music education, and instrumental music education.

The minimum hours required for a major ranges from 24 in business administration/economics to 81 in music performance with the modal number falling between 24 and 30 hours. A thirty hour major added to the basic 52-54 of the core requirements would suggest considerable flexibility for electives. Such is not the case for many, however, because students seeking teacher certification, and between 40 and 50 percent of the graduates did, must complete 20 to 26 hours of professional education courses plus a 20 to 24 hour subject matter minor in order to qualify for certification under the Michigan Certification Code.

Enrichment Opportunities

For students able to meet academic criteria and costs, the college provides a number of enrichment opportunities. Among these are the Washington Semester, the Urban Semester in Philadelphia and the Arts Program in New York--sponsored by the Great Lakes College Association, the Hope College Vienna Summer School or Vienna Semester, the Junior Year in Grenoble, the Junior Year in Europe--sponsored through the Institute of European Studies, the Yugoslav Exchange, the summer or semester in Bogota, Colombia and two non-Western programs, one at the American University of Beirut and the other at Waseda University in Tokyo.

Summary

Three factors have seemed to interact to shape the character of Hope College. One of these is its value dynamic associated with its religious heritage: the Calvinistic qualities of piety, duty, and the work ethic. A second is its success in preparing students for successful work in the sciences. The third is a recent series of administrative decisions linked with substantial foundation and government grants

which have been used to enhance the pre-professional and disciplinary reputations of departments even further.

These factors, in turn, have attracted younger faculty with strong disciplinary orientations and further emphasized the departmental orientation of the college. These faculty are interested in students but are also desirous of being associated with a college of strong academic reputation that will give them opportunity and support for their research interests.

The three factors that have interacted to shape the character of the college apparently have interacted to attract students. Students tend to be pragmatic, academically oriented but not necessarily intellectually curious,[1] conventional in religious belief, and socially and ethically sensitive. These qualities are suggested by OPI data, by high school grade point averages higher than national norms but college aptitude scores that are only average, and by self-reported career orientations.[2]

Examination of the college's curriculum structure shows it to follow the pattern typical of most colleges. The student is required to have contact with a number of different disciplines through the distribution requirements of the liberal arts core. He must take a course in English composition and fulfill a foreign language requirement. Finally he must complete a major.

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[1]That is, they do not distinguish between acquisition of knowledge as measured by grade point averages and the challenge and excitement of dealing with issues and ideas. Feldman and Newcomb, Impact of College, 1:87, say: "Most freshmen--like many of their elders--make no distinction between the academic and the intellectual."

[2]See above, pp. 57-59.

The combination of heritage, faculty and student orientations and curriculum structure have implications for the college's academic press and the development in students of liberal competences--those qualities implied by the phrase "liberally educated."

How the data were collected to identify student and faculty perceptions of academic press and how they were analyzed will be discussed in Chapter IV, DESIGN OF STUDY.

CHAPTER IV

DESIGN OF STUDY

Purpose

The primary purpose of this study is threefold: (1) to develop a profile of academic experience perceived by students to be characteristic of Hope College; (2) to analyze the data of this profile and evaluate its probable effectiveness in the development of competences generally associated with the phrase "liberally educated," and; (3) to formulate suggestions for further research and for changes in college procedure that might enhance its impact on students. A secondary purpose is to see whether faculty, responding to the instrument in terms of their own practices, can predict student responses.

Type of Study

By its nature the study is descriptive. It is an attempt to fulfill the three general purposes of descriptive research suggested by Carter V. Good:

1. To secure evidence concerning an existing situation or current condition.
2. To identify standards or norms with which to compare present conditions, in order to plan the next step.
3. To determine how to make the next step (having determined where we are and where we wish to go).[1]

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[1]Carter V. Good, Essentials of Educational Research: Methodology and Design, 2nd ed. (New York: Appleton-Century-Crofts, 1972), p. 208.

Borg and Gall stress the value of descriptive research in education:

> Descriptive studies serve many very important functions within the field of education. Under certain conditions it is of tremendous value just to merely know what the current state of the activity is. Descriptive research provides us with a starting point and is, therefore, often carried out as a preliminary step to be followed by more rigorous control techniques.[1]

The study is also cross-sectional in design because it is an attempt to identify conditions impinging on students at a given point in time, it assumes that without major changes in curriculum, faculty or sources of student clientele the nature of press and the nature of response will remain quite stable over time, and that pressures for decision making facing colleges today require information that can be gathered in a minimum amount of time. After his five year longitudinal study of student development in small colleges, Chickering argues strongly for the cross-sectional approach. He says:

> In the past, complex longitudinal studies have been the major models for evaluative research. But as the rate of social and institutional change accelerates and as pressures for fast- and far-reaching decisions increase, there is simply not enough time to rely on institutional self-studies spanning 4 or more years.
>
> Given these conditions, data concerning the daily activities and experiences of students provide more immediately useful and powerful information for program planners and decision makers. . . . Suppose, for example, that development of critical thinking is a desired outcome, but memorizing is the student's only mental activity as he pursues his academic work. . . . Students may indeed show improvements in their critical thinking, but it seems highly unlikely that such changes occur as a result of class meetings and out-of-class assignments.[2]

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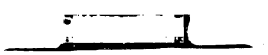
[1]Walter R. Borg and Meredith D. Gall, Educational Research (New York: David McKay, Inc., 1967), p. 202.

[2]Chickering, "Undergraduate Academic Experience," pp. 142-143.



Theoretical Background and Nature of the Inventory Used

"Psychologists typically treat behavior as a function of . . . interaction between the individual and his environment."[1] In using students as observers of stimuli in their environment, developers of press instruments typically present descriptive statements or adjectives to which students respond as being true or untrue of their college. Astin highlights the significance of the approach:

> In one sense, the student's 'image' of his college environment at a given point in time is simply his subjective response to a particular set of environmental stimuli; in another sense, it is a potentially important frame of reference for interpreting and responding to new stimuli. Thus, the student's image of his college is both a response to his environment and a potential determinant of his future responses.[2]

Two of the earliest instruments developed for reporting student perceptions of college environments are the College Characteristics Index (CCI) and the College and University Environment Scales (CUES) developed by Stern and Pace. The first of these, the CCI, is based on Murray's "need-press" concept[3] and is intended to measure the extent to which the college environment provides satisfaction for individual needs which are measured by a companion instrument, the Activities Index.

In his subsequent development of CUES, Pace attempted to construct an instrument that would directly analyze environmental differences between institutions without reference to personality measures.

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[1]James M. Richards, Richard Seligman, and Paul K. Jones, "Faculty and Curriculum as Measures of College Environment," Journal of Educational Psychology 61 (August 1970):324.

[2]Alexander W. Astin, The College Environment (Washington, D. C.: The American Council on Education, 1968), p. 94.

[3]See above, pp. 15-16.

"His intent was to identify a set of dimensions along which colleges differ from one another, and to measure these dimensions by a set of items that most clearly and sharply reflect these differences."[1]

Both CCI and CUES are comprehensive environmental instruments in that they attempt to assess the full range of stimuli to which the student may be exposed--from peer relationships to the activities of the classroom.[2]

The Dressel-Plough Inventory used to collect the data for this study is in the genre of CCI and CUES. Like Pace, Plough was interested in identifying a set of dimensions along which colleges differ from one another and measuring these dimensions by a set of items that would clearly and sharply reflect these differences. Plough, however, has developed an instrument that focuses specifically on the academic aspects of the student's environment as opposed to the more global approach of the CCI and CUES. The Dressel-Plough Inventory was selected because (1) it is a focused instrument; (2) it has a theoretical base in Dressel's four continuums or dimensions of experience;[3] (3) it was offered for use by Dressel and Plough;[4] and (4) while it had been field

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[1]Feldman and Newcomb, Impact of College, 1:125.

[2]Ibid., pp. 124-126 and their Appendices A, B, and E for fuller discussion of CCI and CUES. See also Trent and Cohen, "Research on Teaching," pp. 999-1001.

[3]Plough found ample support in the theoretical literature for the use of Dressel's four analytical continuums--Individual vs. Discipline; Problems vs. Abstractions; Flexibility vs. Rigidity; Integration vs. Compartmentalization--as the organizing dimensions of the instrument. In essence Dressel is saying: the extent to which colleges can relate the academic to students' interests, provide application, offer flexibility, and help students see the relatedness of knowledge will largely determine their effectiveness in helping students become liberally competent. The review of literature in this study adds further support to this position.

[4]The Dressel-Plough "Academic Experience Inventory" is copyrighted by Thomas R. Plough.

tested and its validity supported by statistical analysis; it had not been previously used in an intensive study of a single institution and there was interest in exploring its sensitivity across class levels, in looking at differences among majors, and its possible use with faculty in terms of predicting student responses from what faculty perceived to be their teaching practices.

Research Questions and Hypotheses

The major research questions to be explored are:

1. How do students perceive the balance of emphasis by continuum or dimension? More specifically, to what extent do they perceive the experiences to focus on the individual as opposed to emphasis on the discipline? On problems and the application of knowledge as opposed to theory and abstractions? On flexibility as opposed to insistence on predetermined sequences and patterns? On integration of knowledge and personal and institutional goals as opposed to compartmentalization?

2. Does the balance by dimension vary by class level?

3. Does location in the environment, in addition to class level, affect perception of academic press? For example, do students perceive emphases differently by major? By sex?

4. What do specific item responses indicate about curriculum, classroom practices, advisor-advisee interaction, out-of-class contacts, and compatibility of personal and institutional goals?

5. On what items are there the greatest differences by class level?

6. How do responses to this instrument compare with responses found in previous research that has used CCI and CUES as measures of college environment?

7. On the basis of the literature reviewed, do the experiences reported appear supportive of the development of liberal competences and the college's general objectives?

Preliminary reading of the literature and acquaintance with the college's curriculum suggested that students might perceive

experiences differently by class level, by major and by sex with subsequent differences in affect on their development.[1] Three hypotheses were drawn based upon the first three research questions. Stated in null form these hypotheses are:

H_1 There will be no significant difference in perception of academic experience by dimension by class level; i.e., from freshman to sophomore, sophomore to junior, and junior to senior years.

H_2 There will be no significant difference in perception of academic experience by dimension by sex.

H_3 There will be no significant difference in perception of academic experience by dimension by major.

Ancillary Questions

Since operational curriculum in any college is determined by what faculty value and do within the constraints of the formal curriculum, an additional feature of the study was to ask faculty also to respond to the inventory. All full-time faculty received a copy of the inventory and a faculty answer form along with a letter describing the nature and purpose of the study. Directions to the faculty were as follows:

(1) In view of the way you as a professor teach courses in your discipline, please respond to the questionnaire as you think most of your students will respond.

(2) Since the inventory was designed for general use, you may find a few items that do not seem applicable to your discipline or your situation. Mark the not applicable space on the answer sheet for any such items.

(3) There may be items for which the response you expect differs from what you would like to obtain. If so, please check these items and, using the item number in the comments

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[1] See Feldman and Newcomb, Impact of College, 1: 125-128, for a summary of these studies.

section, indicate the nature of the difference and what you feel to be the cause of the difference. (Most of us have probably experienced situations where class size, physical facilities, or some other factor has caused us to conduct classes or relate to students differently than we would like.)

The profile generated from the faculty responses will be compared with the profile of student perceptions to identify possible sources of institutional dysfunction; i.e., areas where what faculty consider to be their practice or emphasis is not so perceived by students.

Assumptions

The study assumes:

1. That perception is reality to the perceiver and is therefore both a response to an environment and a determinant of future responses;
2. That the Dressel-Plough instrument is a valid measure of academic environment;
3. That one can identify the academic press of a given college from the aggregate of student responses to an instrument such as the Dressel-Plough Inventory;
4. That the effective curriculum of a college consists of the interaction which occurs between students and faculty within the constraints of academic policy;
5. That the means employed must be consistent with the ends desired if an educational program is to be effective.

Study Population

The prime study population included all full-time students, years one through four, enrolled during the 1972-1973 academic year and all full-time faculty for that year with the exceptions noted below. A follow-up sampling of students used to validate the 1973 student profile included all full-time students, years one through four, with

similar exceptions, enrolled during the 1973-1974 academic year. Full-time was defined as those taking twelve or more semester credit hours.[1]

Design and Procedure

The original design of study called for a one in six stratified random sample of the full-time student population, a full survey of majors in six pre-selected areas where the literature suggested differences in academic emphases were likely to be most pronounced, and a full survey of faculty.[2] A one hundred percent response to the one in six sample of the 1868 student population would have produced 321 returns and given answers within plus or minus five percent of the actual population value at the .95 level of confidence.

It was also planned to distribute and collect the inventories using team of students working through the residence hall structure, since the large majority of Hope students live in college housing.

The study proposal was approved on March 29, 1973; Spring Semester classes ended May 4. A ten day Spring Recess which began on March 29, preregistration for the 1973-1974 Fall Semester, and pressures on students for completion of term papers and preparation for final exams combined to make it impossible to implement this stratified sample/survey design with the use of student teams.

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[1]Not included in the 1973 and 1974 student populations because of time and communication factors were some thirty students enrolled in programs overseas or at some distance from the campus. Not included in the original survey for similar reasons were eleven faculty on leave during the spring semester of 1973 when the survey was conducted.

[2]The pre-selected areas included: Biology, Chemistry, Psychology, Political Science, English, and Music.

With the cooperation of the registrar and the approval of the thesis director an alternate approach was used. It was decided to survey the entire full-time student population on campus concurrently with the April preregistration process for the upcoming Fall Semester. In April, shortly after the students received their preregistration materials, all freshmen through juniors received a separate mailing explaining the purpose of the survey, an inventory, and a machine scoring answer sheet.[1] Appended to the inventory was a check sheet which asked students to identify their major or intended major, to indicate whether they had been officially accepted as a major by the department administering the program, and the number of courses they had completed in the area of specialization. The instructions asked that they complete the survey and return the materials, unsigned, at their appointed time of registration. Although their anonymity was preserved in relation to their answer sheet, a record of response pad was placed at the collection point in the registration line which they could voluntarily sign to indicate that their answer sheet had been returned. The response list then provided a basis for follow-up with non-respondents.

Seniors received the same inventory and answer sheet with a slightly differently worded letter requesting that they return the form to their resident advisor if they lived on campus, or directly to the Education Department, the researcher's home department, if they lived

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[1]The answer sheets were coordinated for tabulation through the machine scoring equipment in the Office of Scoring Services at Michigan State University. The process provided an original set of punched cards and overall distribution counts and percentages by item for an initial examination of response patterns. Subsequent data manipulation and analyses were done at Hope College and at Michigan State.

off campus. Resident advisors were able to keep reasonably accurate account of who had responded in the dormitories and, as with the freshmen through juniors, a record of response pad was provided in the Education Office for those returning the answer sheets to that location. Again, this information provided a basis for follow-up with non-respondents.

As indicated earlier, all full-time faculty were also asked to participate in the survey. Their forms were distributed and returned through campus mail.

Response

Student Response

The composition of the 1973 student population and response groups is given in the table below. 1868 inventories were distributed; 714 or 38 percent were returned. Of these, 707 were usable for computing response percentages by class level.

COMPARISON OF POPULATION AND RESPONSE GROUPS[a]
Number and Percentage by Class Level

Class Level	Population N	% of Population (Class/1868)	Response N	Class Response as % of Total Response (Class/707)	% of Class Responding (Col 4/2)
1	2	3	4	5	6
Frosh	583	31%	194	27%	33%
Soph	455	24	155	22	34
Jr	406	22	142	20	35
Sr	424	23	216	30	51
Total	1868	100	707	99	

[a]Senior responses were increased by an intensive telephone follow-up. Semester exams starting on May 7 precluded similar intensive follow-up with other classes.

The response is non-random but not atypical of this type of survey.[1] At first it was thought it would be possible to generalize only about the response group. Further study suggested that this limitation did not necessarily hold--that the data could be generalized to the entire population with a considerable degree of confidence. First, the generalization is to groups responding about experiences within the parameters of a rather fixed program. Second, several experienced researchers take the position that non-response in this type of context is not the serious problem it was once thought to be.[2] Third, Kerlinger points out that the reliability of average responses is higher than the reliability of individual responses.[3] Finally, since work on the study had carried over into the following academic year, a one in ten simple random sample replication was conducted in April, 1974. Conditions of the survey were the same. Again, with the cooperation of the registrar, freshmen through juniors were contacted concurrently with the April preregistration procedure. Seniors were contacted separately as before. Similar collection procedures were followed. The only change in procedure was the addition to the inventory of an open ended response section which allowed students to comment about experiences related to specific items or to comment about the survey overall. The 1974 survey involved a population of 1940

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[1]Frederick N. Kerlinger, Foundations of Behavioral Research: Educational and Psychological Inquiry (New York: Holt, Rinehart and Winston, Inc., 1964), p. 397. Also, conversation with staff members, Office of Institutional Research, Michigan State University.

[2]Alexander W. Astin, Empirical Studies of the College Environment (Washington, D. C.: American Council on Education, 1965); Robert E. Herriott, "Survey Research Method," in Encyclopedia of Educational Research, 4th ed. (New York: The Macmillan Company, 1969), pp. 1400-1410.

[3]Kerlinger, Foundations of Behavioral Research, p. 397.

students. Included were all seniors and all underclassmen listed on registrar's schedule of permits to register. 194 inventories were distributed; 162, or 83.5 percent were returned. Of these, 156 or 80.4 percent were usable.

The variations between 1973 and 1974 percentage totals by item are almost all within the 95% confidence interval (the expected error range) of what could be expected given the 1974 random sample of size 156. That is, the differences between the two years seem to reflect normal chance variation. Correlations of the average responses for the two years were .99 for Dimension I, .96 for Dimension II, .99 for Dimension III, and .99 for Dimension IV.[1]

Faculty Response

The overall response of faculty in the Spring of 1973 was similar to that of the students. 133 inventories were sent to the full time faculty on campus. Of these, 48 or 36 percent responded. Faculty from the Fine and Performing Arts responded least; faculty from the Social Sciences responded most. Faculty from the Humanities, Science and Mathematics areas occupied a middle position.

There are at least three possible explanations for the low faculty response. First, it came at the busiest time of the semester. Second, because of the wording of the statements a number of faculty--as those in the Fine and Performing Arts--could not identify with the instrument. Third, some probably felt that it was an invasion of privacy.

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[1]A random sample of 156 drawn from a population of 2000 has an approximate error range of plus or minus 8 percent. 58 of the 60 percentage totals fell within that range.

Percentage tables comparing the 1973-1974 responses are given in Appendix B. The 1974 responses and comments to the openended questions will be used to supplement the data from the 1973 survey.

The low percentage of response precluded statistical comparison of faculty and student responses but yielded enough data to make possible overall percentage comparisons with the student profiles. The experience and some of the open ended responses also made it possible to identify potential strengths and weaknesses of the use of the instrument with faculty and suggest ways in which it might be used more effectively. Because of the poor response and problems identified in the use of the inventory with faculty, faculty were not resurveyed in the Spring of 1974.

Presentation of the Data

The nature of the research questions and the pattern of response dictated how the data would be handled.

With regard to the three major hypotheses:

H_1 There will be no significant difference in perception of academic experience by dimension by class level;

H_2 There will be no significant difference in perception of academic experience by dimension by sex;

H_3 There will be no significant difference in perception of academic experience by dimension by major

answers for each student were summed by dimension to provide the continuous data necessary to perform analysis of variance and post hoc analysis of class level dimension means.[1] For each person there were four scores (individual vs. discipline, problems vs. abstractions, flexibility vs. rigidity, and integration vs. compartmentalization), each of which could range from 0 through 15. This data, identified on

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[1]Plough keyed as "correct" student responses that showed activities tending toward the left pole of each continuum, i.e., activities that focused on the individual, on problems and the use of knowledge, on flexibility, and on integration as opposed to compartmentalization. This was consistent with his reading of the literature and with the literature reviewed in this study.

each card by sex, class level, and major, was run through a least squares analysis of variance and covariance program for groups of unequal N using computer facilities at Michigan State University. The first run was analyzed by sex, class level, and for sex-class interaction. The second run analyzed 141 replies from five major areas (Biology, Chemistry, English, Psychology, and Psychology/Sociology) of persons sophomores and above who indicated they had been accepted as majors and had completed three or more courses in the major. These five major fields were chosen because they had the largest enrollments, would give groups of around 30 or above and, with the possible exception of Psychology and Psychology/Sociology, would give disciplines where student perceptions would tend to be most distinct.

Duncan's "New Multiple Range Test" was used after analysis of variance to test for significant differences among dimension means.[1]

In statistical treatment, the level of confidence was set at the .05 level.

Item differences by class level, by sex and overall are shown in percentage distribution tables.

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[1]See Allen L. Edwards, Experimental Design in Psychological Research (New York: Holt, Rinehart and Winston, 1960), p. 136; and Clyde Y. Kramer, "Extension of Multiple Range Tests to Group Means with Unequal Numbers of Replications," Biometrics 13 (September 1956): 307-310.

Summary

This chapter has restated the purpose of the study. The type of study and the theoretical nature of the research instrument used to collect the data have been described. The major research questions and hypotheses to be treated statistically were set forth. Finally, the methods used to test the hypotheses and analyze the data have been described.

The next chapter will present the data and its analysis.

CHAPTER V

PRESENTATION AND ANALYSIS OF DATA

Introduction

This chapter will describe the academic press of Hope College as aggregated from student responses to the Dressel-Plough "Academic Experience Inventory." The question is: "What is the combination of curriculum, classroom activity, and student-faculty interaction unique to Hope College?"

The profile drawn is limited by the philosophic constraints of the Inventory, the response obtained, the cross-sectional design of the study, and the time when the survey was administered.

The profile will first be described by dimension, the four clusters of contrasting statements--Individual vs. Discipline; Problems vs. Abstractions; Flexibility vs. Rigidity; and Integration vs. Compartmentalization--around which the Inventory is organized.

Second, the profile will be drawn by item. What percentage of students agreed with each descriptive statement by class level? By sex? What was the overall perception? How are these perceptions related to the findings of similar studies?

Finally, using the inventory as it was presented to students, how well were faculty able to anticipate student responses based upon the faculties' self-assessment of their teaching practices?

These three topics--the profile by dimension, the profile by

item, and the faculty prediction of student responses constitute the three major divisions of the chapter.

The Profile by Dimension

The Data Base

The data used in the dimension analysis and the item tables is from the 1973 survey. While the 1973 response was non-random, comparison with the 1974 random sample follow-up and congruence of the data with evidence internal to the college--such as the structure of the curriculum --suggest that the data are substantially representative of Hope academic experience.[1] Open end responses from the 1974 random sample will be used to supplement the 1973 data.

Tests of the Major Hypotheses

In their review of research on college impact, Feldman and Newcomb found that "a student's perception of the . . . total college environment seems to be affected by his particular location in that environment . . ." and that frequently women scored higher than men on certain of the press scales of the CCI and CUES.[2] As a basis for behavior, differences in perception (or actual differences in experience) could have an effect on the development of competences--the development

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[1]The 1973 response and comparison of the 1973-1974 responses is given in Chapter IV. Correlation coefficients of overall perceptions by item for 1973-1974 were .99 for Dimension I, .96 for Dimension II, .99 for Dimension III, and .99 for Dimension IV. Discussion of the curriculum structure and characteristics of Hope faculty and students are given in Chapter III above. Tables comparing item responses for 1973 and 1974 are given in Appendix B.

[2]Feldman and Newcomb, Impact of College, 1: 125-128. For discussion of CCI and CUES see Chapter IV above.

of the student's skill in learning how to acquire and use knowledge, his skill in communicating, the clarification of his values, his sense of responsibility for others than himself, and his commitment to further growth as an individual.

Did Hope College students perceive experiences on the dimensions of the inventory differently by class level, sex, and major? Three major hypotheses were tested:

H_1 Students will perceive academic experiences by dimension differently by class level.

H_2 Students will perceive academic experiences by dimension differently by sex.

H_3 Students will perceive academic experiences by dimension differently by major.

The data from student scores summed by dimension was subjected to analysis of variance and covariance for groups of unequal N to test for effects of class level, sex, and sex-class interaction. A second run analyzed the scores of 141 students, sophomores and above, from five fields who had been accepted as majors and had completed three or more courses in their major.[1]

Hypothesis$_1$ was supported on all four dimensions. The probability of obtaining class level effects by chance alone of the magnitude computed was .001 for Dimension I (Individual vs. Discipline); .0005 for Dimension II (Problems vs. Abstractions); .0005 for Dimension III (Flexibility vs. Rigidity); and .009 for Dimension IV (Integration vs. Compartmentalization).

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[1]The five majors used were Biology, Chemistry, English, Psychology, and Psychology/Sociology.

Hypothesis$_2$ was supported only on Dimension II (Problems vs. Abstractions), where women scored higher than men, probability .002.[1]

Hypothesis$_3$ was not supported, but approached significance (.079) on Dimension III, Flexibility vs. Rigidity, a finding consistent with the differences in press between the natural sciences and social sciences and Feldman and Newcomb's hypothesis ". . . that impacts of academic departments within colleges will be more distinctive in large than in small institutions."[2]

Table 1 gives the analysis of variance data and results for class level, sex and sex-class interaction.

Post Hoc Analysis of Dimension Means

To find effects in analysis of variance does not mean that the differences between all groups is significant. Table 2 gives the dimension means by class level. The consistent increase in value by class level is congruent with Feldman and Newcomb's statement: "We have found more evidence for gradual change over the college years than for pronounced change in any particular year, in the areas and in the colleges for which relevant data are available."[3]

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[1]Examination of the item responses for Dimension II in the percentage of response tables suggests that this probably reflects differing emphases of programs enrolled in by women. This is consistent with Feldman and Newcomb's finding that women consistently scored higher than men on the Humanities and Social Science scales of the CCI. Feldman and Newcomb, Impact of College, 1: 128.

[2]Ibid., p. 190.

[3]Ibid., p. 103.

TABLE 1

ANALYSIS OF VARIANCE BY DIMENSION[a]

Class Level, Sex, Sex-Class Interaction

Source of Variation	df	Sum of Squares	Mean Square	F	P
Dimension I: Individual vs. Discipline					
Sex	1	11.93	11.93	1.38	ns
Class	3	153.39	51.13	5.93	.001
S x C	3	10.59	3.52	.41	ns
Error	675	5819.87	8.62		
	682				
Dimension II: Problems vs. Abstractions					
Sex	1	85.86	85.86	9.53	.002
Class	3	209.38	69.79	7.75	.0005
S x C	3	2.30	.77	.085	.0963
Error	675	6078.46	9.005		
	682				
Dimension III: Flexibility vs. Rigidity					
Sex	1	4.15	4.15	.78	ns
Class	3	295.73	98.58	98.58	.0005
S x C	3	17.83	5.94	1.11	ns
Error	675	3599.69	5.33		
	682				
Dimension IV: Integration vs. Compartmentalization					
Sex	1	21.26	21.26	2.67	ns
Class	3	93.98	31.33	3.94	.009
S x C	3	11.20	3.73	.47	ns
Error	675	5732.13	7.96		
	682				

[a]25 of the 707 respondents were not included in the sex, class level analysis because their answer sheets lacked some necessary item of identification.

TABLE 2

DIMENSION MEANS BY CLASS LEVEL

	Dimension	Class Level Fr	So	Jr	Sr	Saw Increasing Emphasis Toward
I	Indiv - Disc	8.80	8.94	9.36	9.59	Individual
II	Prob - Abstr	8.15	8.86	9.26	9.54	Problems
III	Flex - Rigid	7.73	8.29	8.94	9.37	Flexibility
IV	Integ - Comp	8.28	8.82	9.09	9.19	Integration

Not surprisingly, freshmen showed least sense of experience focusing on themselves as individuals; seniors most. Freshmen perceived least focus on application of knowledge; seniors most. Freshmen reported least opportunity for structuring their own learning experiences; seniors most. Finally, freshmen perceived the least sense of personal development and academic coherence; seniors most.

Neither the range nor the magnitude of difference between the means is great, but that is not the issue. Edwards suggests the appropriate questions: "Is every mean significantly different from every other? Are there significant differences between some of the means and not between others?"[1] That is, are the differences occurring other than by chance? Duncan's "New Multiple Range Test" was used as the test of significance.

Application of Duncan's at the .05 level shows that:

1. The freshman year is statistically significant on Dimension I, Individual vs. Discipline. More specifically, the freshman mean did not differ significantly from that of sophomores, but differ significantly from those of juniors and seniors.

[1]Edwards, Experimental Design, p. 136.

Sophomore, junior, and senior means did not differ significantly from each other. The sophomore year represents a bridge, a transition experience.

2. Both the freshman and sophomore years are statistically significant on Dimension II, Problems vs. Abstractions. More specifically, the freshman mean differed significantly from each of the other groups. The sophomore mean did not differ from the juniors but did from the seniors and junior and senior means did not differ significantly from each other.
3. Both the freshman and sophomore years are statistically significant on Dimension III, Flexibility vs. Rigidity. The pattern is a little different than on Dimension II. The freshman mean differed significantly from each of the other groups, sophomores differed significantly from both juniors and seniors and junior and senior means were similar.
4. The freshman year is statistically significant on Dimension IV, Integration vs. Compartmentalization. The pattern is identical with that of Dimension I. The freshman mean did not differ significantly from that of sophomores, but did differ significantly from those of juniors and seniors. Sophomore, junior, and senior means did not differ significantly from each other.

These findings of differences and similarities between the means from the post hoc analysis are illustrated in Figure 1. The results are remarkably consistent with the structure of the college's curriculum. The freshman is steeped in requirements. The sophomore has a little more choice. Juniors and seniors have made a choice of major. They are

"at home." Classes are smaller; learning tends to be more participatory for them; there is a common bond with professors. The specific location of the differences is reflected in the item responses.

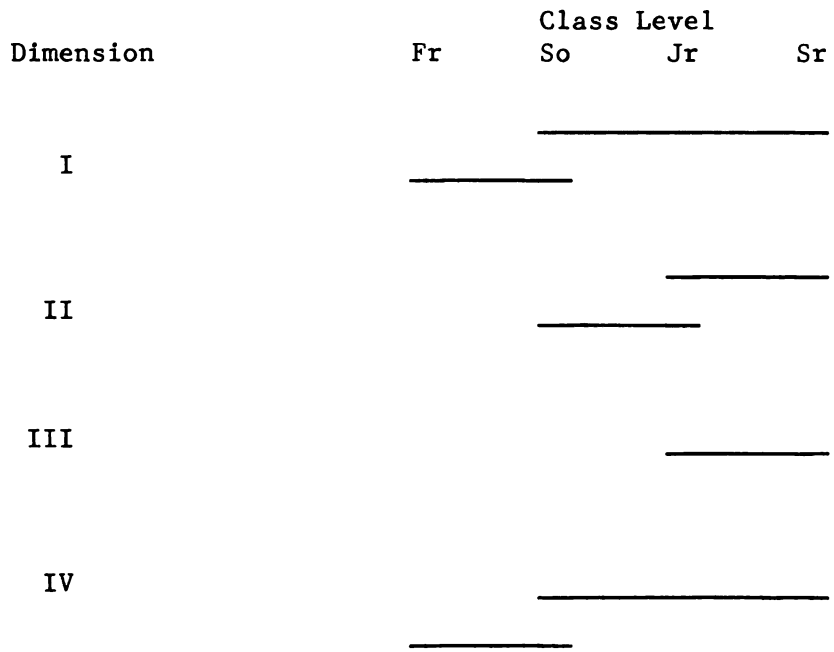

Figure 1. Significance of Dimension Means by Class Level. Means underscored by the same line are not significantly different. Means not underscored by the same line are.

The Profile by Item

Dimension I: Individual vs. Discipline

Plough used the following operational definition in constructing Dimension I:

> One end of Continuum I stresses the importance of teaching in relation to personal development. The emphasis would be on the unique combination of academic experiences . . . most likely to achieve cognitive and affective growth for each individual. . . . Faculty-student contact would include subjective appraisals of academic materials. A key goal would be an understanding of the discipline.
>
> The other end of Continuum I stresses the intellectual importance of the subject matter itself. The emphasis would be on the content taught. Faculty-student contact would focus on objective appraisals of materials from the particular . . . discipline being taught. Mastery of the knowledge and skills of the discipline would be the primary goal.[1]

Six items shown in Table 3, which gives item responses by class level and overall, distinguish the freshman experience on Dimension I.[2] These involve his opportunity to undertake a project of real interest, the nature of his dialogue with his advisor, the amount of contact with professors outside the formal academic setting, his opportunity to express his feelings about course materials, and encouragement by faculty to attempt courses of special interest. Modified item statements and the percentage of students agreeing, rounded to the nearest whole percent, for the six items, follow:

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[1] Plough, dissertation, p. 22.

[2] Items 1 and 2 of the inventory ask for sex and class level. The inventory statements begin with item 3 and continue through item 62. Separation of the inventory into continuums or dimensions is not indicated to the respondent.

TABLE 3

ITEM RESPONSES BY CLASS LEVEL & OVERALL, DIMENSION I: INDIVIDUAL VS. DISCIPLINE
Percentage of Respondents Agreeing with Statement

Item	Frosh N=194	Soph N=155	Junior N=142	Senior N=216	Total N=707
3. My class reading lists do not allow for personal selection of materials.	70.6	81.2	78.1	71.2	74.6
4. My professors seem interested in demonstrating how their courses relate to my personal needs.	45.8	46.4	46.4	50.0	47.2
5. My classes don't seem to relate to me as an individual human being.	30.4	30.9	25.3	24.5	27.7
6. My academic advisor seems to be a good listener as well as a good source of advice on academic matters.	61.3	63.8	70.4	65.2	64.7
7. In class, I can undertake a project of real interest to me.	50.0	49.0	64.0	72.2	59.2
8. My professors are warm individuals.	85.0	91.6	90.1	88.4	88.2
9. My academic advisor does not express his personal opinions about the courses in the curriculum.	55.1	38.7	44.3	41.2	44.9
10. My professors seem to subscribe to the belief that what I know is more important than what I am.	48.4	42.5	43.6	42.1	44.2
11. I visit with professors in their homes.	18.0	19.3	31.6	41.2	28.0
12. My classroom experience leads me to conclude that my professors are more interested in their subject matter than in teaching students.	27.8	23.2	19.0	26.0	24.6
13. My academic advisor helps me to see how my program of studies relates to those things which are important to me.	43.8	54.1	55.6	49.0	49.9
14. My professors seem more interested in going to coffee with their colleagues than in talking with me.	13.9	16.1	11.9	15.2	14.5
15. I have opportunities in the classroom to express my own feelings about course materials.	64.4	64.5	76.0	78.7	70.9
16. Faculty members encourage me to attempt courses which are of special interest to me.	60.3	74.1	78.1	68.0	69.2
17. I have found that it is acceptable to inject my personal philosophy into term papers written for my classes.	62.8	59.9	69.7	69.4	65.4

		Fr	So	Jr	Sr	
Item 7.	In class, I can undertake a project of real interest to me.	50	49	64	72	%
Item 9.	My advisor does not express his opinion about courses in the curriculum.	55	39	44	41	%
Item 11.	I visit with professors in their homes.[1]	18	19	32	41	%
Item 13.	My advisor helps me to see how my program relates to things important to me.	44	54	56	49	%
Item 15.	I have opportunities in the classroom to express feelings about course materials.	64	64	76	79	%
Item 16.	I am encouraged to take courses of special interest to me.	60	74	78	68	%

The freshman has less opportunity to undertake class projects of real interest to himself, less opportunity to engage in subjective planning with his advisor, less contact with professors outside the formal academic setting, less opportunity to express his feelings about course materials, and less encouragement by faculty to attempt courses of special interest. All of these reflect the press of core requirements which allows little room for flexibility.

Perusal of other items on Dimension I shows remarkable consistency across class levels--item 4, for example: "My professors seem interested in demonstrating how their courses relate to my personal

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[1]The percentages of agreement for 1974 were 23, 34, 46, and 51, respectively. This was one of two items which exceeded the 8 percent error range in comparing the overall responses for the two years. In either case, Wilson's comment in College Professors holds: "It would appear that even in their senior year, then, most students have had only a modest amount of contact with their teachers outside the classroom. More importantly, the range of interaction is such that some students have had very little or no contact, while others have reported repeated and varied discussions with faculty." Wilson et al., College Professors, p. 154.

needs." The percentages of agreement by class level are 46, 46, 46, and 50, respectively. Or item 8: "My professors are warm individuals." The percentages of agreement by class level are 85, 92, 90, and 88, respectively.

Still others such as item 6--"My academic advisor seems to be a good listener as well as a good source of advice on academic matters"--seem to reflect the ebb and flow of academic life that occurs as students make choices of majors, discuss requirements and then taper off in their senior year as their thoughts turn outward to the world of work.[1] The percentages of agreement are 61, 64, 70, and 65.

In sum, what is reflected on Dimension I is a strong disciplinary press modified by a perception of faculty interest in students and teaching. The focus of the freshman year is on the fulfilling of requirements. Coincidence between personal interests and academic emphases results more from the student's selection of the college than from the college's attempts to structure experiences uniquely for the student. Finally, whether the type of sustained, student-faculty contact noted by Wilson, Perry, Heath, and Chickering as important to the development of intellectual disposition is characteristic is difficult to determine from this data.[2]

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[1]Feldman and Newcomb in Impact of College, 1: 93, observe that the junior year is the peak of satisfaction for most students. Heath in Growing Up in College, p. 175, refers to the junior year as psychologically the most quiet.

[2]See above, Chapter II.

Dimension II: Problems vs. Abstractions

> One end of Continuum II stresses the application of knowledge. Emphasis here would be on that which is practical. The competency of utilizing information to reach decisions would be critical. Learning would be outwardly oriented toward actual situations in the world and the management of their concomitant issues. The time perspective would include the present and the future. The primary quality of thought and behavior would be concreteness.
>
> The other end of Continuum II stresses the theoretical nature of knowledge. The emphasis here would be on that which is abstract. The ability to analyze systems of ideas, concepts, and constructs would be important. Verbal facility in rendering hypotheses and appraising theoretical schemes would be cultivated. Learning would be inwardly directed, and the time perspective would be the past. In terms of involvement in the world, the posture would be passive.[1]

The post hoc analysis of dimension means showed that both the freshman and sophomore years were statistically significant on Dimension II. The freshman mean differed significantly from each of the other groups. The sophomore mean did not differ from the junior mean but did from the senior, and junior and senior means did not significantly differ from each other.

Going into Table 4 shows where the differences lie. For freshmen the first is on Item 20: "My academic advisor doesn't ask . . . how I plan to use my education." Thirty five percent of the freshmen agreed as opposed to 24, 23 and 24 percent for each of the other classes. The remaining seven items follow.

Item 21. "I have participated in field trips off campus" applies to both freshmen and sophomores. Percentages of agreement by class level beginning with freshmen are 32, 41, 57, and 61, respectively.

Item 23. "My professors encourage me to deal with specific problems and their solutions" is a distinguishing factor for freshmen

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[1]Plough, dissertation, p. 23.

TABLE 4

ITEM RESPONSES BY CLASS LEVEL & OVERALL, DIMENSION II: PROBLEMS VS. ABSTRACTIONS
Percentage of Respondents Agreeing with Statement

Item	Frosh N=194	Soph N=155	Junior N=142	Senior N=216	Total N=707
18. In my classes, paperback books dealing with the current social scene are assigned.	64.4	54.8	59.8	58.7	59.6
19. My course work does not deal with possible applications of theory to real problems.	23.7	22.5	16.1	25.9	22.5
20. My academic advisor doesn't ask me about how I plan to use my education.	34.5	23.8	22.5	23.6	26.5
21. I have participated in field trips off campus.	31.9	41.2	57.0	61.1	47.8
22. My professors advocate the active interest of the college community in developing an awareness of social problems.	50.5	47.7	60.5	58.7	54.3
23. My professors encourage me to deal with specific problems and their solutions.	48.9	59.3	67.6	63.4	59.2
24. I have never attended any kind of special seminar or program on current social problems.	45.8	41.9	31.6	30.0	37.3
25. I can see the relationship between what I am studying and the kinds of situations I will meet when I leave college.	59.7	69.6	75.3	67.1	67.1
26. My college attempts to provide some kind of off-campus experience as a part of my education.	63.9	67.7	79.5	75.4	71.2
27. My classes deal primarily with past events and findings.	54.1	61.2	55.6	61.1	58.1
28. My professors are not interested in what impact their field might have on our world in the future.	15.9	7.0	7.7	12.0	11.2
29. I participate in an academic program here where I came face to face with a real life situation as an assignment.	30.4	45.8	48.5	46.2	42.3
30. I am not asked to relate what I am learning in class to the contemporary scene.	37.6	40.0	35.2	32.4	36.1
31. I do not have assignments which require reading a newspaper, news magazine, or current journal.	75.2	68.3	54.9	50.0	61.7
32. My classes are concerned with abstract theories and ideas.	48.4	41.9	47.1	47.6	46.4

but probably not for sophomores. The levels of agreement are 49, 59, 68, and 63.

Item 24. "I have never attended any kind of special seminar or program on current social problems" contributes to the variance for both freshmen and sophomores. Percentages of agreement are 46, 42, 32, and 30, respectively. This lower division-upper division shift probably reflects the focus on core requirements during the first two years and the tendency to organize seminars around departmental foci at the junior-senior level. Another factor involved for freshmen and sophomores may be the academic orientation with which they enter college. From the data presented in Chapter III, Hope students seem to be somewhat less theoretically inclined and more pragmatically oriented than the national norm for entering freshmen. Discussing learning styles, Wilson found that the vocationally and academically oriented pursue a largely prescribed program, spend long hours studying, and regard most extracurricular activities--including those of an intellectual nature--as a waste of time. Intellectual, artistic, and activist students take a broader view of education.[1]

Item 25. "I can see the relationship between what I am studying and the . . . situations I will meet when I leave college" is significant for freshmen. The levels of agreement are 60, 70, 75, and 67. One student commented: "I often see a relationship between my courses and the world, but I do not feel that this attitude is developed in class. . . . I felt pressured to say that professors are now and future oriented. They are outside of class, however, I feel they seldom are in class."[2]

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[1]Wilson et al., College Professors, pp. 179-180.

[2]Student comment from 1974 survey.

Item 26. "My college . . . provide[s] some kind of off-campus experience as part of my education." is a distinguishing factor for both freshmen and sophomores. Percentages of agreement by class level are 64, 68, 80, and 75. Hope does provide opportunity for a number of off-campus experiences through its own programs and in association with other colleges. For the non-education student these tend to peak in the junior year. Outside the education department program participation, for the most part, is voluntary, and involvement is the exception rather than the rule. As one professor put it: "All our majors were encouraged to go to Minneapolis for our national convention--few did. All were encouraged to participate in . . . in another part of the state this past week--one did."[1]

Item 29. "I participate in an academic program here where I come face to face with a real life situation as an assignment." This is a distinguishing factor for freshmen. Percentages of agreement are 30, 46, 48, and 46.

Item 31. "I do not have assignments which require reading a newspaper, news magazine, or current journal." This is a significant factor for both freshmen and sophomores. Levels of agreement are 75, 68, 55, and 50, respectively.

The following observations seem warranted from examination of Dimension II. Overall responses suggest that:

(1) Passive, i.e., classroom oriented learning predominates at the freshman level. Active, i.e., applied, experiential learning increases with the sophomore year, but does not predominate.

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[1]Faculty comment from 1973 survey.

(2) There is an individual concern on the part of the majority of the faculty toward societal issues--application of knowledge, but this is not translated into a coherent institutional wide thrust.

(3) The tendency toward applied or theoretical learning, as Plough operationalized the concepts, depends upon the student's field of study.

Inspection by class level shows that eight items are making experiences different for freshmen and sophomores on this dimension. These are:

20. discussion with advisor about future plans;
21. participation in field trips;
23. dealing with specific problems and their solutions;
24. participation in programs dealing with current problems;
25. perceiving relationships between study and post-college experience;
26. provision of off-campus experience;
29. facing real life situations as an assignment; and
31. the use of current materials in course work.

Dimension III: Flexibility vs. Rigidity

Plough gives the following operational definition to Dimension III:

> One end of Continuum III stresses individual control over programs and policies. Learning experiences are structured by the individual himself or by the advisor in consultation with the individual. The concept of an academic community with shared participation and power by all members is primary. The individual is autonomous in class and directs his own academic experiences.

> The other end of Continuum III stresses institutional prescription of programs and policies. Learning experiences are structured for the individual. All individuals in a college or university are to progress through explicit steps and clearly delineated programs in the same manner. The individual is closely controlled in the classroom by the faculty.[1]

Considering the prescribed nature of the core curriculum requirements it is not surprising to find the greatest amount of statistical difference among class level means on this dimension.[2] Both the freshman and sophomore means are statistically significant. The freshman mean differs significantly from each of the other groups. In addition, whereas on Dimension II the sophomore mean differed only from that of the seniors, on this dimension the sophomore mean differs significantly from that of both juniors and seniors.

Seven items from Table 5 distinguish the freshman and sophomore class level perceptions or experiences on Dimension III. These involve flexibility in attendance and credit requirements, advisor-advisee relationships, the nature of classroom activities, and evaluation of students by faculty and faculty by students. Modified item statements and the percentage of students agreeing by class level, rounded to the nearest whole percent, for the seven items follow:

		Fr	So	Jr	Sr	%
Item 36.	Outside of my major, I can take a course pass-fail when I want to.	30	46	61	64	

Perception or uncertainty as to how to respond, rather than experience is reflected in these responses. Actually, Hope juniors and seniors may take one course per semester on a pass-fail basis as long as it is not a course required by their major department or the college.

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[1] Plough, dissertation, pp. 23-24.

[2] See Chapter III for description of core requirements.

TABLE 5

ITEM RESPONSES BY CLASS LEVEL & OVERALL, DIMENSION III: FLEXIBILITY VS. RIGIDITY

Percentage of Respondents Agreeing with Statement

Item	Frosh N=194	Soph N=155	Junior N=142	Senior N=216	Total N=707
33. I find that my professors insist on prerequisites for their courses.	35.0	38.7	45.0	39.3	39.2
34. My academic advisor makes the decisions about my academic program.	5.1	5.1	4.2	6.4	5.3
35. I am not able to decide upon the nature of my classroom activities.	45.3	47.0	40.1	41.2	43.3
36. Outside of my major, I can take a course pass-fail when I want to.	30.4	45.8	61.2	64.3	50.2
37. I can get excused from class if a speaker or program of interest to me conflicts with class time.	68.0	74.1	84.5	83.3	77.1
38. My conversations with my academic advisor are all prearranged appointments rather than drop-in sessions.	59.2	42.5	31.6	24.0	39.2
39. I participate in decisions that affect my academic life here at the college.	58.7	56.1	60.5	62.9	59.6
40. My grades are determined by class curves.	56.7	68.3	66.1	60.1	62.2
41. I am able to make quite a few choices of electives in my academic schedule.	49.4	50.9	61.2	51.3	52.6
42. My classroom assignments consist of reading textbooks and studying lecture notes.	90.7	84.5	78.1	75.9	82.2
43. There is no one for me to go to in order to formally complain about grades which I feel are unfair.	35.5	29.6	26.7	24.5	29.1
44. I have the opportunity to evaluate my courses and professors.	71.6	82.5	88.7	89.8	82.7
45. My courses are graded on the basis of one or two midterms and one final examination.	64.4	52.2	56.3	61.1	59.0
46. I have not made presentations, outside of asking questions, in my classes.	50.5	50.9	32.3	19.4	37.3
47. I find that in labs and on tests, I have to stop at the end of the period even if my work is not completed.	54.6	56.7	58.4	51.8	55.0

		Fr	So	Jr	Sr	
Item 37.	I can get excused from class if a program of interest conflicts with class time.	68	74	84	83	%
Item 38.	Conversations with my advisor are all prearranged appointments rather than drop-in sessions.	49	42	32	24	%

Establishment of this relationship is a two way street, however. As one professor observed in a comment congruent with Wilson's finding about the amount and frequency of student contact with faculty outside the classroom: "Drop-in is encouraged and some do quite a bit, but a majority of my advisees would agree with this statement."[1]

		Fr	So	Jr	Sr	
Item 42.	My classroom assignments consist of reading textbooks and studying lecture notes.	91	84	78	76	%
Item 44.	I have the opportunity to evaluate my courses and professors.	72	82	89	90	%
Item 45.	My courses are graded on the basis of one or two midterms and one final examination.	64	52	56	61	%
Item 46.	I have not made presentations, outside of asking questions, in my classes.	50	51	32	19	%

Two other items from Dimension III deserve comment:

		Fr	So	Jr	Sr	
Item 33.	Professors insist on prerequisites for their courses.	35	39	45	39	%

The statement is probably not an appropriate measure of individual control at Hope at the freshman and sophomore levels since requirements are established more by the core curriculum than by professors. The influence of individual faculty shows most at the junior level when students are making greatest contact with the initial demands of a major.

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[1]Faculty comment, 1973 survey; Wilson, footnote 1, p.93 above.

		Fr	So	Jr	Sr	
Item 34.	My academic advisor makes the decisions about my academic program.	5	5	4	6	%

Obviously only a small minority perceive this to be so at any level. What typically happens is that the student, working within the parameters of the curriculum, seeking input from a variety of sources--fellow students, residence hall advisors, other faculty, as well as his advisor--works out a tentative program and takes it to his advisor for approval. As one student said: "My advisor and I have met only for him to sign my schedule."[1]

On Dimension III, then, as on Dimension I, the pattern of responses reflects the lower division core and upper division major requirements. Flexibility in requirements, interaction with faculty, active participation in classroom activities, and opportunity to express opinions about academic experience increase gradually by class level or take a rather abrupt rise between the sophomore and junior year.

Item 42--my classroom assignments consist of reading textbooks and studying lecture notes; item 45--my courses are graded on the basis of one or two midterms and one final examination; and item 46--I have not made presentations, outside of asking questions, in my classes probably have the most influence from this dimension on the development of competences.

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[1]Student comment from 1974 survey. This is atypical but it serves to illustrate the point.

Dimension IV: Integration vs. Compartmentalization

> One end of Continuum IV stresses unity in and from learning experiences. Key concept here is coherence. . . . Cooperation would characterize the interaction between members of the academic community. Personal, institutional, and societal goals would be related to each other.
>
> The other end of Continuum IV stresses the separation of learning experiences, one from another. Key concept here is incoherence. . . . Competition would characterize the interaction between members of the academic community. Differences in goals of various groups in the college setting would be apparent.[1]

The freshman year was significantly different on this dimension. It did not differ from that of the sophomores but did from that of both juniors and seniors. Sophomore, junior and senior means did not differ significantly from each other.

Table 6 gives the item responses by class level and overall for Dimension IV. Items 51, 52, 54, 55, 58, 59, and 61 seem to contribute most to the variance for freshmen. These items and others which characterize the Hope experience or have bearing on the development of competences will be commented on.

		Fr	So	Jr	Sr	
Item 49.	I can see the relationships among the Humanities, the Social Sciences, and the Natural Sciences.	74	71	79	77	%

Although the large majority agreed and the level was consistent across classes, not all did. One double major in biology/chemistry said: "My humanity, social science, and natural sciences seem to be in different worlds; I rarely see integration."[2] Another student commented: "Many of my friends feel that there is no relationship

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[1]Plough, dissertation, p. 24.

[2]Student comment from 1974 survey.

TABLE 6

ITEM RESPONSES BY CLASS LEVEL & OVERALL, DIMENSION IV: INTEGRATION VS. COMPARTMENTALIZATION
Percentage of Respondents Agreeing with Statement

Item	Frosh N=194	Soph N=155	Junior N=142	Senior N=216	Total N=707
48. In courses outside of my major, I find it difficult to understand class discussions, course materials, and lectures.	20.1	16.7	10.5	11.1	14.6
49. I can see the relationships in my academic program among the Humanities, the Social Sciences, and the Natural Sciences.	74.2	70.9	78.8	76.8	75.0
50. I find that scheduled social activities conflict with class times and lecture programs.	18.0	20.6	22.5	18.0	19.6
51. My academic advisor helps me to find academic goals we both agree on.	44.8	54.1	53.5	40.7	47.2
52. I am not involved in academic assignments which require work with another student on a joint project.	55.1	49.0	37.3	38.4	45.1
53. My advanced level courses do not make use of what I learned in introductory courses.	10.3	9.6	10.5	13.8	11.4
54. I can take courses where an interdisciplinary approach on term papers and in assignments is encouraged.	65.9	65.8	73.9	77.7	71.0
55. I get the feeling that all I'm getting out of college is a lot of "loose ends" which I can't pull together.	29.3	27.7	16.1	21.2	23.9
56. My professors' grading systems help me understand where I am weak and how I can improve.	27.3	29.0	35.9	29.1	29.9
57. I think that my professors attempt to relate the objectives of their courses to the objectives of the college.	57.2	61.9	57.0	52.3	56.5
58. I don't see professors from one department talking and working with professors from other departments.	43.2	32.2	23.9	25.4	31.5
59. My academic advisor helps me to relate my out-of-class and off-campus experiences to my academic studies.	14.9	23.8	28.1	30.0	24.1
60. My professors bring in materials from other subjects and relate them to their own particular subject.	51.5	56.1	63.3	55.5	55.9
61. I find no real conflict between my goals and those of the college.	49.4	55.4	52.1	63.4	55.4
62. I have academic requirements to fulfill which seem to bear no relationship to my program of study.	79.3	71.6	69.7	71.2	73.2

between their courses. Although I do see a relationship, this insight was not developed as a result of any professor."[1]

		Fr	So	Jr	Sr	
Item 51.	My academic advisor helps me to find academic goals we both agree on.	45	54	54	41	%

Although overall about half of the respondents agree with this statement, and the degree of agreement increases during the sophomore and junior years when decisions about majors are being made, this is not a dominant characteristic of advisor-advisee relationships.

		Fr	So	Jr	Sr	
Item 52.	I am not involved in assignments which require joint work with another student.	55	49	37	38	%

Joint work is much more characteristic of the junior and senior years than it is the freshman and sophomore. This probably reflects involvement of students in majors, smaller classes, and closer ties established as friendships have developed. To foreshadow the examination of responses by sex, many more women than men appear to be involved in joint projects.

		Fr	So	Jr	Sr	
Item 54.	I can take courses where an interdisciplinary approach is encouraged.	66	66	74	78	%

Even at the freshman and sophomore levels two-thirds of the students agree, but the difference in agreement with that of juniors and seniors causes this to be statistically significant.

		Fr	So	Jr	Sr	
Item 55.	"I get the feeling that all I'm getting out of college is a lot of "loose ends" which I can't pull together."[2]	29	27	16	21	%

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[1] Student comment from 1974 survey.

[2] The percentages of response in the 1974 sample, which were 36, 23, 20, and 16 for this item, seem to be more what might be expected. In either case this appears to be an item that distinguishes the freshman experience.

		Fr	So	Jr	Sr	
Item 56.	"My professor's grading systems help me understand where I am weak and how I can improve."	27	29	36	29	%

Seventy percent of the students do not feel this to be true. One student wrote: "Many profs let us see the tests and then they take them right back again so we can't really know where we're weak."[1]

		Fr	So	Jr	Sr	
Item 57.	"I think that my professors attempt to relate the objectives of their courses to the objectives of the college."	57	62	57	52	%

Slightly more than half of the respondents agreed. Obviously, this is not a clear cut distinctive. Either students were not sure whether professors were doing this or were not sure of the objectives of the college.

		Fr	So	Jr	Sr	
Item 58.	"I don't see professors from one department talking and working with professors from other departments."	43	32	24	25	%

Agreement decreases as the student becomes more familiar with the college and its personnel. This item is a distinctive for freshmen, however.

		Fr	So	Jr	Sr	
Item 59.	"My academic advisor helps me to relate my out-of-class and off-campus experiences to my academic studies."	15	24	28	30	%

The idea of an advisor as one who assists the student in developing a series of interrelated and coherent educational experiences does not seem to be part of the thinking of either students or advisors. Several students commented about what they considered to be the excessive number of statements in the inventory about academic advising.

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[1] Student comment from 1974 survey.

Another said: "In my case and the case of many of my friends, the academic advisor plays a very small role in my academic life."[1]

		Fr	So	Jr	Sr	
Item 61.	"I find no real conflict between my goals and those of the college."	49	55	52	63	%

Overall 55 percent of the students agreed for both years of the survey. Several students in 1974 asked: "What are the goals of the college?"

		Fr	So	Jr	Sr	
Item 62.	"I have academic requirements to fulfill which seem to bear no relationship to my program of study."	79	72	70	71	%

Feldman and Newcomb summarize several studies of differences between faculty and student attitudes toward the goals and purposes of a college education:

> Students place more value than do faculty on such goals and activities as vocational training, developing social competence and social graces, participating in extracurricular activities, and developing a personal philosophy. Faculty, on the other hand, place more emphasis than do students on such goals for students as developing intellectual and moral capacities, achieving academically, acquiring skills and knowledge necessary to participate as an effective citizen, understanding world issues and pressing social, political, and economic problems.[2]

Hope students and faculty would seem to be no exceptions. The most frequently expressed student complaint in the open ended responses was about what they considered to be the excessive number of requirements. One English professor wrote: "I wish they would disagree (with this statement), but probably all too many fail to see the larger picture."[3]

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[1]Student comment from 1974 survey.

[2]Feldman and Newcomb, Impact of College, 1: 230.

[3]Faculty comment from 1973 survey.

These general observations seem warranted about Dimension IV:

(1) Academic coherence is perceived as characteristic of the Hope experience.

(2) This coherence results probably as much from the student's making of connections as from consistent, coordinated institutional attempts to encourage academic coherence.[1]

(3) Coherence of personal, institutional, and societal goals is not perceived as deliberately characteristic of the college experience.

(4) Students do not perceive that the evaluation system helps them see where they are weak and how they can improve.

(5) The following items differentiate most sharply among perceptions by class level:

51. my advisor helps me find academic goals we both agree on;

52. I am involved in assignments which require work with another student;

54. I can take courses where an interdisciplinary approach is encouraged;

55. I feel that all I'm getting out of college is a lot of "loose ends" which I can't pull together;

58. I see professors from one department talking and working with professors from other departments;

59. My advisor helps me relate my out-of-class experiences to my academic studies; and

61. I find no real conflict between my goals and those of the college.

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[1]Summary of student comments. See also Feldman and Newcomb, Impact of College, 1: 28-36.

Item Profile by Sex

Looking at the responses by sex provides some different and interesting results on a number of items. The differences are consistent with the findings of other studies and are congruent with the argument that both perception and experience are affected by location in an environment. Tables 7 through 10 give item responses by sex organized by dimension.

On Dimension I, Individual vs. Discipline, more women than men reported that class reading lists allowed for personal selection of materials, that their classes seemed to relate to them as an individual human being, and that in class they could undertake a project of real interest to themselves. On the other hand, men were slightly more inclined than women to say that their advisor helped them see how their program of studies related to those things they considered personally important.

On Dimension II, Problems vs. Abstractions, more women than men reported that paperback books dealing with current issues were assigned, that they participated more in field trips, had professors who advocated the active interest of the college community in developing an awareness of social problems, agreed that the college attempted to provide some kind of off-campus experience as part of their education, were asked to relate class learning to contemporary events, and had assignments which required reading newspapers, news magazines, or current journals. As might be expected, then, men were more inclined than women to report that their classes dealt with past events and findings.

On Dimension III, Flexibility vs. Rigidity, there were few differences. Women scored higher than men in responding that they could

TABLE 7
ITEM RESPONSES BY SEX AND OVERALL, DIMENSION I:
INDIVIDUAL VS. DISCIPLINE
Percentage of Respondents Agreeing with Statement

Item	Total Sample		
	Male N=275	Female N=431	Total N=707[a]
3. My class reading lists do not allow for personal selection of materials.	88.0	72.9	74.6
4. My professors seem interested in demonstrating how their courses relate to my personal needs.	46.9	47.5	47.2
5. My classes don't seem to relate to me as an individual human being.	28.3	26.7	27.7
6. My academic advisor seems to be a good listener as well as a good source of advice on academic matters.	64.6	64.9	64.7
7. In class, I can undertake a project of real interest to me.	58.4	59.8	59.2
8. My professors are warm individuals.	87.3	89.0	88.2
9. My academic advisor does not express his personal opinions about the courses in the curriculum.	47.7	44.4	44.9
10. My professors seem to subscribe to the belief that what I know is more important than what I am.	46.6	45.3	44.2
11. I visit with professors in their homes.	30.3	26.6	28.0
12. My classroom experience leads me to conclude that my professors are more interested in their subject matter than in teaching students.	27.5	23.9	24.6
13. My academic advisor helps me to see how my program of studies relates to those things which are important to me.	51.6	48.9	49.9
14. My professors seem more interested in going to coffee with their colleagues than in talking with me.	16.7	14.7	14.5
15. I have opportunities in the classroom to express my own feelings about course materials.	72.9	69.8	70.9
16. Faculty members encourage me to attempt courses which are of special interest to me.	67.1	70.7	69.2
17. I have found that it is acceptable to inject my personal philosophy into term papers written for my classes.	63.5	66.8	65.4

[a]One card used for class level responses lacked sex identification.

TABLE 8

ITEM RESPONSES BY SEX AND OVERALL, DIMENSION II:
PROBLEMS VS. ABSTRACTIONS
Percentage of Respondents Agreeing with Statement

Item	Total Sample		
	Male N=275	Female N=431	Total N=707[a]
18. In my classes, paperback books dealing with the current social scene are assigned.	53.7	63.5	59.6
19. My course work does not deal with possible applications of theory to real problems.	25.7	21.4	22.5
20. My academic advisor doesn't ask me about how I plan to use my education.	26.0	27.2	26.5
21. I have participated in field trips off campus.	44.0	50.3	47.8
22. My professors advocate the active interest of the college community in developing an awareness of social problems.	50.1	57.0	54.3
23. My professors encourage me to deal with specific problems and their solutions.	61.3	58.0	59.2
24. I have never attended any kind of special seminar or program on current social problems.	37.6	37.6	37.3
25. I can see the relationship between what I am studying and the kinds of situations I will meet when I leave college.	67.1	67.2	67.1
26. My college attempts to provide some kind of off-campus experience as a part of my education.	63.1	76.5	71.2
27. My classes deal primarily with past events and findings.	67.2	53.4	58.1
28. My professors are not interested in what impact their field might have on our world in the future.	12.3	12.1	11.2
29. I participate in an academic program here where I come face to face with a real life situation as an assignment.	40.4	43.6	42.3
30. I am not asked to relate what I am learning in class to the contemporary scene.	41.2	33.9	36.1
31. I do not have assignments which require reading a newspaper, news magazine, or current journal.	65.0	60.1	61.7
32. My classes are concerned with abstract theories and ideas.	48.8	46.7	46.4

[a]One card used for class level responses lacked sex identification.

TABLE 9

ITEM RESPONSES BY SEX AND OVERALL, DIMENSION III: FLEXIBILITY VS. RIGIDITY

Percentage of Respondents Agreeing with Statement

Item	Total Sample		
	Male N=275	Female N=431	Total N=707[a]
33. I find that my professors insist on prerequisites for their courses.	40.1	40.4	39.2
34. My academic advisor makes the decisions about my academic program.	6.9	5.2	5.3
35. I am not able to decide upon the nature of my classroom activities.	45.2	44.4	43.3
36. Outside of my major, I can take a course pass-fail when I want to.	48.7	51.2	50.2
37. I can get excused from class if a speaker or program of interest to me conflicts with class time.	79.4	75.8	77.1
38. My conversations with my academic advisor are all prearranged appointments rather than drop-in sessions.	31.8	44.4	39.2
39. I participate in decisions that affect my academic life here at the college.	56.6	61.7	59.6
40. My grades are determined by class curves.	66.8	61.8	62.2
41. I am able to make quite a few choices of electives in my academic schedule.	54.8	51.2	52.6
42. My classroom assignments consist of reading textbooks and studying lecture notes.	83.4	82.2	82.2
43. There is no one for me to go to in order to formally complain about grades which I feel are unfair.	33.6	28.4	29.1
44. I have the opportunity to evaluate my courses and professors.	80.1	84.6	82.7
45. My courses are graded on the basis of one or two midterms and one final examination.	57.5	61.1	59.0
46. I have not made presentations, outside of asking questions, in my classes.	38.0	37.6	37.3
47. I find that in labs and on tests, I have to stop at the end of the period even if my work is not completed.	58.9	55.0	55.0

[a]One card used for class level responses lacked sex identification.

TABLE 10
ITEM RESPONSES BY SEX AND OVERALL, DIMENSION IV:
INTEGRATION VS. COMPARTMENTALIZATION
Percentage of Respondents Agreeing with Statement

Item	Total Sample		
	Male N=275	Female N=431	Total N=707[a]
48. In courses outside of my major, I find it difficult to understand class discussions, course materials, and lectures.	15.2	15.4	14.6
49. I can see the relationships in my academic program among the Humanities, the Social Sciences, and the Natural Sciences.	68.5	79.3	75.0
50. I find that scheduled social activities conflict with class times and lecture programs.	18.8	20.9	19.6
51. My academic advisor helps me to find academic goals we both agree on.	46.5	47.7	47.2
52. I am not involved in academic assignments which require work with another student on a joint project.	53.5	40.9	45.1
53. My advanced level courses do not make use of what I learned in introductory courses.	17.7	14.4	11.4
54. I can take courses where an interdisciplinary approach on term papers and in assignments is encouraged.	73.2	69.8	71.0
55. I get the feeling that all I'm getting out of college is a lot of "loose ends" which I can't pull together.	27.1	23.3	23.9
56. My professors' grading systems help me understand where I am weak and how I can improve.	29.6	30.1	29.9
57. I think that my professors attempt to relate the objectives of their courses to the objectives of the college.	50.9	60.3	56.5
58. I don't see professors from one department talking and working with professors from other departments.	34.3	31.1	31.5
59. My academic advisor helps me to relate my out-of-class and off-campus experiences to my academic studies.	23.8	24.3	24.1
60. My professors bring in materials from other subjects and relate them to their own particular subject.	51.9	58.7	55.9
61. I find no real conflict between my goals and those of the college.	53.7	56.6	55.4
62. I have academic requirements to fulfill which seem to bear no relationship to my program of study.	71.9	75.5	73.2

[a]One card used for class level responses lacked sex identification.

take a course pass-fail. On the other hand, more men than women agreed with the statements that they could get excused from class if a speaker or program of interest conflicted with class time and that text and lecture note assignments predominated.

On Dimension IV, Integration vs. Compartmentalization, more women than men responded that they could see the relationships among the Humanities, the Social Sciences, and the Natural Sciences, that they were involved in joint assignments with another student, that professors brought materials from other subjects into their courses, and that they found no real conflict between personal goals and the goals of the college.

In their discussion of the measurement of college environments, Feldman and Newcomb note that women, in general, score higher than men on the scales of CCI and CUES.[1] Why this is so, they say, has not been determined, but one hypothesis they offer is that women may be more perceptive of their environment than men. While the Dressel-Plough Inventory is in the family of CCI and CUES, a more plausible explanation for the responses in this study would seem to be sex differentiation in enrollment in different fields and the differing interests and demands that result. More women than men tend to go into education, humanities, fine arts and social sciences whereas men have greater tnedency to enter the fields of science and mathematics.[2] The differing emphases of the social sciences and the natural sciences--the performance vs. personalism thrust--identified by Gamson and Vreeland and Bidwell in the review of literature are congruent with the sex differences on the four

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[1]Ibid., pp. 125-128.

[2]Ibid., pp. 153.

dimensions of the Dressel-Plough Inventory.[1]

Faculty Prediction of Student Responses

Finally, how do student perceptions of academic press compare with how faculty thought they would respond? Inventories were sent during the survey period to the 133 full time faculty on campus in the spring of 1973. Of these, 48 or 36 percent responded. While a larger response would be necessary to justify quantitative analysis, a comparison of the overall profiles of the two groups shows some interesting results. The comparison can be justified in two or three ways: (1) the overall percentage of faculty response of 36 percent is comparable to the overall student response for 1973 of 38 percent; (2) the departments represented in the response group are those whose thrust seems to be most compatible with the nature of the instrument; and (3) it seems reasonable to assume that those faculty who responded are most concerned with the college as community and the underlying implications of the inventory.[2]

Figures 2 through 5 compare the overall responses of the two groups by item by dimension. In some cases the groups are far apart; in a number of others, remarkably close together. Arbitrarily selecting items on which student-faculty responses are congruent within 10 percentage points or less shows that prediction and perception were closest on Dimensions II, III, and IV--congruence on 8 of 15 items on each of these scales, and were most diverse on Dimension I--convergence on only 3 items. That is, faculty were least able to predict student responses

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[1] Above, p. 44.

[2] Faculty from the social sciences had the highest level of response, followed by the natural sciences and mathematics, the humanities and the fine and performing arts.

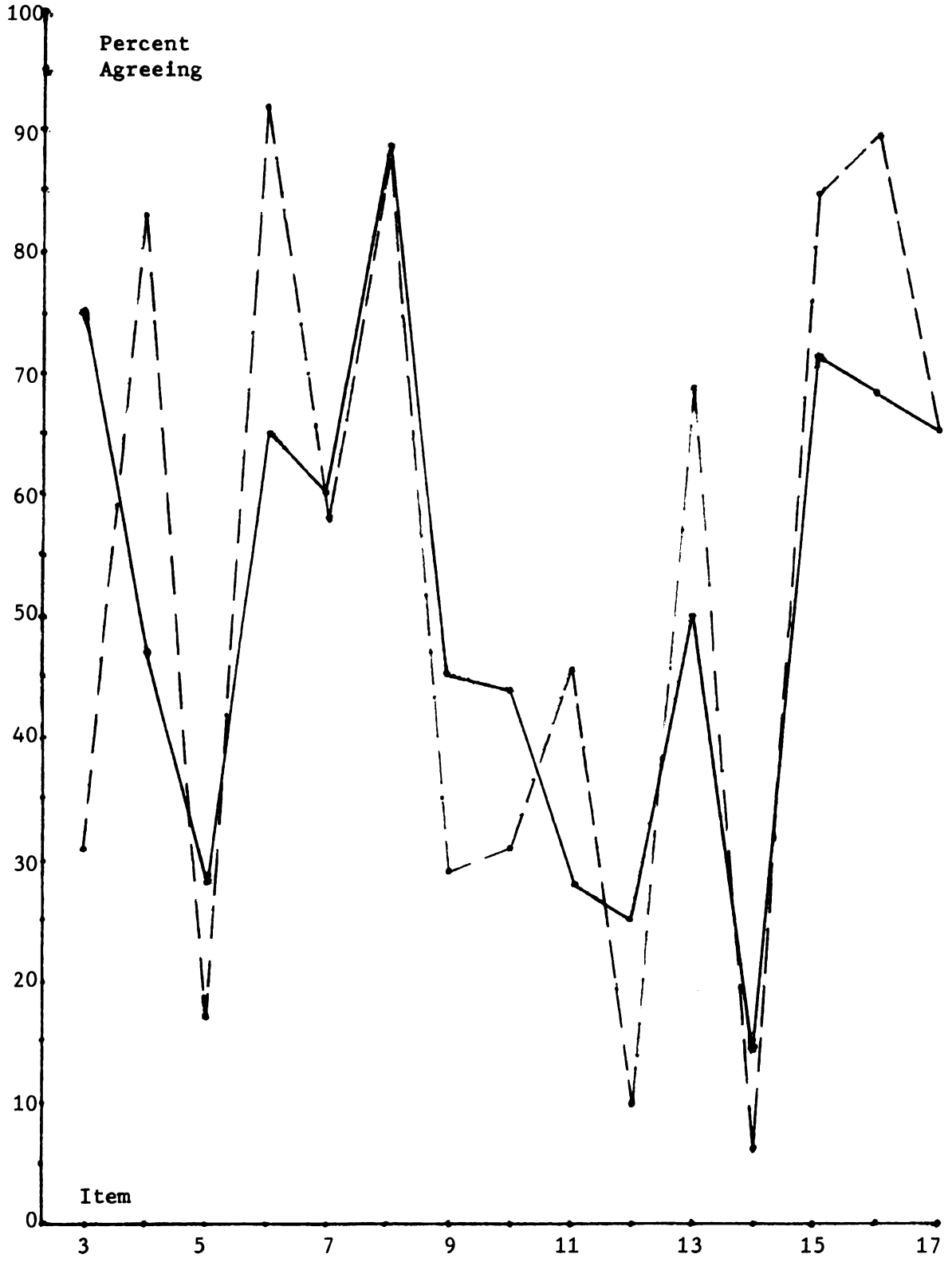

Figure 2. Comparison Student-Faculty Overall Responses by Item, Dimension I: Individual vs. Discipline. Student responses in solid line.

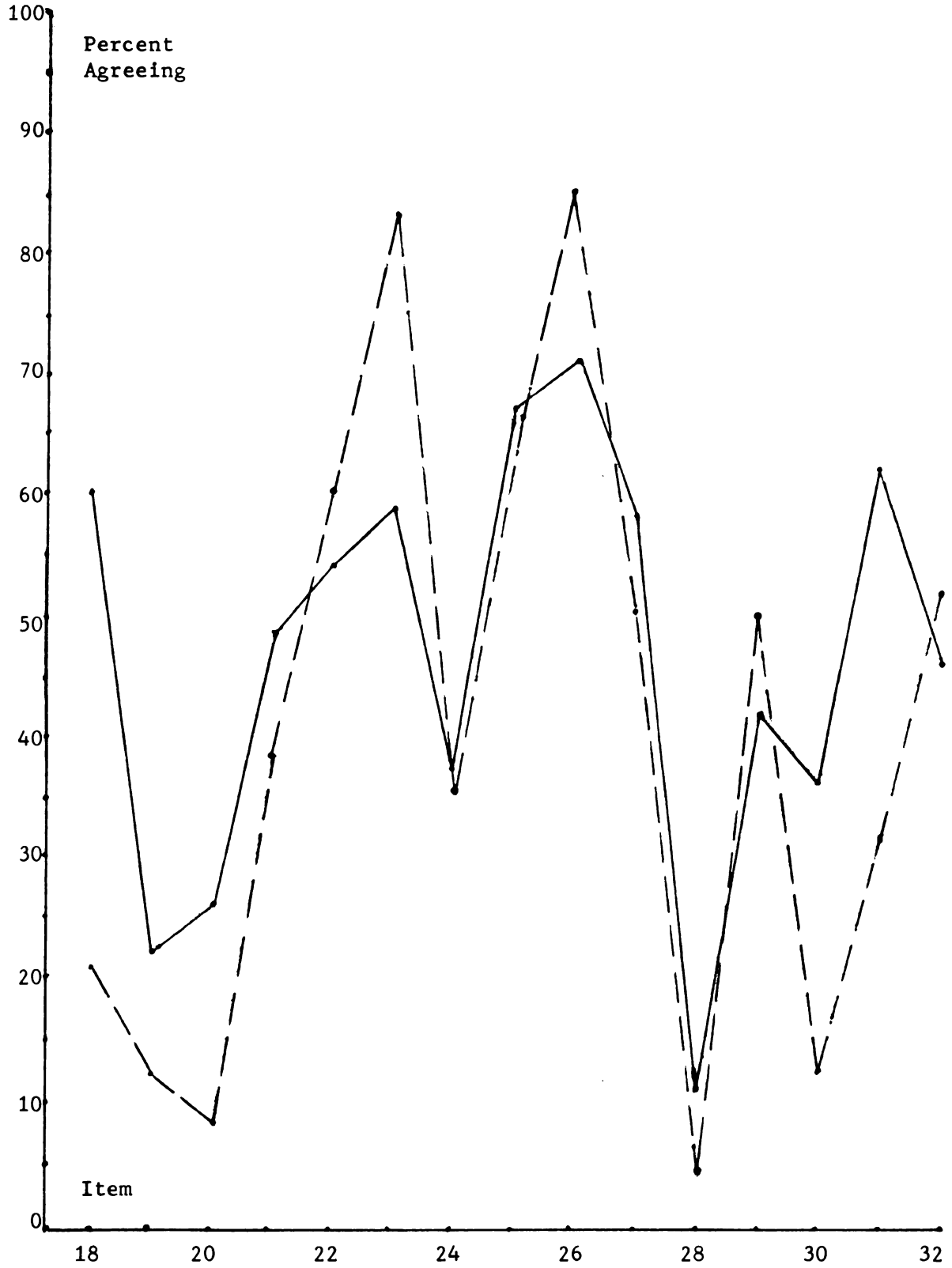

Figure 3. Comparison Student-Faculty Overall Responses by Item, Dimension II: Problems vs. Abstractions. Student responses in solid line.

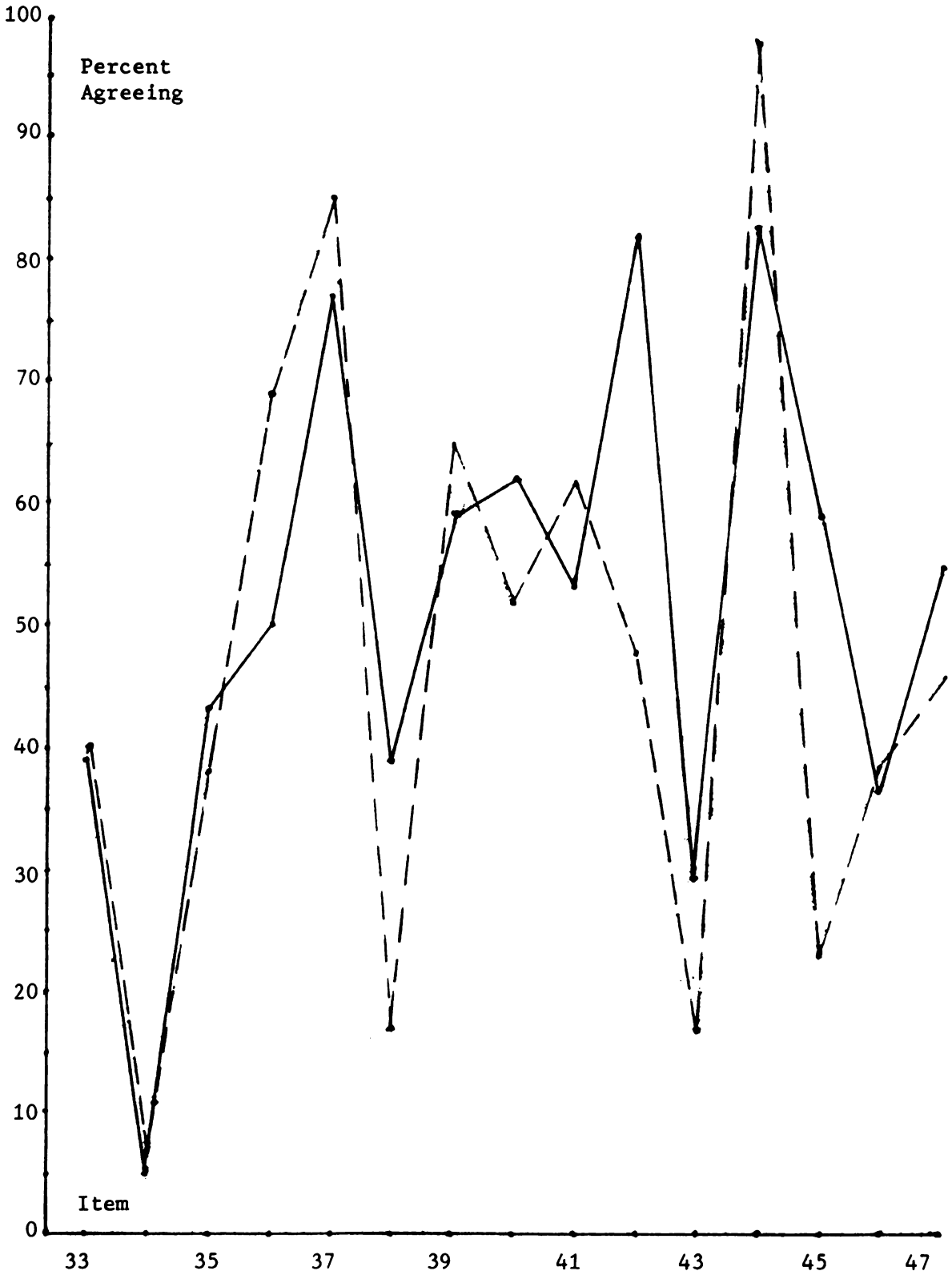

Figure 4. Comparison Student-Faculty Overall Responses by Item, Dimension III: Flexibility vs. Rigidity. Student responses in solid line.

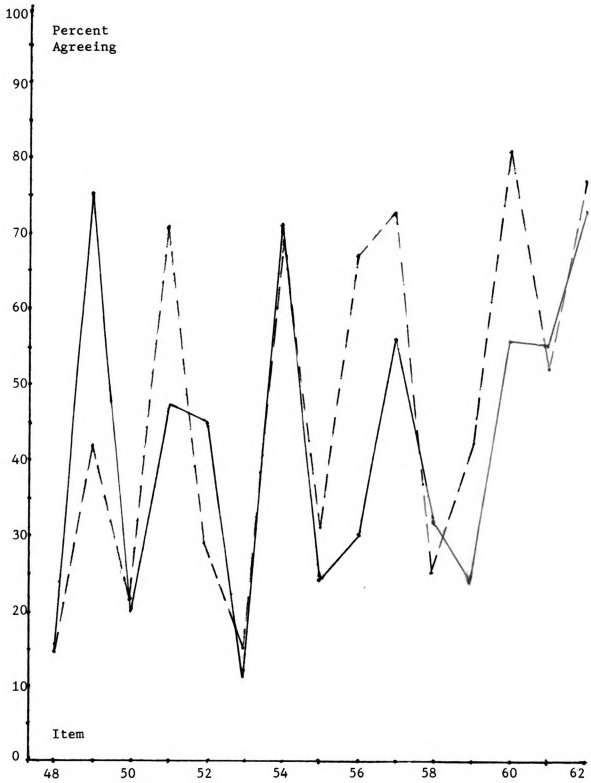

Figure 5. Comparison Student-Faculty Overall Responses by Item, Dimension IV: Integration vs. Compartmentalization. Student responses in solid line.

relating to items dealing with individual vs. discipline and most able to predict responses dealing with problems vs. abstractions, flexibility vs. rigidity, and integration vs. compartmentalization. Tables comparing overall student-faculty responses by item by dimension are given in Appendix D.

It would seem that difference between faculty-student responses may be explained as (1) a function of the sample; (2) a function of the differing emphases of different disciplines; or (3) items which are not as specific operationally and give room for differences between student perceptions of process and faculty perceptions of practice. The items where the responses are most congruent seem to be those where the faculty member could say, "I do or don't do this" (example: item 33--insisting on prerequisites); or where there may exist a campus image relative to the practice (example: item 8--my professors are warm individuals). As suggested above, items where the differences are greatest tend to be those where departmental differences may be involved (example: item 3--reading lists do not allow for personal selection of materials); or items where how faculty define practices as being helpful may not fit a student perception (example: item 4--demonstrating how a course may relate to personal needs or item 6--my advisor seems to be a good listener as well as a good source of advice). How would a student define personal needs or what kind of faculty behavior would be interpreted as that of a good listener? In general, faculty tend to overestimate what they are doing in relation to student

perceptions on items such as these.[1]

At this point, despite the gaps in response, three conclusions relative to the use of the Dressel-Plough Inventory with faculty might be warranted:

(1) It can be used to develop a sense of congruence or incongruence between perception of process, i.e., what faculty think they are doing, with perception of practice.

(2) It follows that it could be used as an in-service tool with faculty to raise questions and explore areas calling for change.

(3) It suggests follow-up studies of certain statements from the instrument to discover what kinds of behavior students and faculty would identify as being indicative of such things as relating to personal needs or being a good listener, or what is considered to be the expression of a personal opinion about courses in the curriculum.

Summary

The major purpose of this chapter has been to develop a profile of the academic press characteristic of Hope College as this might be inferred from student responses to a new academic press instrument, the Dressel-Plough Academic Experience Inventory. A secondary purpose was to compare and contrast student perceptions of press with faculty

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[1]Commenting on factors that influence response to CCI and CUES Feldman and Newcomb say: ". . . there are mechanisms of personality that probably lead to predictable kinds of distortions in the perception of certain features of the college environment--for example, those serving the function of ego-defense or enhancement of self-esteem." Impact of College, 1: 128. Caplow and McGee refer to this tendency as the "aggrandizement effect." The Academic Marketplace, p. 103.

estimates of that press. The profiles developed point up the systematic relationship between press and perception found in other studies and suggest that from perception can be inferred press and from press, outcomes or effects.

Examination of item responses and dimension means shows that relative emphasis of academic experience is perceived to shift by class level from emphasis on the academic disciplines to emphasis on development of the individual, from focus on understanding of theory and abstraction to focus on application of knowledge, from rigidly structured requirements to greater flexibility in choice, and from a sense of unrelatedness of experience to the seeing of relatedness of academic experience.

Analysis of Variance of the Dimension values shows that of the three major hypotheses--that there would be a significant difference in perception of academic experience by class level, that there would be a significant difference in perception of academic experience by sex, and a significant difference in perception of academic experience by major--only the hypothesis of difference by class level was fully supported. The hypothesis of difference by sex was supported for Dimension II, Problems vs. Abstractions, where examination of item responses suggests that in reality the difference is a reflection of the major fields typically selected by women as opposed to those entered by men. The hypothesis of difference by major field approached significance (.079) on Dimension III, Flexibility vs. Rigidity, which probably reflects the sequential nature and more fixed curriculum of the natural sciences as opposed to the social sciences.[1]

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[1]Several students commented about this difference in the Hope curriculum experience in the open-ended response section of the 1974 survey.

Post hoc analysis of Dimension means shows that not all differences in means between class levels were statistically significant. The analysis does show, however, that the freshman mean differed significantly from that of both juniors and seniors on all dimensions; that on all dimensions the junior and senior means were not significantly different from each other; and that the sophomore mean differed from both freshmen and senior means on Dimension II, Problems vs. Abstractions, and from freshmen, junior and senior means on Dimension III, Flexibility vs. Rigidity.

In light of the literature dealing with student development certain patterns of item response stand out. For example, while flexibility varies with major, the primary student responsibility for academic planning seems to focus on fulfillment of rules and requirements within the structure of college and departmental regulations. The common function of the academic advisor seems to be to legitimize student choices of courses within the parameters of the prescribed curriculum--to keep the student from stubbing his toe as it were. The focus of the freshman year seems to be on inducting the student into familiarity with bodies of knowledge. While the large majority of students develop a sense of academic coherence, lacking is a sense of integration of personal, institutional, and societal goals. Few students feel that the evaluation system helps them understand where they are weak or how they can improve. And, while most students have the opportunity to evaluate courses and professors, lecture and textbook assignments predominate.

Finally, comparison of faculty-student responses suggests that in a number of instances faculty could "predict" student responses based

upon what the faculty members felt was characteristic of their teaching. In other instances there were wide discrepancies between faculty and student perceptions which could be explained by the small size of the faculty response group, varying orientations by academic field, and item statements not operationally designed for joint faculty-student use.

From the base of information, analysis, and interpretation of this chapter, Chapter VI will attempt to evaluate the profiles drawn, suggest changes in practice in the light of the literature on student development, and make suggestions for continuing research.

CHAPTER VI

"A DEGREE AND WHAT ELSE:?"[1]

EVALUATION AND RECOMMENDATIONS

John Corson defines institutional character as ". . . the distinctive competence or inadequacy that an organization has acquired--. . . the 'complex of commitments that have been accepted in the course of adaptation to internal and external pressures.'"[2] Evidence external to the survey itself suggests that Hope College has developed strong academic programs in a number of disciplinary areas over the past three decades. By conventional standards (degrees, publications, participation in professional societies) its faculty is well qualified. Students are attracted to the college because of its academic reputation, its church ties, and its image as a small college. Judged by the low level of its freshman drop out rate at the time of survey, students were not disappointed. The college does provide a strong disciplinary program.

But that is not the issue of this study. The question is, "To what extent are the experiences encountered facilitative of outcomes that might be associated with the concept 'liberally educated'?" As the literature reviewed in Chapter II suggested:

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[1]From the title of Stephen B. Withey's, A Degree and What Else?: Correlates and Consequences of a College Education, (New York: McGraw-Hill Book Company, 1971), one of the Carnegie Commission on Higher Education series of reports.

[2]Corson, Governance, pp. 177-179.

> No [college] remakes any [student] into its own image . . . ; change is the product of the interaction of the students' values and personality structure with the values and expectations of the institution.
>
> Students can and do grow in intellectual skills, clarification of values, ability to take on the views of another, and the capacity increasingly to assume individual and social responsibility . . . when:
>
> (1) faculty interact with students on an open, supportive and continuing basis;
>
> (2) curriculum and teaching practices connect materials to student interest and provide experiences congruent with behavioral outcomes desired;
>
> (3) evaluation practices encourage both divergent and integrative thought as opposed to mere recall;
>
> (4) the series of experiences from freshman through senior year provides appropriate discontinuities (cultural and value challenges) within a climate of institutional and faculty support;
>
> (5) and there is a clarity of goals and coherence of values among the faculty with a deliberate commitment to effect changes in the development of liberal competence as opposed simply to the commitment to effect academic changes or seek recruits for their respective disciplines.[1]

What do the responses to the survey suggest relative to these conditions? Are the facilitating agents supportive of these broader, liberal outcomes? More important than percentages are patterns. These patterns are set forth in the evaluation to follow.

Evaluation

1. Do faculty interact with students on an open, supportive and continuing basis?

Hope faculty are generally perceived to be approachable individuals, more interested in teaching and in responding to student needs than in sequestering themselves in their offices or laboratories or with fellow faculty.

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[1] See above pp. 49-50.

On the other hand, for a number of students, contact with faculty would appear to be somewhat limited, especially during the first two years, with contacts with advisors prearranged for a large number of students and out of class contacts on an informal basis somewhat limited even for upperclassmen.

As Chickering observes:

> Student-faculty relationships reflected strong and consistent correlations with change. . . . It's worth noting that the amount of time spent in contact with advisors or members of the faculty in general seems to be less important than simple frequency and diversity of contact. The most developmentally fruitful arrangements, therefore, provide students with ready access to diverse faculty members, even if for only brief contacts.[1]

Wilson concurs:

> Effective college teaching and learning . . . depend not only on the personal qualities of faculty and students but also on the nature of the relationships by which they are joined. Since interpersonal relationships are heavily influenced by institutional arrangements, substantial improvement in education might be achieved by creating conditions that maximize the likelihood of significant encounters occurring between greater numbers of teachers and students.[2]

2. Do curriculum and teaching practices connect materials to student interest and provide experiences congruent with behavioral outcomes desired?

Are the experiences such as to promote interest in ideas and foster higher level cognitive and affective outcomes; i. e., are they likely to help students grow in intellectual skills, clarify values, improve their ability to take on the views of another, and develop the capacity to become self-educating individuals?

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[1]Chickering and McCormick, "Personality Development," p. 64.

[2]Wilson et al., College Professors, p. 124.

From student responses one can infer that the lecture/text method of teaching predominates; that emphasis is on orientation to the academic disciplines and transmission of information; that courses are essentially faculty structured; that they do not particularly connect with the affective interests of students; and that although the college attempts to provide some kind of off-campus experience as part of the student's education, such experiences will be typical primarily for only those students preparing for teacher certification.

If these characteristics predominate overall, their greater emphasis for freshmen is etched in the individual item responses and in the analysis of variance and post hoc analyses of dimension means by class level. For freshmen, at least, Hope's curriculum seems more designed to focus on "the student's passive fulfillment of rules and requirements' rather than "his active involvement in planning a cumulative experience climaxed by tangible evidence of accomplishment."[1]

Some excerpts from the review of literature may be helpful in recalling the principles involved in promoting higher level learning. For example:

> The principle psychological condition that promoted reflectiveness . . . seems to have been the students' encounter with opposition and contrast.[2]

> When a teacher asks his students to read conflicting authorities and then asks them to assess the nature and meaning of the conflict, he is in a strong position to assist them to go beyond simple diversity into the discipline of relativity of thought.[3]

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[1]Dressel, Curriculum, p. 287.

[2]Above, p. 45.

[3]Ibid.

And about the freshman year:

> Freshmen arrive eagerly each September expecting a new, challenging academic experience . . . and confront instead an academic regimen much the same as they encountered in high school.[1]

In another place, Heath observes:

> Today's students are . . . tired of being talked at. The average entering freshman has had between 28 and 30 thousand hours of being talked at, of learning how to . . . absorb information from his television and his teacher.[2]

Further

> Faculty identified as intellectually influential . . . attempted to make their courses more interesting by relating course content to social problems . . . by inviting student criticism of ideas and courses . . . and giving students responsibility for presenting topics, . . . leading discussions and sharing their knowledge or experience with the class.[3]

Finally

> . . . the evidence concerning the differential effects of lecture versus discussion classes is abundant and consistent. . . . the results point to the superiority of lectures for information learning and of discussion for achieving higher level objectives.[4]

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[1]Ibid., p. 46.

[2]Douglas H. Heath, "What is a Powerfully Liberally Educating College," College & University Journal, 12 (September 1973):13.

[3]Above, p. 46.

[4]Ibid.

3. Do evaluation practices encourage divergent and integrative thought as well as mere recall?

While evaluation practices vary according to the size of class and nature of the course, most students do not feel that their professors' grading systems help them understand where they are weak and how they can improve.

Part of the problem stems from the credit-accumulation system that forces both students and teachers to put knowledge into boxes. An education is defined as the accumulation of some forty discrete three credit units acquired at the rate of five courses per semester over a period of eight semesters. At the end of this accumulation, assuming that the institutionally required grade point average has been acquired, the student is certified as educated. That the credentialing function and educational function do not always coincide is obvious.

Part of the problem stems from the focus of courses. Evaluation practices tend to correlate with teaching practices. Where course work emphasizes the transmission of information, students will tend to memorize for recall. Where courses emphasize critical thinking and essay exams stressing higher level objectives are employed, students will try to develop the ability to integrate and to apply principles. But as Dressel observed at Michigan State:

> . . . the seeming necessity of covering large masses of material . . . leaves too little time for any but the most able students to reflect on the meaning, interrelationship, and applicability of knowledge which is being gained. The able student, too, often displays reluctance to think for himself, in part because the exercise of thought and judgement is time consuming and difficult and in part, no

> doubt, because he sees little evidence that such effort will yield returns in the currency of the academic realm.[1]

Part of the problem lies in teachers lack of skill in test making. As Siegel says:

> the tests most instructors develop are probably not suitable for assessing what the student has acquired from the course. More importantly, the potential diagnostic value of course examinations and their potential value for guiding each student into those educational experiences most likely to be valuable for him subsequently is almost invariably lost.[2]

4. Does the series of experiences from freshman through senior year provide appropriate discontinuity within a climate of institutional support?

For established behavior to be reorganized and new responses to be developed there must be sufficient breaks with the familiar, sufficient challenge to the ego to stimulate the process of change. Heath, Feldman and Newcomb, and Perry all speak to this point.[3]

At the same time, the challenges must not be so severe as to become disabling. Sanford observes:

> Ego functions improve as they are performed with success in increasingly difficult situations. A major requirement is that tasks calling for a wide variety of ego performances be assigned the individual, but in situations that are not so difficult or anxiety-provoking that he is forced to make use of primitive defensive devices.[4]

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[1]Paul L. Dressel, "In Critical Thinking," in Evaluation in the Basic College at Michigan State University, ed. Paul L. Dressel (New York: Harper & Brothers, 1958), p. 199.

[2]Laurence Siegel, "The Contributions and Implications of Recent Research Related to Improving Teaching and Learning," in Learning and the Professors, eds. Ohmer Milton and Edward J. Shoben, Jr. (Athens, Ohio: Ohio University Press, 1968), p. 153.

[3]See above, p. 45.

[4]Sanford, ed., American College, p. 278.

Of the five principles extracted from the literature, the Inventory provides the least direct evidence relative to this one. The most supportable observations would seem to relate to the experiences of the freshman year. It is possible that for many the year is both too structured and too threatening--too structured in that it may not be enough different in regimen from high school to be exciting; too demanding in terms of detail and grade point requirements. One student evidently had the first point in mind when he wrote:

> I can see why we have some of the requirements . . . as a liberal arts college. The trouble is that the way to fulfill these requirements is very restricted. There should be more than one way to fulfill the, say, art, music or theater requirement. I have found 'Intro to _____' a complete waste of my time and I would have preferred to fulfill that requirement in another way than through a textbook and notes course. Much more could be done to expand these areas of requirement filling.[1]

Relative to the second point another commented, perhaps wistfully: "General academic requirements should at least be allowed to be taken pass-fail."[2]

5. Is there a clarity of goals and coherence of values among the faculty, with a deliberate commitment to effect changes in the development of liberal competence as opposed simply to the commitment to effect academic changes or seek recruits for their respective disciplines?

The Hope College Catalog in effect in 1973 when the first survey was conducted stated four general objectives of the curriculum:

> A. The ability to understand, evaluate and communicate ideas
>
> All Hope students should possess the ability to examine critically, to understand, and effectively to communicate ideas. The student should be able to discern assumptions and premises; to examine critically and evaluate arguments, generalizations,

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[1] Student comment from 1974 survey.

[2] Student comment from 1974 survey.

hypotheses and methods; to identify biases and contradictions; to assess the validity of relationships among assumptions, factual information and conclusions. . . .

B. A broadened awareness

Through direct experience with various artistic and scholarly disciplines and perspectives, a student should transcend the provincialities of his earlier thinking and experiences. By an appreciative understanding of the achievements of the past, he deepens his critical awareness of contemporary society. By participating in some phase of scientific inquiry, he enhances his understanding of the natural world and man's role in it. By comprehending the nature and significance of man's varied means of communication . . . he furthers his understanding of himself, his own and other cultures. By acquiring scholarly habits and attitudes and by encouraging and strengthening his curiosity he insures for himself a life-long joy in learning.

C. The ability to engage in intensive study

In-depth study . . . a 'major,' is a necessary step in the development of a student's powers of understanding. In-depth study in one area makes superficialities in other areas less tolerable. Sustained orderly participation in an academic discipline usually leads to a broadening of intellectual concerns. Through intensive study, the student is exposed to the best literature in the field, to sound methodological and technical procedures, and to the significant contributions of the discipline to man's fund of knowledge. Finally, the student experiences what it means to be an active and creative member of his discipline.

D. A sense of the interrelatedness of knowledge, experience and responsibility

As the student becomes increasingly aware of the interdependent aspects of human experience and knowledge, he is encouraged to develop for himself a personal philosophy of life which gives meaning and wholeness to his learning, experiencing and valuing. In particular, he should understand how the Christian world-view can affect that philosophy of life. From within the context of his own discipline and his own philosophy of life, he remains open to the totality of human experience, seeking always an integration that leads to a meaningful and responsible life.[1]

Among the faculty there are few who would not agree with these goal statements. But two questions may legitimately be raised. The first is whether, in the press of day to day activities, these goals are

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[1] Hope College Catalog, 1972-1973, pp. 66-67.

uppermost in guiding faculty and student behavior. There is some reason to conclude that they are not. For example, from the thrust of replies to items about faculty advising it seems reasonable to infer that questions about students' progress toward general objectives such as "the ability to understand, evaluate and communicate ideas," and "a broadened awareness" is not part of the dialogue in most encounters between advisor and advisee. Nor does the grading system seem aimed at evaluation of these objectives. Further, while more students disagreed with item 10 ("My professors seem to subscribe to the belief that what I know is more important than what I am") than agreed, still 44 percent did agree. And finally, next to openended comments about item 62 ("I have academic requirements to fulfill which seem to bear no relationship to my program of study"), the most frequently voiced question was "What are the goals of Hope College?"--item 61.

External to the survey data, there isn't much evidence that faculty as a whole dialogue about the broad questions of student development imbedded in the catalog statement of objectives and raised in this study. A check of the professional literature of higher education on the shelves of the college library indicate that it is not frequently circulated. Minutes of the plenary sessions of the faculty show that such issues do not dominate the agenda, and minutes of boards and committees dealing with academic questions reflect more concern with the question of revision of requirements or establishment

of new offerings than the focus or effect of the overall program.[1]

If the first question was whether the objectives serve as the lodestar for faculty and students, the second is whether the statements, as worded, are specific enough. Are they stated in such a way that they can operationally serve as guides for behavior? Except for some of the more specific terminology in the first general objective--"examine critically," "identify biases and contradictions," "to assess . . . validity"--the answer would seem to be, "No." Generally speaking, these are goal statements, statements of hoped for outcomes. Specific behaviors that might index the hoped for outcomes are not identified. No provision is made to assess where the student is when he arrives nor to systematically measure his development along the continuums of these objectives during the course of his academic career. What criteria and measurement may be employed will be the responsibility of individual faculty with varying conceptions of what may be considered growth in relation to their concern for their discipline. One can seriously wonder what the baccalaureate degree credentials in relation to these statements of general competences.

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[1]To say this about Hope is to say what might be said about most liberal arts colleges in this country at similar stages of academic development. Speaking of the "rise of science" Shoben notes: ". . . three quite different trends have . . . moved professors into a predominantly scholarly role in which their primary audience is their disciplinary colleagues rather than their students or the official personnel of their instutions. One is the establishment of the Ph.D. as the faculty union card. . . . It [has become] the hallmark of respectability in all departments of knowledge. . . . [Two] . . . an essentially simultaneous increase in the centrality of research and publication as the criteria of professional success and the routes to promotions and salary increments. . . . Third . . . the growth of professional associations . . . [with his identity pivoting] in large part on his acceptance by the Modern Language Association or the American Chemical Society and on the status he commands among his fellow members." Edward J. Shoben, Jr., from his chapter "To Disenthrall Ourselves," in Learning and the Professors, p. 208.

Recommendations

About the Program

This look at the patterns of response relative to the principles or correlates of liberal development suggest that the college might increase its impact by:

1. Making indelibly clear that the purpose of the college is to help students become self-educating individuals

The focus on passive fulfillment of courses and requirements must be replaced by concern for goal states--the question of the kind of person the student can become at the end of four years of college experience. This must become a pervasive and primary goal. In his discussion of the intellectual and academic determinants of maturing Heath asks: "Why did the students change in the ways they did?" His answer: the evidence ". . . suggests that change is mediated primarily by the quality of one's personal relationships with others and the expectations that others have of the type of person one should become . . ."[1] Focus on goal states might alter the pattern of advisor-advisee interaction and provide a basis for more meaningful dialogue.

2. Looking seriously at the freshman year

It is doubtful whether many colleges have looked at the freshman year from the perspective of its significance for the effecting of change in behavior. Classes are larger, freshmen are the last to register so that schedule options tend to be more limited than for upperclassmen, opportunities for making connections with interests are most limited.

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[1]Heath, Growing Up in College, p. 214.

Classes tend to be taught in the same way as in high school with passive students confronted by active professors who provide them (the students) with masses of information.

Sanford said: "So great are the benefits of confronting the student with new role-requirements . . . that one is led to hope that each college will invent special devices for forcing the student to vary his habitual way of doing things."[1] Eddy, in his study for the American Council on Education, suggests: "The student should be introduced to the new level of the campus at the moment he arrives, if not in the literature he reads prior to his application. Several colleges which we observed make a serious and successful attempt to transmit expectations of excellence and integrity during freshman orientation programs . . ."[2]

> For students not particularly committed to intellectual experiences (and there is some reason to surmise that this is true of a number of Hope freshmen)[3] the first weeks of college can be crucial ones. . . . Heist emphasizes the importance of making early college experiences for these students 'sufficiently dramatic and rewarding to "catch" the student for the first time with the excitement of ideas, and the wealth of unexplored knowledge, with the idea of living as a continuous learning experience, with some provocative exposition of meaning, of values, of fundamental questions that must be dealt with by all mankind.[4]

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[1]Sanford, American College, p. 280.

[2]Edward D. Eddy, Jr., The College Influence on Student Character (Washington, D. C.: American Council on Education, 1959), pp. 18-19.

[3]The OPI data presented on page 57 above suggests that Hope freshmen "prefer action and application over ideas and abstractions [and] prefer having theory explained to them . . ."

[4]Feldman and Newcomb, Impact, I, 88. The less than intellectual orientation of the Hope student is suggested by the OPI information cited in Chapter III, pp. 57-58.

Others have suggested that all freshmen become personally involved in a rigorous but sympathetic analysis of their own values which they would return to as seniors to rework more integratively.[1] Wilson notes the thematic approach used at Evergreen State College where problem-oriented groups of approximately five faculty members drawn from different disciplines work with groups of about one hundred students.[2]

The Hazen Foundation Report suggests:

> The Freshman year . . . should focus on the interest of each student--what he or she thinks is important. . . . The sensitive college would set up classes for groups of students with similar interests. . . . In these classes the students would not only learn how a psychologist, opinion researcher, historian, or engineer approaches a problem, but also how he resolves it, by acting in the place of the professional himself. Most important, . . . the . . . developmental needs of . . . freshmen--enhancement of . . . self-image, an opportunity to form judgments, and relating these judgments to themselves--would be served from the beginning.[3]

3. Developing a more comprehensive and comprehendible system of evaluation relevant to the goals of liberal education

Recall Perry's observation that the environmental sustenance that most supported students in their development of commitment--their willingness to take risks to develop their own value orientations and in spending their lives--was their realization of community with each other and with faculty. This realization of community Perry concluded needs be confirmed by means of feedback from faculty.[4] Numerical grades are not very effective communicators of this kind of development.

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[1]Heath, Growing Up in College, pp. 262-263.

[2]Wilson et al., College Professors, p. 197.

[3]The Hazen Foundation, The Student in Higher Education, (New Haven, Conn.: The Hazen Foundation, 1968), p. 11.

[4]See above, p. 40.

Erb, in recounting special efforts to facilitate student growth at Whitworth College, tells how faculty expanded on usual marginal comments on papers by asking each student to provide them a cassette tape which could be used, returned and reused during the course of a semester. And in their face to face conversations with students they tried to identify personal and academic strengths that they could comment on and thereby enhance the student's sense of worth.[1]

The relationship of recommendation three with recommendation one is obvious. There must be a clarity of expectation of what kind of person a student is to become.

4. Encouraging more widespread and active involvement of students in their own education

The lecture/textbook approach needs to be modified if optimum development of higher level cognitive and affective objectives is to be obtained.

This could mean use of a wider variety of methods such as independent study, encouragement of wider use of the contract learning option already available to Hope students, facilitation of discussion groupings where discussion is appropriate and the building in of experiential or off-campus education for all students, not just those who can afford it, or are involved in teacher preparation, or have the predisposition to seek this type of experience out.

Speaking of the experiences on the Haverford Campus that facilitated the development of allocentricism--the capacity to

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[1]David L. Erb, Director of Student Development, Whitworth College, lecture on "The Faculty Member as a Facilitator of Student Development," given to conference on student development sponsored by AICUM (Association of Independent Colleges and Universities of Michigan), Madonna College, Livonia, Michigan, 10 November 1973.

appreciate the values of others, Heath says: ". . . relations with . . . roomates and friends were the principal experiences that transformed [the students'] egocentricism into a greater acceptance and affection for others."[1] If sustained contact with roomates and friends had this effect, how much more impactful might be sustained contact for a semester or a year in a setting outside the familiar. This could take the form of contact outside the country or experience within the United States. The experiences and lives of VISTA volunteers testify to the broadening influence of contact with the Appalachian South or with inner city groups of varying ethnic and racial backgrounds in the urban North. The college already has an optional May term in which students and faculty can pursue one topic of interest in a concentrated fashion. Perhaps at least one such experience with appropriately planned self and faculty evaluation should be required of all students.

5. Facilitating greater student-faculty interaction

More faculty need to open themselves to more students in ways meaningful to students. This comes more easily to some faculty and students than others. But colleges can structure ways into their programs that may facilitate such contact. The use of thematic programs already mentioned in which faculty teams work with interested students around a topic of common interest is one such way. Development of a wider range of experiential options is another. And Erb at Whitworth mentions how they have broken dorm groupings into "families" of not less than 20 or more than 90 students who interact to make decisions affecting

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[1]Heath, Growing Up in College, p. 230.

their daily interaction and to discuss matters of common interest with faculty who have volunteered or been assigned to work with groups.[1]

Beyond this, both faculty and students can take personal initiative to make their interaction more meaningful. Faculty can and do reach out to students. One Hope student, not an English major, commented appreciatively about the influence of one English professor on him, encouraging him to reach out and take courses of interest and courses where an interdisciplinary approach was used.[2]

Wilson suggests that all faculty could benefit by asking themselves such questions as the following:

> To what extent are you aware of the diversity of student interests that exists in your classes? What are you doing to relate the course content to those concerns?
>
> Is your teaching style uniform or do you employ a variety of techniques depending on the nature of the students, the course material, or teaching setting?
>
> What kinds of oral and visual presentation techniques do you use to stimulate student interest in course materials?
>
> How do you go about conveying your enthusiasm for teaching to your students and colleagues? Do you discuss teaching and learning issues with your students and colleagues?
>
> Do you know who the best teachers are in your own department or school? The worst teachers? Have you ever observed their teaching? Upon what kinds of evidence do you base your feelings that they are the best or worst teachers?

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[1]David L. Erb, "Faculty Member as Facilitator." In part this sounds somewhat like the Harvard House Plan's theoretical interaction with tutors and assigned faculty described by Jencks and Riesman in "Patterns of Residential Education: A Case Study of Harvard," in Sanford's American College.

[2]Student Comment from 1974 survey.

Do you try to overcome the natural barriers between students and faculty? How do you go about indicating your accessibility to students?

How effectively do you use casual and informal conversations with students outside the classroom as a vehicle for teaching?[1]

For students he suggests:

How committed to learning within the context of colleges and universities are you, and do you make a major investment of time and energy in learning those things which will likely be of long-term value to you?

Do you assume your share of responsibility to encounter the course content, to participate in class discussions, and to make the classroom experience interesting to both your peers and your teachers?

How often do you try to extend the classroom by pursuing ideas and issues with teachers and other students outside of class?

Do you try to relate course content to your own personal experiences and to see their implications for social problems and issues?

How are you growing and developing as a person?

Are you getting all you can from your college experience?[2]

For Faculty Support

Today's faculty are academic specialists and while they may be attracted to colleges such as Hope because of church ties, a liking for the atmosphere of the smaller institution or the more intimate contact that is possible with students, they are not developmental psychologists nor has their graduate work prepared them for teaching. Colleges could help them become more effective teachers by

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[1]Wilson et al., Professors and Impact, pp. 193-194.

[2]Ibid., pp. 181-182.

(1) Stimulating dialogue about teaching;

(2) Informing them of general developments in higher education;

(3) Conducting periodic reviews of the instructional program;

(4) Providing consultative service for the improvement of instructional and evaluative techniques;

(5) Providing paraprofessional assistance in the development of teaching materials and new instructional programs;

(6) Encouraging inter-faculty visitation and the formation of informal self-help groups;

(7) Placing the focus of student, peer, and administrative evaluation on growth rather than as an administrative tool for sanctions; and

(8) Making it clear that the faculty member who was interested in focusing his research on the improvement of instruction would be regarded and rewarded with the same esteem in his college community as the faculty member who is successful in attracting research grants to the institution.

For Further Research

Recognizing that environmental stimuli are mediated through personality, the college needs to know more about its students. As Heath observes:

> No college has more than a vague, diffuse, and frequently ignored statement in its catalog of its liberally educating goals, and none explicitly, systematically, and regularly assesses whether it is in effect achieving such goals. Because no college really seriously examines its freshmen and reexamines them when they graduate in terms of its educational goals, no college knows whether it is accomplishing its larger purposes.[1]

The Omnibus Personality Inventory data that were available were rich in potential, and suggestive with regard to interpreting responses of student to the Inventory. As one step, the college should make systematic use of the OPI and follow individuals as well as classes on

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[1]Heath, Growing Up in College, p. 237.

a longitudinal freshman through senior basis to see what kinds of changes are occurring. To be more sophisticated with the data so collected, the college might well adapt parts of the model used by Wilson and his associates in their comprehensive study of the elements of faculty impact. Adoption of the systematic use of the OPI alone might be the most significant step the college might take in attempting to assess the possible impact it is having on the intellectual development of its students. Are students who enter the college with moderate intellectual disposition scores gaining in intellectual disposition? If so, what has been the nature of their experiences during the four years of their stay at Hope? If not, what are the possible explanations?

Beyond this, the college should look into the matter of learning styles. There is enough sophistication in this area of research to give direction to studies on a pilot basis and there is enough sophistication among the faculty, linked with the resources of the college's computer facilities to conduct such meaningful research.

And the kind of study conducted in this research should be continued on a systematic basic to watch for trends and to confirm findings.[1] It would be helpful to know, for example, more about what actually happens during the freshman year and also how students feel about it. Other instruments similar to the Dressel-Plough Inventory

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[1]Several students expressed appreciation for the opportunity to participate in the survey. One said: "I feel the inventory is a good one not only because it let me put into words how I feel but to share these feelings with someone else. I hope in future years that this will become a regular part of the academic program. Because I feel that each generation brings with it new problems, I don't think the college should rewrite the curriculum but I feel that there is a need to really relate to each student." 1974 survey.

or other techniques which might more sharply probe specific areas of press at specific levels of academic experience might be used. One such instrument is the Experience of College Questionnaire developed by Chickering and McDowell during the course of the 13 college Project on Student Development.[1] Further, the attitudes and orientations of faculty might be probed through the use of Educational Testing Service's Institutional Functioning Inventory (IFI). Comparisons of faculty responses on the IFI with administrative responses also might more clearly identify areas of agreement and disagreement as to college image and mission.

Summary

This study's primary purpose has been to develop a profile of the academic press of Hope College through the use of an experimental inventory, to evaluate the probable effectiveness of that press in the development of liberal competences in relation to the findings of developmental literature, and to formulate recommendations for change in college procedures that might enhance its impact on students. A secondary purpose was to see whether faculty, responding to the inventory in terms of their own practices, could predict student responses.

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[1]About a year into the Project on Student Development Chickering and his associates sensed the need for a stimulus identifying instrument more focused than CUES for assessing the relationship between press and changes in behavior. The result was the ECQ which used some material from an earlier instrument developed by Astin. Description of the development of ECQ and comparisons of ECQ and CUES findings which as Chickering says are roughly comparable is given in Chickering's "Undergraduate Academic Experience," pp. 134-143.

That profile was established, i.e., a general picture did emerge that is consistent with the college's history, with the training and orientation of its faculty, with the structure of its curriculum, and with the findings of other studies.

Of the three specific hypotheses, one was supported; one was partially supported; one was rejected. Students did perceive differences in academic experience by class level and these differences were statistically significant; differences in responses for men and women were significantly different on Dimension II, Problems vs. Abstractions--a difference probably resulting from differing proportions of men and women enrolling in different majors; and the hypothesis that responses on all scales would differ significantly by major was not supported, but approached significance in the area of flexibility-rigidity.

Certain recommendations for changes that would strengthen the effectiveness of the college in the development of students as persons liberally competent and capable of continuing growth have been made.

The instrument itself, the Dressel-Plough Inventory, seems generally sensitive to systematic relationships between curriculum structure and student perceptions of academic experience and on one scale seems particularly sensitive to differences by academic field. On the other hand, more specific, focused information probably calls for the use of a more focused instrument such as Chickering's "Experience of College Questionnaire."

Faculty were only partially successful in being able to predict student responses through use of the inventory. Their predictions were closest on items expressed in terms of specific faculty behavior and least congruent on items which called for judgment of student opinion.

Underlying this study is a value judgment--with considerable support in the literature--that the prime purpose of the liberal arts college is the development of person, of the encouragement of intellectual abilities and disposition, of qualities that persist long after the knowledge transmitted may have become outdated.

What makes a powerfully liberally educating college? Perhaps no better answer can be found than Heath's as he reflected on his studies of student-college interaction:

> . . . educable students, competent teachers who know their students intimately, an intercommunion of values among the faculty, clarity of expectation of what kind of person a student is to become, and coherence among the educational experiences of students.[1]

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[1]Heath, "What is a Liberally Educating College," p. 13.

APPENDICES

APPENDIX A

COVER LETTERS TO STUDENTS AND FACULTY

Dear Student:

April 23 through 27 you will be registering for classes for the Fall Semester. As a faculty member and a person interested in research on the impact of college on students, I would like to ask for about fifteen minutes of your time to assist with a doctoral study which might prove helpful to the operation of Hope and will certainly be helpful to me.

A number of studies of college environment have been conducted at various institutions in recent years. Many of these have used inventories which ask students to give general impressions of their college. Few give the student an opportunity to report what he has actually experienced. The enclosed inventory does just that. As you skim through the items I think you would also agree that an institutional profile developed from responses to this inventory might be helpful as a base from which to look at institutional practice.

Obviously, to develop such a profile it is important to get as large a response as possible. Having tried the questionnaire with a sample of students an average of fifteen minutes will do it. So won't you take this brief amount of time to complete the answer sheet, put it and the questionnaire with your registration materials and turn both in when you register? A special station for this collection will be set up at the end of the registration line.

Your assistance will be greatly appreciated.

Sincerely,

Harold Bakker

Harold Bakker
Assistant Professor
Education Department
April 17, 1973

HOPE COLLEGE
Holland, Michigan

Dear Colleague:

I would like to ask for your assistance with a research project that might prove helpful to the operation of Hope College and, as part of a doctoral study, will certainly prove helpful to me.

What I am attempting to do (with administrative permission and encouragement) is develop a description of academic experiences characteristic of Hope College which can serve as a data base for institutional analysis and planning.

To obtain the basic data for this description, all students are being asked to respond to the enclosed "Academic Experience Inventory." The inventory has been specifically designed for this type of study, has been refined through use in a sample of colleges, and has been subjected to analysis which supports its fundamental validity.

To add a significant dimension to the Hope College Study, I would like for you, too, to respond to the inventory. This should give us an opportunity to compare what we think we are doing with what students say they are experiencing. The enclosed faculty directions sheet suggests how to use the inventory for this purpose.

Please return the inventory with your answer and comments sheet to me through campus mail by May 1. Your individual replies will be kept confidential, but I will share the summary of the results with you next Fall, if you so desire.

Your assistance will be greatly appreciated.

Sincerely,

Harold Bakker

Harold Bakker
Assistant Professor
Education Department
April 23, 1973

Encls.

DIRECTIONS FOR FACULTY USE

OF

ACADEMIC EXPERIENCE INVENTORY

1. Note the directions to the student.

2. In view of the way you as a professor teach courses in your discipline and view your responsibility to students, please repond to the inventory as you think most of your students will respond. Start with item #3.

3. There may be items for which the response you expect will differ from the response you would like to obtain. If so, please check these items and, using the item number in the comments section, indicate the nature of the difference and what you feel to be the cause of the difference. (Most of us have probably experienced situations where class size, nature of physical facilities, or some other factor has caused us to conduct classes or relate to students differently than we would like.)

4. Since the inventory was designed for general use, you may find some items that do not seem applicable to your discipline or your situation. Mark the number three space (not applicable) on the answer sheet for any such items; (for example, you may not have advisees.)

5. Disregard the top and left margin identification sections of the machine scoring answer sheet. I am using this standard form in order to run the returns through an automatic scoring machine and reduce tallying time.

APPENDIX B

TABLE 11

COMPARISON OF 1973-1974 ITEM RESPONSES BY CLASS LEVEL AND OVERALL
Dimension I: Individual vs. Discipline
Percentage of Respondents Agreeing with Statement

Item	Frosh		Soph		Junior		Senior		Total	
	1973 N=194	1974 N=31	1973 N=155	1974 N=44	1973 N=142	1974 N=44	1973 N=216	1974 N=37	1973 N=707	1974 N=156
3. My class reading lists do not allow for personal selection of materials.	70.6	80.6	81.2	86.4	78.1	81.8	71.2	75.7	74.6	81.4
4. My professors seem interested in demonstrating how their courses relate to my personal needs.	45.8	45.2	46.4	54.5	46.4	63.6	50.0	48.6	47.2	53.8
5. My classes don't seem to relate to me as an individual human being.	30.4	35.5	30.9	27.3	25.3	20.5	24.5	21.6	27.7	25.6
6. My academic advisor seems to be a good listener as well as a good source of advice on academic matters.	61.3	48.4	63.8	77.3	70.4	63.6	65.2	73.0	64.7	66.7
7. In class, I can undertake a project of real interest to me.	50.0	51.6	49.0	59.1	64.0	65.9	72.2	62.2	59.2	60.3
8. My professors are warm individuals.	85.0	90.3	91.6	84.1	90.1	88.6	88.4	89.2	88.2	87.8
9. My academic advisor does not express his personal opinions about the courses in the curriculum.	55.1	58.1	38.7	38.6	44.3	38.6	41.2	43.2	44.9	43.6
10. My professors seem to subscribe to the belief that what I know is more important than what I am.	48.4	38.7	42.5	56.8	43.6	43.2	42.1	35.1	44.2	44.2
11. I visit with professors in their homes.	18.0	22.6	19.3	34.1	31.6	45.5	41.2	51.4	28.0	39.1

TABLE 11--Continued

Item	Frosh		Soph		Junior		Senior		Total	
	1973 N=194	1974 N=31	1973 N=155	1974 N=44	1973 N=142	1974 N=44	1973 N=216	1974 N=37	1973 N=707	1974 N=156
12. My classroom experience leads me to conclude that my professors are more interested in their subject matter than in teaching students.	27.8	35.5	23.2	20.5	19.0	18.2	26.0	24.3	24.6	23.7
13. My academic advisor helps me to see how my program of studies relates to those things which are important to me.	43.8	38.7	54.1	59.1	55.6	50.0	49.0	54.1	49.9	51.3
14. My professors seem more interested in going to coffee with their colleagues than in talking with me.	13.9	16.1	16.1	13.6	11.9	15.9	15.2	13.5	14.5	14.7
15. I have opportunities in the classroom to express my own feelings about course materials.	64.4	67.7	64.5	63.6	76.0	77.3	78.7	78.4	70.9	71.8
16. Faculty members encourage me to attempt courses which are of special interest to me.	60.3	67.7	74.1	77.3	78.1	81.8	68.0	75.7	69.2	76.3
17. I have found that it is acceptable to inject my personal philosophy into term papers written for my classes.	62.8	61.3	59.9	61.4	69.7	70.5	69.4	78.4	65.4	67.9

TABLE 12

COMPARISON OF 1973-1974 ITEM RESPONSES BY CLASS LEVEL AND OVERALL
Dimension II: Problems vs. Abstractions
Percentage of Respondents Agreeing with Statement

Item	Frosh		Soph		Junior		Senior		Total	
	1973 N=194	1974 N=31	1973 N=155	1974 N=44	1973 N=142	1974 N=44	1973 N=216	1974 N=37	1973 N=707	1974 N=156
18. In my classes, paperback books dealing with the current social scene are assigned.	64.4	35.5	54.8	45.5	59.8	45.5	58.7	51.4	59.6	44.9
19. My course work does not deal with possible applications of theory to real problems.	23.7	29.0	22.5	20.5	16.1	18.2	25.9	21.6	22.5	21.8
20. My academic advisor doesn't ask me about how I plan to use my education.	34.5	48.4	23.8	18.2	22.5	20.5	23.6	16.2	26.5	24.4
21. I have participated in field trips off campus.	31.9	22.6	41.2	43.2	57.0	63.6	61.1	83.8	47.8	54.5
22. My professors advocate the active interest of the college community in developing an awareness of social problems.	50.5	48.4	47.7	63.6	60.5	61.4	58.7	37.8	54.3	53.8
23. My professors encourage me to deal with specific problems and their solutions.	48.9	58.1	59.3	61.4	67.6	72.7	63.4	59.5	59.2	63.5
24. I have never attended any kind of special seminar or program on current social problems.	45.8	45.2	41.9	45.5	31.6	34.1	30.0	21.6	37.3	36.5
25. I can see the relationship between what I am studying and the kinds of situations I will meet when I leave college.	59.7	58.1	69.6	68.2	75.3	79.5	67.1	78.7	67.1	71.2

TABLE 12--Continued

Item	Frosh		Soph		Junior		Senior		Total	
	1973 N=194	1974 N=31	1973 N=155	1974 N=44	1973 N=142	1974 N=44	1973 N=216	1974 N=37	1973 N=707	1974 N=156
26. My college attempts to provide some kind of off-campus experience as a part of my education.	63.9	71.0	67.7	65.9	79.5	61.4	75.4	83.8	71.2	69.9
27. My classes deal primarily with past events and findings.	54.1	54.8	61.2	52.3	55.6	59.1	61.1	51.4	58.1	54.5
28. My professors are not interested in what impact their field might have on our world in the future.	15.9	6.5	7.0	13.6	7.7	11.4	12.0	21.6	11.2	13.5
29. I participate in an academic program here where I come face to face with a real life situation as an assignment.	30.4	22.6	45.8	43.2	48.5	50.0	46.2	48.6	42.3	42.3
30. I am not asked to relate what I am learning in class to the contemporary scene.	37.6	48.4	40.0	31.8	35.2	31.8	32.4	24.3	36.1	33.3
31. I do not have assignments which require reading a newspaper, news magazine, or current journal.	75.2	67.7	68.3	59.1	54.9	75.0	50.0	54.1	61.7	64.1
32. My classes are concerned with abstract theories and ideas.	48.4	45.2	41.9	47.7	47.1	47.7	47.6	45.9	46.4	46.8

TABLE 13
COMPARISON OF 1973-1974 ITEM RESPONSES BY CLASS LEVEL AND OVERALL
Dimension III: Flexibility vs. Rigidity
Percentage of Respondents Agreeing with Statement

Item	Frosh		Soph		Junior		Senior		Total	
	1973 N=194	1974 N=31	1973 N=155	1974 N=44	1973 N=142	1974 N=44	1973 N=216	1974 N=37	1973 N=707	1974 N=156
33. I find that my professors insist on prerequisites for their courses.	35.0	29.0	38.7	22.7	45.0	40.9	39.3	37.8	39.2	32.7
34. My academic advisor makes the decisions about my academic program.	5.1	9.7	5.1	2.3	4.2	4.5	6.4	2.7	5.3	3.8
35. I am not able to decide upon the nature of my classroom activities.	45.3	41.9	47.0	56.8	40.1	45.5	41.2	40.5	43.3	46.8
36. Outside of my major, I can take a course pass-fail when I want to.	30.4	41.9	45.8	34.1	61.2	59.1	64.3	62.2	50.2	49.4
37. I can get excused from class if a speaker or program of interest to me conflicts with class time.	68.0	64.5	74.1	75.0	84.5	81.8	83.3	86.5	77.1	77.6
38. My conversations with my academic advisor are all pre-arranged appointments rather than dropin sessions.	59.2	58.1	42.5	34.1	31.6	38.6	24.0	21.6	39.2	37.2
39. I participate in decisions that affect my academic life here at the college.	58.7	64.5	56.1	65.9	60.5	65.9	62.9	62.2	59.6	64.7
40. My grades are determined by class curves.	56.7	74.2	68.3	70.5	66.1	61.4	60.1	56.8	62.2	65.4

TABLE 13--Continued

Item	Frosh		Soph		Junior		Senior		Total	
	1973 N=194	1974 N=31	1973 N=155	1974 N=44	1973 N=142	1974 N=44	1973 N=216	1974 N=37	1973 N=707	1974 N=156
41. I am able to make quite a few choices of electives in my academic schedule.	49.4	54.8	50.9	47.7	61.2	50.0	51.3	56.8	52.6	51.9
42. My classroom assignments consist of reading textbooks and studying lecture notes.	90.7	83.9	84.5	86.4	78.1	81.8	75.9	73.0	82.2	81.4
43. There is no one for me to go to in order to formally complain about grades which I feel are unfair.	35.5	41.9	29.6	24.1	26.7	27.3	24.5	37.8	29.1	34.6
44. I have the opportunity to evaluate my courses and professors.	71.6	77.4	82.5	77.3	88.7	86.4	89.8	86.5	82.7	82.1
45. My courses are graded on the basis of one or two midterms and one final examination.	64.4	58.1	52.2	50.0	56.3	56.8	61.1	64.9	59.0	57.1
46. I have not made presentations, outside of asking questions, in my classes.	50.5	35.5	50.9	38.6	32.3	38.6	19.4	13.5	37.3	32.1
47. I find that in labs and on tests, I have to stop at the end of the period even if my work is not completed.	54.6	48.4	56.7	68.2	58.4	43.2	51.8	48.6	55.0	52.6

TABLE 14

COMPARISON OF 1973-1974 ITEM RESPONSES BY CLASS LEVEL AND OVERALL
Dimension IV: Integration vs. Compartmentalization
Percentage of Respondents Agreeing with Statement

Item	Frosh		Soph		Junior		Senior		Total	
	1973 N=194	1974 N=31	1973 N=155	1974 N=44	1973 N=142	1974 N=44	1973 N=216	1974 N=37	1973 N=707	1974 N=156
48. In courses outside of my major, I find it difficult to understand class discussions, course materials, and lectures.	20.1	25.8	16.7	13.6	10.5	6.8	11.1	8.1	14.6	12.8
49. I can see the relationships in my academic program among the Humanities, the Social Sciences, and the Natural Sciences.	74.2	67.7	70.9	79.5	78.8	79.5	76.8	83.8	75.0	78.2
50. I find that scheduled social activities conflict with class times and lecture programs.	18.0	25.8	20.6	18.2	22.5	20.5	18.0	18.9	19.6	20.5
51. My academic advisor helps me to find academic goals we both agree on.	44.8	32.3	54.1	52.3	53.5	45.5	40.7	45.9	47.2	44.9
52. I am not involved in academic assignments which require work with another student on a joint project.	55.1	48.4	49.0	50.0	37.3	29.5	38.4	29.7	45.1	39.1
53. My advanced level courses do not make use of what I learned in introductory courses.	10.3	12.9	9.6	9.1	10.5	13.6	13.8	13.5	11.4	12.2
54. I can take courses where an interdisciplinary approach on term papers and in assignments is encouraged.	65.9	58.1	65.8	65.9	73.9	70.5	77.7	75.7	71.0	67.9
55. I get the feeling that all I'm getting out of college is a lot of "loose ends" which I can't pull together.	29.3	35.5	27.7	22.7	16.1	20.5	21.2	16.2	23.9	23.1

TABLE 14--Continued

Item	Frosh		Soph		Junior		Senior		Total	
	1973 N=194	1974 N=31	1973 N=155	1974 N=44	1973 N=142	1974 N=44	1973 N=216	1974 N=37	1973 N=707	1974 N=156
56. My professors' grading systems help me understand where I am weak and how I can improve.	27.3	38.7	29.0	18.2	35.9	38.6	29.1	27.0	29.9	30.1
57. I think that my professors attempt to relate the objectives of their courses to the objectives of the college.	57.2	67.7	61.9	45.5	57.0	54.5	52.3	54.1	56.5	54.5
58. I don't see professors from one department talking and working with professors from other departments.	43.2	38.7	32.2	36.4	23.9	25.0	25.4	32.4	31.5	32.7
59. My academic advisor helps me to relate my out-of-class and off-campus experiences to my academic studies.	14.9	12.9	23.8	25.0	28.1	9.1	30.0	27.0	24.1	18.6
60. My professors bring in materials from other subjects and relate them to their own particular subject.	51.5	45.2	56.1	59.1	63.3	61.4	55.5	59.5	55.9	57.1
61. I find no real conflict between my goals and those of the college	49.4	58.1	55.4	56.8	52.1	61.4	63.4	48.6	55.4	56.4
62. I have academic requirements to fulfill which seem to bear no relationship to my program of study.	79.3	54.8	71.6	79.5	69.7	61.4	71.2	67.6	73.2	66.7

APPENDIX C

TABLE 15

COMPARISON OF 1973-1974 ITEM RESPONSES BY SEX AND OVERALL
Dimension I: Individual vs. Discipline
Percentage of Respondents Agreeing with Statement

Item	Total Sample					
	Male		Female		Total	
	1973 N=275	1974 N=70	1973 N=431	1974 N=86	1973 N=707	1974 N=156
3. My class reading lists do not allow for personal selection of materials.	88.0	85.7	72.9	77.9	74.6	81.4
4. My professors seem interested in demonstrating how their courses relate to my personal needs.	46.9	52.9	47.5	54.7	47.2	53.8
5. My classes don't seem to relate to me as an individual human being.	28.3	30.0	26.7	22.1	27.7	25.6
6. My academic advisor seems to be a good listener as well as a good source of advice on academic matters.	64.6	65.7	64.9	67.4	64.7	66.7
7. In class, I can undertake a project of real interest to me.	58.4	52.9	59.8	66.3	59.2	60.3
8. My professors are warm individuals.	87.3	84.3	89.0	90.7	88.2	87.8
9. My academic advisor does not express his personal opinions about the courses in the curriculum.	47.7	44.3	44.4	43.0	44.9	43.6
10. My professors seem to subscribe to the belief that what I know is more important than what I am.	46.6	48.6	45.3	40.7	44.2	44.2
11. I visit with professors in their homes.	30.3	34.3	26.6	43.0	28.0	39.1
12. My classroom experience leads me to conclude that my professors are more interested in their subject matter than in teaching students.	27.5	18.6	23.9	27.9	24.6	23.7
13. My academic advisor helps me to see how my program of studies relates to those things which are important to me.	51.6	54.3	48.9	48.8	49.9	51.3

TABLE 15--Continued

Item	Total Sample					
	Male		Female		Total	
	1973 N=275	1974 N=70	1973 N=431	1974 N=86	1973 N=707	1974 N=156
14. My professors seem more interested in going to coffee with their colleagues than in talking with me.	16.7	17.1	14.7	12.8	14.5	14.7
15. I have opportunities in the classroom to express my own feelings about course materials.	72.9	72.9	69.8	70.9	70.9	71.8
16. Faculty members encourage me to attempt courses which are of special interest to me.	67.1	78.6	70.7	74.4	69.2	76.3
17. I have found that it is acceptable to inject my personal philosophy into term papers written for my classes.	63.5	60.0	66.8	74.4	65.4	67.9

TABLE 16

COMPARISON OF 1973-1974 ITEM RESPONSES BY SEX AND OVERALL
Dimension II: Problems vs. Abstractions
Percentage of Respondents Agreeing with Statement

Item	Total Sample					
	Male		Female		Total	
	1973 N=275	1974 N=70	1973 N=431	1974 N=86	1973 N=707	1974 N=156
18. In my classes, paperback books dealing with the current social scene are assigned.	53.7	40.0	63.5	48.8	59.6	44.9
19. My course work does not deal with possible applications of theory to real problems.	25.7	24.3	21.4	19.8	22.5	21.8
20. My academic advisor doesn't ask me about how I plan to use my education.	26.0	21.4	27.2	26.7	26.5	24.4
21. I have participated in field trips off campus.	44.0	52.4	50.3	55.8	47.8	54.5
22. My professors advocate the active interest of the college community in developing an awareness of social problems.	50.1	48.6	57.0	58.1	54.3	53.8
23. My professors encourage me to deal with specific problems and their solutions.	61.3	58.6	58.0	67.4	59.2	63.5
24. I have never attended any kind of special seminar or program on current social problems.	37.6	41.4	37.6	32.6	37.3	36.5
25. I can see the relationship between what I am studying and the kinds of situations I will meet when I leave college.	67.1	67.1	67.2	74.4	67.1	71.2
26. My college attempts to provide some kind of off-campus experience as a part of my education.	63.1	68.6	76.5	70.9	71.2	69.9

TABLE 16--Continued

Item	Total Sample					
	Male		Female		Total	
	1973 N=275	1974 N=70	1973 N=431	1974 N=86	1973 N=707	1974 N=156
27. My classes deal primarily with past events and findings.	67.2	61.4	53.4	48.4	58.1	54.5
28. My professors are not interested in what impact their field might have on our world in the future.	12.3	12.9	12.1	14.0	11.2	13.5
29. I participate in an academic program here where I come face to face with a real life situation as an assignment.	40.4	41.4	43.6	43.0	42.3	42.3
30. I am not asked to relate what I am learning in class to the contemporary scene.	41.2	37.1	33.9	30.2	36.1	33.3
31. I do not have assignments which require reading a newspaper, news magazine, or current journal.	65.0	77.1	60.1	53.5	61.7	64.1
32. My classes are concerned with abstract theories and ideas.	48.8	44.3	46.7	48.8	46.4	46.8

TABLE 17
COMPARISON OF 1973-1974 ITEM RESPONSES BY SEX AND OVERALL
Dimension III: Flexibility vs. Rigidity
Percentage of Respondents Agreeing with Statement

Item	Total Sample					
	Male		Female		Total	
	1973 N=275	1974 N=70	1973 N=431	1974 N=86	1973 N=707	1974 N=156
33. I find that my professors insist on prerequisites for their courses.	40.1	34.3	40.4	31.4	39.2	32.7
34. My academic advisor makes the decisions about my academic program.	6.9	5.7	5.2	2.3	5.3	3.8
35. I am not able to decide upon the nature of my classroom activities.	45.2	44.3	44.4	48.8	43.3	46.8
36. Outside of my major, I can take a course pass-fail when I want to.	48.7	44.3	51.2	53.5	50.2	49.4
37. I can get excused from class if a speaker or program of interest to me conflicts with class time.	79.4	80.0	75.8	75.6	77.1	77.6
38. My conversations with my academic advisor are all prearranged appointments rather than dropin sessions.	31.8	37.1	44.4	37.2	39.2	37.2
39. I participate in decisions that affect my academic life here at the college.	56.6	65.7	61.7	64.0	59.6	64.7
40. My grades are determined by class curves.	66.8	64.3	61.8	66.3	62.2	65.4
41. I am able to make quite a few choices of electives in my academic schedule.	54.8	48.6	51.2	54.7	52.6	51.9
42. My classroom assignments consist of reading textbooks and studying lecture notes.	83.4	85.7	82.2	77.9	82.2	81.4
43. There is no one for me to go to in order to formally complain about grades which I feel are unfair.	33.6	34.3	28.4	34.9	29.1	34.6

TABLE 17--Continued

Item	Total Sample					
	Male		Female		Total	
	1973 N=275	1974 N=70	1973 N=431	1974 N=86	1973 N=707	1974 N=156
44. I have the opportunity to evaluate my courses and professors.	80.1	82.9	84.6	81.4	82.7	82.1
45. My courses are graded on the basis of one or two midterms and one final examination.	57.5	55.7	61.1	58.1	59.0	57.1
46. I have not made presentations, outside of asking questions, in my classes.	38.0	38.6	37.6	26.7	37.3	32.1
47. I find that in labs and on tests, I have to stop at the end of the period even if my work is not completed.	58.9	50.0	55.0	54.6	55.0	52.6

TABLE 18
COMPARISON OF 1973-1974 ITEM RESPONSES BY SEX AND OVERALL
Dimension IV: Integration vs. Compartmentalization
Percentage of Respondents Agreeing with Statement

Item	Total Sample					
	Male		Female		Total	
	1973 N=275	1974 N=70	1973 N=431	1974 N=86	1973 N=707	1974 N=156
48. In courses outside of my major, I find it difficult to understand class discussions, course materials, and lectures.	15.2	17.1	15.4	9.3	14.6	12.8
49. I can see the relationships in my academic program among the Humanities, the Social Sciences, and the Natural Sciences.	68.5	71.4	79.3	83.7	75.0	78.2
50. I find that scheduled social activities conflict with class times and lecture programs.	18.8	15.7	20.9	24.4	19.6	20.5
51. My academic advisor helps me to find academic goals we both agree on.	46.5	40.0	47.7	48.8	47.2	44.9
52. I am not involved in academic assignments which require work with another student on a joint project.	53.5	42.3	40.9	34.9	45.1	39.1
53. My advanced level courses do not make use of what I learned in introductory courses.	17.7	20.0	14.4	5.8	11.4	12.2
54. I can take courses where an interdisciplinary approach on term papers and in assignments is encouraged.	73.2	62.9	69.8	72.1	71.0	67.9
55. I get the feeling that all I'm getting out of college is a lot of "loose ends" which I can't pull together.	27.1	24.3	23.3	22.1	23.9	23.1
56. My professors' grading systems help me understand where I am weak and how I can improve.	29.6	28.6	30.1	31.4	29.9	30.1

TABLE 18--Continued

Item	Total Sample					
	Male		Female		Total	
	1973 N=275	1974 N=70	1973 N=431	1974 N=86	1973 N=707	1974 N=156
57. I think that my professors attempt to relate the objectives of their courses to the objectives of the college.	50.9	54.3	60.3	54.7	56.5	54.5
58. I don't see professors from one department talking and working with professors from other departments.	34.3	35.7	31.1	30.2	31.5	32.7
59. My academic advisor helps me to relate my out-of-class and off-campus experiences to my academic studies.	23.8	17.1	24.3	19.8	24.1	18.6
60. My professors bring in materials from other subjects and relate them to their own particular subject.	51.9	54.3	58.7	59.3	55.9	57.1
61. I find no real conflict between my goals and those of the college.	53.7	51.4	56.6	60.5	55.4	56.4
62. I have academic requirements to fulfill which seem to bear no relationship to my program of study.	71.9	72.9	75.5	61.6	73.2	66.7

APPENDIX D

TABLE 19

COMPARISON OF STUDENT-FACULTY RESPONSES
Dimension I: Individual vs. Discipline
Percentage of Respondents Agreeing with Statement[a]

Item	Total	
	Student N=707	Faculty N=48
3. My class reading lists do not allow for personal selection of materials.	75	31
4. My professors seem interested in demonstrating how their courses relate to my personal needs.	47	83
5. My classes don't seem to relate to me as an individual human being.	28	17
6. My academic advisor seems to be a good listener as well as a good source of advice on academic matters.	65	92
7. In class, I can undertake a project of real interest to me.	60	58
8. My professors are warm individuals.	88	88
9. My academic advisor does not express his personal opinions about the courses in the curriculum.	45	29
10. My professors seem to subscribe to the belief that what I know is more important than what I am.	44	31
11. I visit with professors in their homes.	28	46
12. My classroom experience leads me to conclude that my professors are more interested in their subject matter than in teaching students.	25	10
13. My academic advisor helps me to see how my program of studies relates to those things which are important to me.	50	69
14. My professors seem more interested in going to coffee with their colleagues than in talking with me.	14	6
15. I have opportunities in the classroom to express my own feelings about course materials.	71	85
16. Faculty members encourage me to attempt courses which are of special interest to me.	69	90
17. I have found that it is acceptable to inject my personal philosophy into term papers written for my classes.	65	65

[a]Percentages have been rounded. Data are from the 1973 survey.

TABLE 20

COMPARISON OF STUDENT-FACULTY RESPONSES
Dimension II: Problems vs. Abstractions
Percentage of Respondents Agreeing with Statement[a]

Item	Total	
	Student N=707	Faculty N=48
18. In my classes, paperback books dealing with the current social scene are assigned.	60	21
19. My course work does not deal with possible applications of theory to real problems.	22	12
20. My academic advisor doesn't ask me about how I plan to use my education.	26	8
21. I have participated in field trips off campus.	48	38
22. My professors advocate the active interest of the college community in developing an awareness of social problems.	54	60
23. My professors encourage me to deal with specific problems and their solutions.	60	83
24. I have never attended any kind of special seminar or program on current social problems.	37	35
25. I can see the relationship between what I am studying and the kinds of situations I will meet when I leave college.	67	67
26. My college attempts to provide some kind of off-campus experience as a part of my education.	71	85
27. My classes deal primarily with past events and findings.	58	50
28. My professors are not interested in what impact their field might have on our world in the future.	11	4
29. I participate in an academic program here where I come face to face with a real life situation as an assignment.	42	50
30. I am not asked to relate what I am learning in class to the contemporary scene.	36	12
31. I do not have assignments which require reading a newspaper, news magazine, or current journal.	62	31
32. My classes are concerned with abstract theories and ideas.	46	52

[a]Percentages have been rounded. Data are from the 1973 survey.

TABLE 21
COMPARISON OF STUDENT-FACULTY RESPONSES
Dimension III: Flexibility vs. Rigidity
Percentage of Respondents Agreeing with Statement[a]

Item	Total	
	Student N=707	Faculty N=48
33. I find that my professors insist on pre-requisites for their courses.	40	40
34. My academic advisor makes the decisions about my academic program.	5	6
35. I am not able to decide upon the nature of my classroom activities.	43	38
36. Outside of my major, I can take a course pass-fail when I want to.	50	69
37. I can get excused from class if a speaker or program of interest to me conflicts with class time.	77	85
38. My conversations with my academic advisor are all prearranged appointments rather than drop-in sessions.	39	17
39. I participate in decisions that affect my academic life here at the college.	60	65
40. My grades are determined by class curves.	62	52
41. I am able to make quite a few choices of electives in my academic schedule.	52	62
42. My classroom assignments consist of reading textbooks and studying lecture notes.	82	48
43. There is no one for me to go to in order to formally complain about grades which I feel are unfair.	29	17
44. I have the opportunity to evaluate my courses. and professors.	83	98
45. My courses are graded on the basis of one or two midterms and one final examination.	59	23
46. I have not made presentations, outside of asking questions, in my classes.	37	38
47. I find that in labs and on tests, I have to stop at the end of the period even if my work is not completed.	55	46

[a]Percentages have been rounded. Data are from the 1973 survey.

TABLE 22
COMPARISON OF STUDENT-FACULTY RESPONSES
Dimension IV: Integration vs. Compartmentalization
Percentage of Respondents Agreeing with Statement[a]

Item	Total	
	Student N=707	Faculty N=48
48. In courses outside of my major, I find it difficult to understand class discussions, course materials, and lectures.	15	15
49. I can see the relationships in my academic program among the Humanities, the Social Sciences, and the Natural Sciences.	75	42
50. I find that scheduled social activities conflict with class times and lecture programs.	20	21
51. My academic advisor helps me to find academic goals we both agree on.	47	71
52. I am not involved in academic assignments which require work with another student on a joint project.	45	29
53. My advanced level courses do not make use of what I learned in introductory courses.	11	15
54. I can take courses where an interdisciplinary approach on term papers and in assignments is encouraged.	71	69
55. I get the feeling that all I'm getting out of college is a lot of "loose ends" which I can't pull together.	24	31
56. My professors' grading systems help me understand where I am weak and how I can improve.	30	67
57. I think that my professors attempt to relate the objectives of their courses to the objectives of the college.	56	73
58. I don't see professors from one department talking and working with professors from other departments.	32	25
59. My academic advisor helps me to relate my out-of-class and off-campus experiences to my academic studies.	24	42
60. My professors bring in materials from other subjects and relate them to their own particular subject.	56	81
61. I find no real conflict between my goals and those of the college.	55	52
62. I have academic requirements to fulfill which seem to bear no relationship to my program of study.	73	77

[a]Percentages have been rounded. Data are from the 1973 survey.

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