

CONGRUENCY AND ACADEMIC PERFORMANCE: AN ANALYSIS OF
THE TEACHING-LEARNING PROCESS

CONGRUENCY AND ACADEMIC PERFORMANCE: AN ANALYSIS OF
THE TEACHING-LEARNING PROCESS

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This study reviews the relevant research concerning the factors affecting academic performance in post-secondary education and offers a tentative model of the teaching-learning process with which to analyze the social and educational factors affecting academic performance. The data employed in the study were collected in April of 1970 via a questionnaire given to the first year students enrolled in the introductory course, Sociology 1a6, at McMaster University. The results indicate partial support for the major hypothesis which stated that academic performance and satisfaction varies directly with the degree of congruency existing between the student's input, the instructional input, and the evaluation criteria. The results also showed that high school final grades, midterm grades

in sociology, and religion are all significantly related to academic performance. On the basis of the results, a revised teaching-learning model is proposed in the hope that further research will critically test its validity.

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INTRODUCTION

In the late 1950's and early 1960's faculties at most universities were being asked to do the impossible. They were asked to drop their ideals of the traditional university and greatly improve the method of producing trained personnel for the industrial society. Higher education in Canada in the early 1950's as Porter (1965:46-47) states, was not producing the large numbers of qualified personnel for a growing industrialized country. In fact, nearly one half of Canada's professional and skilled workers were immigrants. The Canadian Government by the 1960's was correcting this imbalance and was committed to filling Canadian universities and to continuing to fill them.

One obvious result of this action was the tremendous increase of students in the lecture halls. At the present time, the numbers have increased to the point that the lecture halls are overflowing with students to the extent that closed circuit television has become a sine qua non to the teaching-learning process in universities. This growth pattern, of course, has raised a number of questions concerning the traditional methods of teaching and the effects of the new methods on learning. The situation has been further compounded with the results of the effect of televised lectures on performance. According to Meany (1962:36), a

considerable number of studies have proven that televised lectures, regardless of size, composition, and the nature of the course, are just as effective as conventional lectures as far as academic performance is concerned. The more important question, however, is not whether academic performance is being affected by increasing enrolment of televised lectures but what criteria are being employed to measure academic performance. It seems possible that the previous criteria used as measures of success may be quite biased in favour of a particular type of learning. As well, do other instructional methods, such as tutorials, have the same effects as lectures? Another question which is being ignored is whether there are variables other than instructional methods which may affect performance. This study then sets out to investigate a number of variables which may help to explain variation in academic performance.

This may seem to be a fruitless task since over a hundred studies have shown that no particular method of college instruction is measurably to be preferred over another as far as academic performance is concerned (Dubin and Taveggia, 1968). The aim here, however, is not simply to add another research report to these many others, but to suggest a theoretical model on the basis of the study's findings and to show that instructional methods affect performance, depending on the type of test administered and the particular type of instructional environment chosen by

the student. This assertion has been prompted by the fact that researchers lack an adequate theoretical framework in which to analyze the relationship between instructional press or learning environments and grades, and have only recently considered the relevance of factors such as the students' and teachers' orientation, and the importance of the learning environment on different types of knowledge. These factors form the basis of the present study and are reflected in the findings presented in Chapter Three. The major purpose of the study, therefore, is an attempt to place further research in this area on a more theoretical and concrete foundation.

CHAPTER I

We must know more about the entering student and about the factors in the college environment that can influence him (and affect his learning). Then we must have a theory which relates all these factors. (Sanford, 1968:19)

This chapter reveals the relevant literature pertaining to the teaching-learning process and suggests the limitations of previous studies. These limitations are then incorporated within a proposed conceptual scheme for the purpose of presenting an improved model of the teaching-learning process. Finally, a set of hypotheses derived from the model are proposed and submitted for empirical analysis.

Literature Relevant to the Problem

Reviews of research on the teaching-learning process by McKeachie (1963), Powell (1964), Siegel and Siegel (1967), Dubin and Taveggia (1968), and Gage (1969) have stressed that a) when different methods of instruction have been compared, no measureable differences in performance were found; b) certain instructional methods may be more helpful in facilitating different types of learning (e.g., factual or conceptual) -- lectures tend to facilitate factual learning while the discussion method may be related to conceptual acquisition; c) regarding the interaction of personality characteristics and teaching methods and their effect on

performance, no major breakthrough has occurred (cf. Eckert and Neale, 1968); and d) textbooks may have a greater impact on performance than teaching methods.

The shortcomings of this research have been expressed by a number of writers. Dubin and Taveggia conclude that most teachers, administrators, and researchers have relied on ideological grounds to sustain their belief or justify one method over another (Dubin and Taveggia, 1968:15-23). Siegel states that, a) our criterion measures are crude, b) our methodology is sloppy and obliterates individual responses to particular kinds of instruction, and c) our definitions of instructional methods and empirical conditions are ambiguous to the point that any meaningful distinction is impossible, (Siegel and Siegel, 1968:139, cf. a similar critique is offered by Eckert and Neale, 1968:83). Sanford points out that we lack empirically demonstrated typologies of students, while Stern notes that no studies have taken into consideration the importance of the relationship between teaching techniques and students' needs (Sanford, 1962:47; Stern, 1962:692). Stern elsewhere adds that no studies have produced adequate knowledge about the relationship between particular classroom procedures and their educational consequences (Stern, 1963:429). McConnell and Heist (1962: 249) also add a further note when they state that little is known statistically or experimentally about the relationship between the personality characteristics students bring to

the college and their academic achievement. In addition, academic performance has largely been measured on objective or multiple choice examinations, which ignore the fact that students vary in their ability to acquire factual versus conceptual learning and that certain teaching methods may be detrimental to the acquisition of these two types of learning (McKeachie, pp. 1124-26, 1140; Powell, p.181; Siegel and Siegel, p. 325; and Doty, 1967:364). Studies which have focused on psychological variables and their effect on performance have also found no difference in the instructional methods employed. They do, however, suggest that particular environments which are congruent with the student's personality may make a difference on performance rather than teaching methods per se (Stern, 1962; Ryan, 1965; Doty, 1967; and Domino, 1968).

Even a cursory glance at this literature would seem to indicate that further study in this area would have to take into consideration the students' orientations, would have to explicitly define the techniques of instruction to be compared, and would have to measure performance by the ability to progress with factual and conceptual types of learning rather than ambiguous final examination scores. It is these factors which are examined and which contribute to the conceptual framework of the study.

It is suggested that the individual brings into the classroom a biography or history of past experiences which contain the attitudes or values that the student holds. These biographies may be conceptualized as typologies of attitudes or orientations. Although there have been a number of attempts to devise typologies of students and/or their culture, ranging from subcultures to purely psychological types, most of them rest on weak theoretical grounds or prove to be extremely difficult to measure in their full impact (Feldman and Newcomb, 1969:374-377; Trow and Clark, 1966; McKeachie, 1963; and Warren, 1968). An exception to this may be a typology developed by a team of researchers at the State University of New York at Buffalo. Using a Meadian theoretical model, the Buffalo team attempts to justify its use of "frames of reference" to type students as to their value orientations, (Hornosty, Notess, Parks, jr., Samuelson, Sander and Shamblin, 1964). One of the team members states that,

in the development of the self, the individual internalizes the attitudes of others--the attitudes of the generalized other--and uses these attitudes implicitly in giving direction to his behaviour. It seems logical that the attitudes aroused in a given individual in a particular social situation would be related in such a fashion as to give a coherent meaning to the entire situation. It is in this sense that we say that attitudes exist in sets or systems each of which constitutes a frame of reference in a given social situation.

Hornosty, modifying Rosenberg's "continuum of psychological distance", (see Rosenberg, 1957) suggests that these attitudinal sets or systems may be conceptualized as frames of reference. These frames of reference which college students bring into the classroom and which have a bearing on the teaching-learning process can be delineated into three major types:

1. Intrinsic-reward orientation: Students possessing this frame of reference derive their meaning from the university situation in terms of the ideas which are developed and expressed both by the student and the teacher. Their concern is primarily with creativity, originality and self-expression. The task of attending lectures and studying tends to be an end in itself.
2. Extrinsic-reward orientation: Students possessing this frame of reference tend to view the university situation in terms of the rewards which are external to the actual learning process. They tend to view learning as means to some other end--grades, prestige, a better job, upward mobility, etc. In the university setting, students with this frame of reference will tend to be grade-conscious.
3. People-oriented: Some students are involved with neither ideas nor grades beyond the minimum standards required to remain in university. Their primary concern is to establish friendships with other individuals, be they students or teachers, and to participate in activities involving such individuals. Their main concern is participation with others, the specific activities tend to be of secondary importance.

It is suggested that these frames of reference, when brought into the classroom, interact with the instructional environment

to affect the satisfaction and performance of the student. The Buffalo team believes that these individual frames of reference may be differentiated in terms of the responses given to three different types of questions:

- a) those pertaining to the main purpose of a college education;
- b) those pertaining to the type of occupation an individual expects to enter upon graduation from university, and,
- c) those pertaining to the relative importance of various opportunities and activities present in the university setting.

For the purposes of this study, the first two questions are employed to measure the differentiation among the three major orientations. In other words, extrinsic-reward oriented individuals will include those who feel that the main purpose of a college education is to provide vocational training, while intrinsic-reward oriented persons will include those who feel that the main purpose of a college education is to provide a general education and appreciation of ideas. Those who feel that the main purpose of a college education is to develop one's ability to get along with people will be considered to be people-oriented (see Columns 11-19 of the questionnaire, Appendix A). As to the type of occupation expected upon graduation, extrinsic-reward oriented persons will tend to see university education as preparation for an occupation which provides security, an opportunity to earn a great deal of money, and which carries prestige

and high status in the community. Intrinsic-reward oriented individuals will tend to see a university education as preparation for an occupation in which one can express himself and be creative and original, while people-oriented persons will tend to view a university education as preparation for a job in which one works with people rather than things, and in which one can be helpful to others (see Columns 11-19 of the questionnaire, Appendix A).

The second variable or additional input that the student brings into the classroom is the particular psychological traits which may or may not be interrelated with the frames of reference. The previous research on psychological traits have suggested that authoritarianism tends to affect performance and satisfaction in the learning situation (Athanasiou, 1968; Frumkin, 1961; McKeachie, 1963; Doty, 1967; Domino, 1968; Stern, 1963). In fact there is partial evidence that this variable is a reliable indicator and definitely affects academic achievement. Crittenden, (1969:6) has found, in the longitudinal study being carried out at Purdue, that performance is positively associated with I.Q. and creativity (tolerance for ambiguity) and negatively associated with anomy, dogmatism, and authoritarianism.

Having discussed the student input, it is necessary to turn to the "instructional presses" or environment which the entering student faces. Although teaching methods may

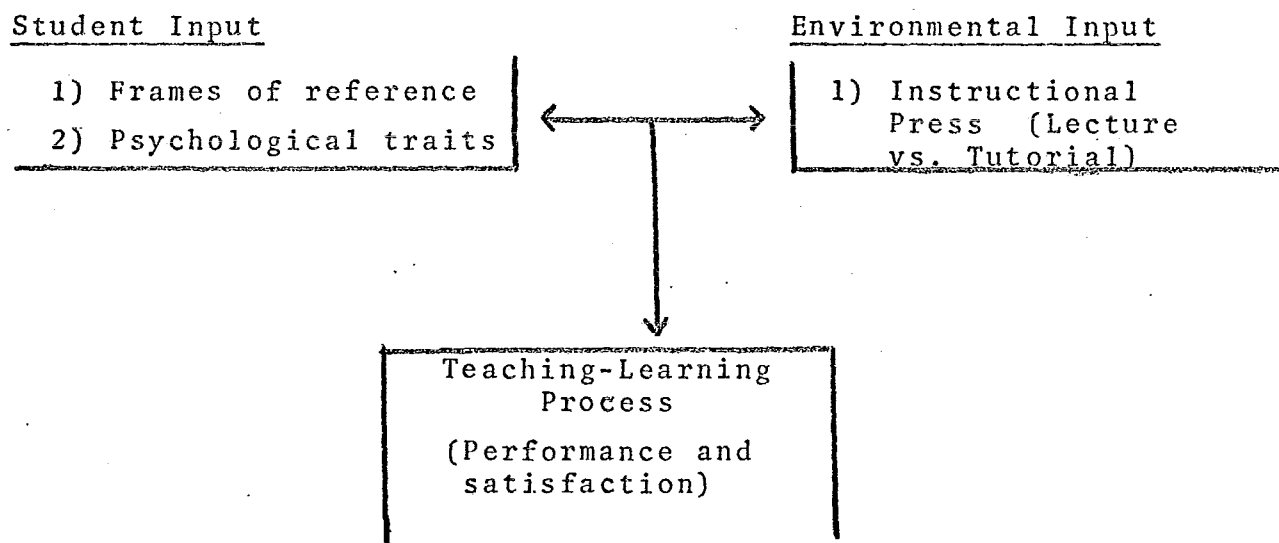
be arranged along a continuum with regard to the amount of classroom participation on the part of the student, they can be dichotomized for purposes of comparison into two classes--the lecture method and the discussion method. The lecture method refers to a minimum of student participation and is directed and controlled by the instructor, whereas the discussion method refers to much student-student and student-instructor participation with control and direction often being decided by both.

McKeachie (1963) and others (Brown, 1962; Powell, 1964; Dubin and Taveggia, 1968; and Siegel, 1968) have pointed out the persistent difficulties with criterion measures. McKeachie (1963:1124) states that, "undoubtedly, one reason for the many non-significant differences in studies of teaching methods is poor criterion measures." It is suggested that performance, therefore, be measured by two criteria, the first being objective or multiple choice examinations which tend to evaluate factual or content type of learning. The second criterion, essay examinations, tend to test the students' ability to solve problems and develop relationships or what is referred to as the conceptual type of learning (McKeachie, 1962:319). There is a further criterion which, although not directly related to grades, is often overlooked in comparing teaching methods. This is the students' emotional response to, or level of, satisfaction in the educational setting and, specifically, with the teaching methods he experiences,

(McKeachie, 1962; McLeish, 1968; Woolford, 1969). It is a necessary part of the teaching-learning process and attempts will be made to ascertain the relationship between satisfaction, instructional press and performance.

The teaching-learning process, therefore, as has been formulated, contains two organizing concepts or dimensions that interact to create measurable conditions which may affect academic performance and satisfaction. This can be expressed diagrammatically as follows:

FIGURE 2 -- Improved Model of the Teaching-Learning Process



Hypothesis

As was implied in relating the frames of reference to the teaching-learning process, there tends to be a consistent pattern of attitudes related to the distinctive types of orientation. A people-oriented or intrinsic-oriented individual is unlikely to see the purpose of the university

as a means to some other end, so, too, is an extrinsic-oriented person unlikely to value ideas and pursue intellectual interests for their own sake. This is basically what Rosenberg (1957:13) means when he describes the continuum of psychological distance--that is, each type of oriented individual is more likely to hold values that are contiguous to each other than those that are remote from each other. Both Rosenberg (1957) and Holland(1966) found this pattern to exist in occupational values. People tend to seek environments and vocations that are consistent with their attitudes and values and that will permit them to exercise their skills and abilities (Holland, 1966:11). Both authors suggest that there may be a searching for congruency between one's occupational choice and attitudes or orientations. This insight offers an analogous situation in the academic setting. If, then, as Holland (1966:6) points out, that "vocational satisfaction, stability, and achievement depend on the congruency between one's personality and the environment in which one works", it would seem reasonable to hypothesize that student satisfaction and performance depends on the congruency between one's specific frame of reference and the instructional press in which one studies. In fact, there exists partial support for this hypothesis in the Stern and Cope (Stern, 1962; Ryan, 1965; and Domino, 1968) studies. In every case, students who either chose the teaching method they wished to work under, or who were

selected as an experimental group because of their similar orientation, performed better, and indicated a higher level of satisfaction while those who might be considered as having discongruent environments did more poorly. As Gross (1959:141) has suggested, the contradictory findings of research on teaching methods in the past may very well be accounted for by the variable of congruency between student input and the environmental input. Thus, the major hypothesis may be stated as follows:

Performance and satisfaction varies directly with the degree of congruency existing between the student's input, the environmental input and the evaluation criteria.

The following set of hypotheses based on the above discussion, are presented for the purposes of analysis:

- 1.1 Lecture-oriented students will achieve higher grades on the objective test than the tutorial-oriented students.
- 1.2 Tutorial-oriented students will achieve higher grades on the essay test than the lecture-oriented students.
- 1.3 Tutorial-oriented students with an intrinsic-reward frame of reference will receive higher grades on the essay test than tutorial-oriented students with an extrinsic-reward or people-oriented frame of reference.

Corollary 1. Tutorial-oriented students with an extrinsic-reward frame of reference will achieve higher grades on the objective test than tutorial-oriented students with an intrinsic-reward or people-oriented frame of reference.

- 1.4 Lecture-oriented students with an extrinsic-reward frame of reference will achieve higher grades on the objective test than lecture-oriented students with an intrinsic-reward

or people-oriented frame of reference.

Corollary 1. Lecture-oriented students with an intrinsic-reward frame of reference will achieve higher grades on the essay test than lecture-oriented students with an extrinsic-reward or people-oriented frame of reference.

Secondary Hypothesis

- 2.1 There is an inverse relationship between authoritarianism and academic performance; the higher the authoritarian score the lower the performance.

Corollary 1. The relationship should be stronger for the lecture-oriented students than for the tutorial-oriented students.*

- 3.1 Students' high school final grades are positively correlated with academic performance.

- 4.1 There is a positive correlation between socio-economic status and academic performance.

* The estimate for this corollary is based on the assumption that tutorial-oriented students have a higher tolerance for ambiguity than lecture-oriented students.

CHAPTER II

Methodology

Sample

The first year class in introductory sociology (1A6) at McMaster University, academic year 1969/70, with R. Hornosty as lecturer, was chosen to constitute the sample for the study. The major reason for this was that it was felt that the introductory class would provide a diversified population, which would include such characteristics as academic major, sex, socio-economic status, religious affiliation, orientation to university and ethnicity. The other major consideration was that the sample was readily accessible and the researcher was familiar with all aspects of the course. A further consideration was that the questionnaire (see Appendix A) was originally designed to solicit responses for a course evaluation, and, therefore, the items pertaining to the proposed study were easily incorporated into the questionnaire. A methodological consideration was that freshmen were used in the sample for comparative purposes--most earlier studies comparing various teaching methods relied on first year classes in colleges and universities.

Method of Collection

The data were collected via the questionnaire, which

can be found in Appendix A. The questionnaires were handed out to the students in the lecture hall assigned to the introductory class in April, 1970. The students came to the lecture hall to fill out a course evaluation and were, therefore, not aware that their responses were to be utilized for research purposes. However, this statement may be pretentious, as course evaluations do not usually include items on authoritarianism. The questionnaire responses were recorded on optical scanning sheets and handed in at the lecture hall when they were finished.

Relevant Characteristics of the Sample

Approximately 64% or 635 students out of 994 registered full-time and extension students in the course responded to the questionnaire. Based on this sample the following characteristics were noted:

42% of the class was male and 57% were female, 52% were enrolled in the division of Social Science and the remaining 48% were enrolled in Humanities (15%) Nursing (8%), Natural Science (4%), Engineering (1%), Commerce and Business Administration (5%), and Physical Education (14%).

Approximately 22% of the students could be considered members of the working class, 57% members of the middle class, and 21% members of the upper class, as measured by income, education, and occupation of their parents. The indicators employed in measuring socio-economic status are described

in the following section. Religious affiliation included 23% Roman Catholic, 58% Protestant, 14% having no religious affiliation, 1% Jewish and 4% indicating other than the above categories. The majority of the sample was made up of British origin (61%), and French-Canadian (3%) origin, while the remaining 36% included Scandinavian, Dutch, German, Slavic, Italian, Asian, other European, and other ethnic backgrounds not included in the stated categories. The sample of 635 included 21%, or 136, extension students who were dropped from the sample as they had not the opportunity to attend tutorials as did the day students.

It is difficult to ascertain whether or not the above stated sample is characteristic of the general university population as this type of information is no longer recorded by the university. However, it is possible to compare this sample with a previous sample taken in 1968/69, collected by Professor Blumstock of the Department of Sociology, for the purpose of a course evaluation. Although there are a few differences in the two samples, most of the characteristics are quite similar. Table 2.0 shows, in percentages, the similarity of the two samples on the defined characteristics. The only substantial difference occurs in the 20% deviation in ethnicity; Blumstock's sample was composed of 81% British, while this sample is composed of 61% British.

TABLE 2.0
 Comparison of Sample Characteristics
 for
 1A6 Sociology Class, 1968/69, and
 1969/70

	<u>1968/69</u>	<u>1969/70</u>
<u>Sex</u>		
Male	56%	42%
Female	44%	57%
<u>Major</u>		
Soc. Sciences	55%	52%
Other	45%	48%
<u>Social Class</u>		
Lower Class	23%	22%
Middle Class	57%	57%
Upper Class	20%	21%
<u>Religion</u>		
Roman Catholic	23%	23%
Protestant	60%	58%
None	17%	19%
<u>Ethnicity</u>		
British	81%	61%
French Canadian	2%	3%
Other	17%	36%
	N = 830	N = 633

Operational Definitions

Students in the introductory sociology course were exposed to two learning environments or instructional presses--lectures via closed circuit television, and

discussion groups or tutorials which met weekly. These tutorial groups contained approximately fifteen students at any one time with a graduate teaching assistant as tutor. An effort was made to divide the tutorial groups into two distinct instructional presses. However, since it was found that there was considerable variation in approaches by the eighteen tutors, it was decided that the most reliable indicator of the instructional press would be attendance at the particular press, whether lecture or tutorial.

Students were originally assigned to particular tutorials, although given the option to choose another if they were not satisfied. Attendance at lectures and tutorials was voluntary in both cases. The underlying rationale for this decision was based on the assumption that students would choose to attend the learning environment which best suited the particular students' needs. The two learning groups were chosen by considering lecture-oriented students to be those who attended lectures nearly all of the time and attended tutorials 75% or less of the time, and tutorial-oriented students to be those who attended tutorials nearly all of the time and lectures 75% or less of the time. As shown in Table 2.1, this unfortunately reduced the sample from 528 to a sample of only 160--95 lecture-oriented students, and 65 tutorial-oriented students.

The second important variable, other than instructional press, was the student's frames of reference. As

TABLE 2.1

Percentage of Attendance at Tutorials & Lectures
for Full-Time Students

Attendance at lectures ^a	Attendance at Tutorials ^b				Seldom or not at all
	Nearly all the Time	75%	50%	25%	
Nearly all the time	80% (262)	58% (45)	51% (24)	35% (6)	34% (20)
75%	14% (46)	32% (25)	32% (15)	41% (7)	34% (20)
50%	4% (13)	9% (7)	11% (5)	24% (4)	20% (12)
25%	2% (6)	1% (1)	6% (3)	--	7% (4)
Seldom or Not at all	--	--	--	--	5% (3)
	100% (327)	100% (78)	100% (47)	100% (17)	100% (59)

N = 528

^a Those who attended tutorials nearly all of the time and attended lectures 75% or less of the time. N = 65.

^b Those who attended lectures nearly all of the time and attended tutorials 75% or less of the time. N = 95.

described earlier, this referred to the student's value orientation toward career choices. The frames of reference were derived from responses on the questionnaire (see Appendix A, Q. 11-17) which were similar to the items used in Rosenberg's (1957) study of occupational values. The responses were correlated to ascertain whether students

possessed distinctive frames of reference. As is evident in Table 2.2, the correlation coefficients (r) of the values show which values are significantly related to each other; i.e., "working with people" and "helpful to others" has an r of .45, whereas "working with people" and "a great deal of money" has a negative r of -.13. In other words, any value that has a high positive value with another value is indicative of a frame of reference. In the table, it is evident that the three frames of reference previously defined all have significant positive values, .17, .45, .27, .28, and .35. These correlations are very similar to those Rosenberg (1957: 14) found in his study of occupational values. For the purposes of this study, the index employed to measure the frames of reference or value profile was the student's response to Item 18 of the questionnaire (see Appendix A) which requested the student to choose the most important characteristics to him, rather than offering him the choice of rating the values from little to highly important.

Academic performance was measured by the final examination objective (multiple choice) scores and the final essay examination scores. These were chosen because all students had to write both of these tests at the end of the academic year and the final essay question was a completely wide-open type of question which allowed students the chance to perform creatively. The two types of examinations chosen could not, in other words, have been more extreme in comparison. Although

TABLE 2.2

Pearsonian correlation coefficients of the
continuum of psychological distance for full-
time students

	Creative and original	Abilities and aptitude	Helpful to others	Work with people	Status and prestige	Great deal of money	Secure future
a Creative & Original		.17	.03	.04	-.06	-.08	-.08
a Abilities & Aptitude	.17		.02	.08	.12	.06	.05
b Helpful to Others	.03	.02		.45	.01	-.16	.07
b Work with People	.04	.08	.45		.04	-.13	.01
c Status & Prestige	.06	.12	.01	.04		.27	.28
c Great deal of Money	-.08	.06	-.16	-.13	.27		.35
c Secure Future	-.08	.05	.07	.01	.28	.35	

N = 528

a Intrinsic-reward oriented

b People-oriented

c Extrinsic-reward oriented

there is currently much concern being voiced in academic circles as to the validity of examination grades of any type, the position taken here is that, since faculty and administration formally and publicly take these grades as indicative of academic performance, there is considerable justification for treating them as such.

The other important variable dealt with in the study is authoritarianism. The indicators used in the study (Items 28-37 in Appendix A) are derived from Webster, Sanford, and Freedman's (1955:73-84) revision of the original F scale. The ten items were chosen by the researcher from a total of 123, which the authors (Webster, et. al.) found to have a reliability of .88 and which correlated above .74 with F in both groups of freshmen. To ensure this reliability, the ten items were chosen to represent a cross section of the authoritarian traits or dimensions which comprised the revised F scale: compulsiveness (the dimension of orderliness, carefulness, liking for routine, Items 29 and 37); conventionality (the dimension of conformity and preference for traditional feminine role, Items 28 and 32); punitive morality (the dimension of authoritarian aggression, Item 31); religious fundamentalism (Item 30); authoritarian submission (the dimension of exaggerated respect for laws, authorities, etc., Items 33 and 35); anti-intraception (the dimension of emotional suppression, Item 34) and cynicism (Item 36). It is suggested that this selection of indicators

would ensure a satisfactory testing of the authoritarian dimension in the sample, and would serve the secondary purpose of limiting the time necessary to complete the questionnaire to one hour.

Socio-economic status was measured by averaging the combined percentages of the three indices, father's education, income, and occupation. For education, eighth grade or less was considered lower-class, partial high school, high school graduates, and partial college education were considered middle-class and college graduates and/or professional degrees beyond the B.A. were considered upper-class. For the three categories in occupation, professional occupations such as doctor, lawyer, teacher, social worker, etc., were defined as upper-class; proprietor or manager, sales and clerical, and skilled worker were defined as middle-class occupations while unskilled workers and semi-skilled were considered to be lower-class occupations. As far as income was concerned, students whose fathers made less than \$3,999, or up to \$6,999, were defined as working-class; those who received wages between \$7,000 and \$11,999 were considered middle-class, while those whose fathers made \$12,000 or more, were defined as upper-class.

Cross tabulations were then computed correlating the above-mentioned variables with the examination scores to ascertain the significance of these relationships. The

measure chi square was used as the statistical test of significance; the .05 level of significance was chosen as that level above which any relationship would not be considered a significant relationship. It should be noted that the examination scores of the objective and essay tests have different cutting points in measuring high and low performance; all those who received grades higher than D+ or 51% of the selective sample (N = 160) were considered to have a high performance on the objective test, while all those who received grades higher than a C or 63% of the sample were defined as having a high performance on the essay examination. This was to ensure that an adequate number of students were represented in each instructional press. Because of the reduced size of the sample following categorization by instructional press, correction for continuity has been made for any table having an expected frequency below 10 (Blalock, 1960:221).

CHAPTER III

Introduction

The previous researchers in this field in most cases failed to take into account two crucial factors in their attempts to substantiate the view that academic performance varies with different learning environments. These two factors are the attitudes students bring to the classroom and the types of knowledge which are required by the academic community--factual knowledge, and conceptual or relational knowledge. Most studies reported do not use the two types of knowledge as criteria of effectiveness or the few that do have results which are either non-significant or conflicting in outcome. In fact, as McKeachie (1963:1127) reports

In all six experiments finding significant differences favouring discussion over lecture, the measures were other than examinations testing knowledge.

Furthermore, previous research frequently set up experimental learning environments without ascertaining the instructional preference of the students; whereas in this study the students' preference was measured by the degree of attendance at the two basic instructional methods available. Pascal and McKeachie (1970), however, in a recent study, did offer students their preferred method of instruction. The results

are again inconclusive since they found that although the lecture-discussion and lecture option groups performed better on the objective tests than the independent study group, the lecture-discussion and independent reading option students did not perform better on the essay portion of the examination than the lecture-oriented students (1970:6).

This study focuses attention on those students who have particularly emphasized one or the other instructional press. Since not all students exhibited a preference for one or the other, the sample size was not as large as originally thought, and caution must be taken in drawing inferences or conclusions from the following results. The chapter reports on the relationship of performance on objective and essay examinations with five sets of factors, viz, lecture and tutorial orientation, value profile of students, authoritarianism, social background, and academic record.

A) Impact of Lectures and Tutorials on Performance

Before turning to the two specific learning environments and their effects on performance, it is interesting to note the significant relationship between pure attendance and performance based on the larger undifferentiated sample. It is assumed that attendance at the two instructional presses will, in most cases, aid the students in their performance. The data in Tables 3.1 and 3.2 support this premise. In Table 3.1, which shows that those students who

TABLE 3.1

Attendance at Lectures and Academic Performance
for Full-time Students & Extension Students

<u>Performance</u>	Nearly all the time	75% of the time	50% or less of the time
<u>Objective Test</u>			
Low	42% (187)	56% (71)	65% (40)
High	58% (258)	44% (55)	35% (22)
N = 633	Objective test, 2df. $\chi^2 = 17.20$ P < .001		
<u>Essay Test</u>			
Low	34% (151)	37% (46)	44% (27)
High	66% (295)	63% (79)	56% (35)
N = 633	Essay test, 2df. $\chi^2 = 3.63$, P < .20		

TABLE 3.2

Attendance at Tutorials and Academic Performance
for Full-time Students & Extension Students

<u>Performance</u>	Nearly all the time	75% of the time	50% or less of the time
<u>Objective Test</u>			
Low	42% (140)	49% (38)	55% (121)
High	58% (193)	51% (40)	45% (101)
N = 633,	2df. $\chi^2 = 8.37$, P < .02		
<u>Essay Test</u>			
Low	28% (93)	40% (31)	45% (99)
High	72% (240)	60% (47)	55% (123)
N = 633,	2df. $\chi^2 = 17.02$, P < .001		

attend lectures nearly all of the time, received 58% of the higher grades on the objective test, whereas students who attended only half of the time, or less, received only 35% of the higher grades. This trend also applies to the performance on the essay test (66% and 56%) although the level of significance is not as high as for the objective scores. Before discussing the similar trend in attendance at tutorials it should be noted that the total sample included the 136 extension students who did not attend tutorials. These students have been included in the 50% or less category, but do not significantly alter the stated results. As is indicated in Table 3.2, which presents attendance at tutorials and performance, those who attend most of the time receive higher grades on the essay test (72%), while those who attend only half of the time or less perform considerably poorer (55%) than the high attendance students. The same applies to the performance on the objective test and percentage of attendance. It should also be noted that although 58% of the students on the objective portion of the final examination receive higher grades whether they attend lectures or tutorials nearly all of the time, 72% of the students on the essay portion of the final examinations receive higher grades if they attend the tutorials than if they attend the lectures nearly all of the time. In other words, these results tend to substantiate the hypothesis that

students' preference for a particular instructional press, at least expressed in attendance, pays off in performance.

Focusing on the smaller sample designated earlier as lecture-oriented and tutorial-oriented students, the results show a similar trend. From the inference suggested above and the hypothesis proposed in the first chapter, it was suggested that lecture-oriented students would do better on the objective test and tutorial-oriented students would receive higher marks on the essay test. The data, as presented in Table 3.3, somewhat substantiates this hypothesis although the relationship failed to give a significance test at the .05 level. This is indicated in Table 3.3 by looking at the percentages across: 52% of the lecture-oriented students achieved high grades on the objective test, while only 46% of the tutorial-oriented students achieved high grades. On the essay test, 70% of the tutorial-oriented students achieved high grades, whereas only 59% of the lecture-oriented students received high grades. These results would seem to suggest that discongruent learning environments are detrimental to performance; the tutorial-oriented students do not do as well in an instructional press which promotes factual responses and lecture-oriented students do not do as well in an instructional press which promotes conceptual responses. This statement, however, applies to the tutorial-oriented students more than the lecture-oriented students since they seem to thrive on relational or

TABLE 3.3

Instructional Press and Academic
Performance for Full-time Students

<u>Performance</u>	<u>Orientation</u>	
	<u>Lecture</u>	<u>Tutorial</u>
Objective Test		
Low	48% (45)	54% (36)
High	52% (50)	46% (31)
N = 162, 1 df. $\chi^2 = .62$, $P < .50$		
Essay Test		
Low	41% (39)	30% (20)
High	59% (56)	70% (47)
N = 162, 1 df. $\chi^2 = 2.12$, $P < .20$		

conceptual tests in which they can express their ideas. This finding is further reinforced by the fact that the final essay question was a "wide-open" conceptual problem which offered students considerable latitude in which to express their ideas.

It appears then, that there is more to higher performance than just attending a certain instructional press; that is to say, the effect of the press should be treated as an independent factor. This is evident in Table 3.4, which shows the types of instructional presses and level

TABLE 3.4

Types of Attendance and Academic Performance
for Full-Time Students

Performance	High attendance at lectures and tutorials	Lecture	Tutorials	Low attendance at lectures and tutorials
Objective Test				
Low	39% (101)	48% (45)	54% (36)	59% (63)
High	61% (158)	52% (50)	46% (31)	41% (43)
N = 527, 3 df. $\chi^2 = 16.12$, $P < .01$				
Essay Test				
Low	27% (70)	41% (39)	30% (20)	42% (44)
High	73% (189)	59% (56)	70% (47)	58% (61)
N = 526, 3 df. $\chi^2 = 11.08$, $P < .02$				

of performance. The data indicate that exposure to both instructional presses ensures high performance on both types of examinations; 61% and 73% of the students receive higher grades on the respective tests, whereas little or no exposure ensures low performance on both tests, (41% and 58%). However, if exposure merely meant attendance there would not occur a qualitative shift in performance for the lecture-oriented and tutorial-oriented students. Attendance is important for successful performance but just as important

TABLE 3.5

Percentage of Lecture-Oriented Students and Tutorial-Oriented Students who say they learn most Sociology in the Lecture or the Tutorial and Academic Performance

<u>Performance</u>	<u>Lecture-Oriented</u>			<u>Tutorial-Oriented</u>		
	<u>More in Lecture</u>	<u>Same</u>	<u>More in Tutorial</u>	<u>More in Lecture</u>	<u>Same</u>	<u>More in Tutorial</u>
<u>Objective Test</u>						
Low	40% (26)	50% (7)	81% (13)	44% (8)	70% (7)	54% (21)
High	60% (39)	50% (7)	19% (3)	56% (10)	30% (3)	46% (18)
	N = 95, 2 df. $x^2 = 16.20$, $P < .001$			N = 67, 2 df. $x^2 = 2.54$, $P < .30$		
<u>Essay Test</u>						
Low	37% (24)	57% (8)	44% (7)	22% (4)	20% (2)	36% (14)
High	63% (41)	43% (6)	56% (9)	78% (14)	80% (8)	64% (25)
	N = 95, 2 df. $x^2 = .84$, $P < .50$			N = 67, 2 df. $x^2 = 1.97$, $P < .30$		

is attendance at what. For the tutorial-oriented students the instructional press facilitates their performance on the essay test, whereas, the instructional press for lecture-oriented students facilitates high performance on the factual or the objective test.

Since students attend the instructional press of their choice, do they also perceive that they learn the most in this instructional press? The data in Table 3.5 somewhat suggest that their perception and attendance does coincide. Table 3.5 presents the perceptions students have of the instructional press in which they learned the most sociology, controlled by attendance at the particular instructional press. The upper left-hand set of data in Table 3.5, showing the relationship between perception, orientation, and performance is particularly impressive, as it indicates that perception of the instructional press and attendance at that press is significantly related to high performance. Sixty percent of the lecture-oriented students who say they learn the most sociology in the lectures received higher grades on the objective test, while only nineteen percent of the same students who say they learn the most sociology in the tutorials received high grades. This relationship also holds for the same group of students on the essay examination, although the strength of the relationship is much stronger on the objective test than for the essay test. In fact, students who perceive they learn most of their

sociology in the lectures tend to do better in all cases. Why a similar relationship does not apply to the tutorial-oriented students who perceive they learn the most sociology in the tutorials cannot be determined. There is at least a strong correlation between perception and attendance. Table 3.6 indicates that the majority of those who say they learn the most sociology in a particular instructional press attend that press. When the lecture is defined as the optimal learning environment, 78% of the students are lecture-oriented, whereas, only 22% are tutorial-oriented, and when the tutorial is defined as the optimal learning environment, 70% of the students are tutorial-oriented, whereas, only 30% are lecture-oriented.

TABLE 3.6

The Relationship Between Perception of the
Instructional Press and Attendance at the
Instructional Press

<u>Attendance</u>	<u>The press the student feels he learns the most sociology</u>		
	<u>Lectures</u>	<u>Same</u>	<u>Tutorials</u>
Lectures	78% (65)	58% (14)	30% (16)
Tutorials	22% (18)	42% (10)	70% (39)

N = 162, 2 df. $\chi^2 = 32.87$, $P < .001$

B) Value Profile and Academic Performance

The value profile, or what the student brings into the instructional press, was measured by asking students to choose the most important characteristic from the seven items presented in the questionnaire (see Appendix A). These indicators, it will be recalled, tap the frames of reference defined as extrinsic-reward oriented, intrinsic-reward oriented, and people-oriented. Table 3.7 shows these profiles and the effect they have on performance for the total sample. For the objective test it is evident that the people-oriented and intrinsic-reward oriented students achieve higher grades than the extrinsic-reward oriented students. Although the relationship is not significant, a similar trend is shown on the essay test. When this relationship is controlled for by instructional press, as is shown in Table 3.8, however, there is an important change. Here the intrinsic-reward oriented students still receive higher grades on the essay test, but the people-oriented students receive the lowest grades. Nevertheless, regardless of the instructional press, the intrinsic-reward oriented students receive the highest grades on the essay evaluation (70% and 85%) of the three value profiles; and for the tutorial-oriented cell the relationship is significant at the .05 level.

Therefore, the hypothesis that stated that tutorial-

TABLE 3.7

The Effect of Value Profiles
on Academic Performance

Performance	Extrinsic	People	Intrinsic
Objective Test			
Low	58% (65)	44% (126)	45% (107)
High	42% (48)	56% (155)	55% (131)
N = 632, 2 df. $\chi^2 = 6.25, P < .05$			
Essay Test			
Low	38% (43)	37% (105)	31% (74)
High	62% (70)	63% (176)	69% (164)
N = 632, 2 df. $\chi^2 = 2.76, P < .30$			

oriented students with an intrinsic value profile will receive higher grades on the essay test than the extrinsic-reward and people-oriented students, was substantiated. The corollary of this, that students with an extrinsic-reward value profile will receive higher grades on the objective test than the people-oriented students, is not supported. The fact that only 37% of the extrinsic-reward oriented students received higher grades on the objective test, and that over 50% of the students with an intrinsic and people value profile received high grades, indicates that the second

TABLE 3.8

The Effect of Value Profiles on Academic Performance
Controlling for Instructional Press

<u>Performance</u>	Lecture - Oriented			Tutorial - Oriented		
	<u>Extrinsic</u>	<u>People</u>	<u>Intrinsic</u>	<u>Extrinsic</u>	<u>People</u>	<u>Intrinsic</u>
<u>Objective Test</u>						
Low	63% (10)	45% (22)	47% (14)	58% (7)	52% (15)	54% (14)
High	37% (6)	55% (27)	53% (16)	42% (5)	48% (14)	46% (12)
	N = 95, 2 df. $\chi^2 = 2.20$, $P < .50$			N = 67, 2 df. $\chi^2 = .041$, $P < .90$		
<u>Essay Test</u>						
Low	50% (8)	45% (22)	30% (9)	33% (4)	41% (12)	15% (4)
High	50% (8)	55% (27)	70% (21)	67% (8)	59% (17)	85% (22)
	N = 95, 2 df. $\chi^2 = 2.81$, $P < .30$			N = 67, 2 df. $\chi^2 = 7.42$, $P < .05$		

hypothesis is not substantiated. However, the second corollary which stated that the lecture-oriented students with an intrinsic value profile would receive higher grades on the essay test than the extrinsic-reward or people-oriented students, was substantiated. It would seem that from the data presented in Tables 3.7 and 3.8, the intrinsic value profile which reflects the academic type of student who is primarily concerned with creativity, originality, and self-expression is still rewarded with high academic performance. It is also evident that the people-oriented students do well on the objective test. Taking into consideration a number of limitations, the performance of the intrinsic-reward student is facilitated by the tutorial press or the learning environment which is congruent with the students' needs. There is then tentative support for the major hypothesis which stated that performance and satisfaction varies directly with the degree of congruency existing between the student's input, the environmental input and evaluation criteria.

C) Authoritarianism and Academic Performance

The ten items which are the indicators of authoritarianism are presented in Tables 3.9 and 3.10, along with academic performance and controlled by instructional press. The (-) indicates that the data show an inverse relationship between authoritarianism and performance; the lower the authoritarianism, the higher the performance, whereas the

TABLE 3.9

The Effect of Authoritarianism on Performance
for Full-Time Students

	<u>Objective Test</u>	<u>Essay Test</u>
Conventionalality	7.1 ^a (-) ^b	7.0 (-)
Conventionalality	4.0 (-)	2.2 (-)
Punitive Morality	12.4 (-)	5.6 (-)
Authority Submission	3.7 (-)	10.1 (-)
Authority Submission	12.2 (-)	7.9 (-)
Compulsiveness	21.9 (-)	5.3 (-)
Religious Fundamentals	2.8 (+)	5.9 (-)
Emotional Suppression	10.4 (-)	9.5 (-)
Cynicism	6.9 (-)	8.0 (+)
Compulsiveness	1.4 (+)	1.0 (+)
	N = 633 P. < .044	N = 633 P. < .044

a χ^2

b direction of r (-) indicates that the lower the authoritarianism, the higher the performance
(+) indicates that the higher the authoritarianism, the higher the performance

(+) indicates a positive relationship; the higher the level of authoritarianism, the higher the performance. The positive relationship is, of course, a contradiction of the proposed hypothesis which stated that an inverse relationship exists between authoritarianism and performance. A corollary to this stated that the relationship should be more significant for the lecture-oriented students than for the tutorial-oriented students. The data in Table 3.9 indicate that the hypothesis was substantiated. On both examinations there are eight items out of the ten that are in the proposed direction and the probability of this occurring by chance is .044. Instructional press, as shown in Table 3.10, however, considerably affects this correlation. Within the lecture-oriented group of students the same results are evident for both types of examinations. However, for the tutorial-oriented group, not only is the hypothesis not substantiated but, since half of the items have positive relationships, the corollary is also not supported. It was expected that the objective type of tests would demand a more rigid and conformist attitude but, in fact, the results of Table 3.10 indicate that most of the inverse relationships occur with the objective tests and that higher performance on the essay test, at least for the tutorial-oriented group, is related to higher authoritarianism. That is to say, for this group it would seem that the prerequisite for high grades on the essay test constitutes the characteristics of compulsiveness,

TABLE 5.10

The Effect of Authoritarianism on Performance
While Controlling for Instructional Presses

Items	Lecture-Oriented		Tutorial-Oriented	
	Objective	Essay	Objective	Essay
Conventionality	4.9 ^a (-) ^b	10.4 (-)	.8 (-)	4.3 (-)
Compulsiveness	1.9 (-)	.5 (-)	5.5 (+)	5.3 (+)
Compulsiveness	13.3 (-)	2.6 (-)	5.1 (-)	9.3 (+)
Religious Fundamentalism	6.3 (-)	2.7 (-)	2.7 (-)	4.6 (-)
Punitive Morality	1.3 (-)	5.7 (-)	1.9 (-)	1.3 (-)
Authoritarian Submission	1.8 (-)	2.8 (-)	3.4 (+)	3.7 (-)
Authoritarian Submission	.5 (-)	5.2 (-)	3.1 (-)	2.8 (+)
Emotional Suppression	5.0 (-)	4.2 (+)	2.0 (-)	4.0 (+)
Cynicism	4.1 (+)	4.3 (-)	7.7 (-)	4.0 (-)
Conventionality	2.4 (+)	1.1 (+)	2.4 (-)	4.1 (+)
	P .044	P .044	P .044	P .246
	N = 95		N = 67	

a x^2

b direction of r

(-) indicates that the lower the authoritarianism, the higher the performance

(+) indicates the higher the authoritarianism, the higher the performance

desire to submit to authority, emotional suppression and conformity, the very characteristics, in fact, that would lead one to suggest an inhibition of self-expression of creative ideas. One suggestion is that the tutorial-oriented students when writing essays are submitting to the demands of the tutor who is marking the papers. Often the demands are formal and structured and these characteristics may be showing up on the authoritarian scale. Nevertheless, it is difficult to explain this finding as it contradicts totally previous results relating authoritarianism and performance. The only other explanation offered would be the extremely small frequencies in a number of the cells.

D) Social and Academic Background and Performance

There are a number of social and academic background variables which, based on previous research, were predicted to affect performance. The academic background factors include students' final high school grades and the mid-term mark they receive on their first university examination. The social factors predicted to affect performance are socio-economic status and religion.

High School Grades and Mid-term Grades

The data presented in Tables 3.11 and 3.12 showing high school grades and final grades on both the objective and essay test are not contrary to what was expected. Clark (1970) in a study carried out at McMaster University in 1967, found similar results with 459 freshmen in the

introductory sociology course. In Table 3.11, it is evident that 61% of the students who received high grades in high school repeat that performance at university, and 66% of those students who received low grades in high school also repeat the same low performance at university. There is then, little doubt as to the predictive powers of high school performance on university performance. What is more interesting, however, is the 10% difference on the essay test between those who received high high school grades and those who received low high school grades, whereas on the objective tests, there is a 27% difference. A possible explanation for this is that those students coming from a more restrictive learning environment and who receive lower grades in high school begin, once in university, and especially on essay tests, to excel within a fresh and unstructured instructional press. The data in Table 3.12, showing high school grades and performance when controlled for press, indicate a similar trend. Here again the differences are much greater for the objective test than for the essay test for both instructional presses. That is, the suggestion that a certain minority of students "come into their own" upon reaching a learning environment more congruent with their needs is also reflected in the sub-sample. It should be noted that the data in Table 3.12 reflect the findings in the larger sample; on the objective test, 60% and 57% of

TABLE 3.11

The Effect of Final High School Grade
on Academic Performance

Performance	Final High School Grade	
	Low	High
Objective Test		
Low	66% (109)	39% (157)
High	34% (56)	61% (250)
N = 572*, 1 df. $\chi^2 = 35.65$ P.<.001		
Essay Test		
Low	42% (70)	32% (130)
High	58% (96)	68% (276)
N = 572*, 1 df. $\chi^2 = 5.34$ P.<.05		

* Mature students were not included as high school grades were out of date.

those students who received upper class marks in their high school years achieve high grades in their first year of sociology, whereas only 30% and 27% of those students with low high school grades receive high scores in sociology. The trend is similar on the essay test for the tutorial and lecture-oriented students. It should be noted that the sample size is reduced in both tables 3.11 and 3.12 as mature students' grades were not included in the sample.

TABLE 3.12

The Effect of High School Final Grade on Academic
Performance Controlling for Instructional Press

Performance	Lecture-Oriented Final High School Grade		Tutorial-Oriented Final High School Grade	
	Low	High	Low	High
<u>Objective Test</u>				
Low	70% (19)	40% (26)	73% (16)	43% (19)
High	30% (8)	60% (39)	27% (6)	57% (25)
	N = 92, 1 df. $\chi^2 = 8.69$, P. < .01		N = 66, 1df. $\chi^2 = 5.11$ P. < .05	
<u>Essay Test</u>				
Low	45% (12)	40% (26)	41% (9)	25% (11)
High	55% (15)	60% (39)	59% (13)	75% (33)
	N = 92, 1 df. $\chi^2 = 1.10$ P. < .30		N = 66, 1 df. $\chi^2 = 2.44$ P. < .20	

As would be expected, the sociology grade at mid-term, (half objective test and half essay test), as shown in Tables 3.13 and 3.14, is highly correlated with the final academic performance with the exception of the tutorial-oriented students who received a low grade at Christmas on the essay test. This is especially evident in the larger sample where 80% and 85% of the students who received high grades on the mid-term achieved high grades on the objective and essay

examinations. This finding is also supported in previous studies by Smith (1965) and Donovan and Leila (1964).

TABLE 3.13

The Effect of Midterm Grade in Sociology
on Academic Performance

<u>Performance</u>	<u>High</u> 66%+	<u>Medium</u> 60% - 65%	<u>Low</u> 59% or less
<u>Objective Test</u>			
Low	20% (33)	43% (95)	67% (167)
High	80% (130)	57% (126)	33% (81)
N = 632, 2 df. $\chi^2 = 89.49$, $P < .001$			
<u>Essay Test</u>			
Low	15% (24)	38% (84)	46% (115)
High	85% (138)	62% (137)	54% (134)
N = 632, 2 df. $\chi^2 = 43.38$, $P < .001$			

TABLE 3.14

The Effect of the Sociology Grade at Midterm
On Final Academic Performance Controlling
for Instructional Press

<u>Performance</u>	<u>Lecture-Oriented</u> Midterm Sociology Grade		<u>Tutorial-Oriented</u> Midterm Sociology Grade	
	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>
<u>Objective Test</u>				
Low	65% (29)	34% (17)	67% (24)	35% (11)
High	35% (16)	66% (33)	33% (12)	65% (20)
	N = 95, 1 df. $\chi^2 = 9.34$, P < .01		N = 67, 1 df. $\chi^2 = 6.41$, P < .05	
<u>Essay Test</u>				
Low	53% (24)	30% (15)	26% (10)	32% (10)
High	47% (21)	70% (35)	74% (26)	68% (21)
	N = 95, 1 df. $\chi^2 = 5.28$, P < .05		N = 67, 1 df. $\chi^2 = .45$, P < .50	

Social Class and Academic Performance

Few studies have recently focused on the relationship between social class and academic performance. Clark (1970), in her study of 1967, found that only father's educational level was somewhat related to final grades. The correlation between social class, that is, income, education,

occupation and performance shown in Tables 3.15, 3.16, and 3.17 are similar to Clark's in that none of the relationships are significant. There is, however, a tendency for grades to rise as socio-economic status rises. In all three tables, with the exception of Table 3.17 where students whose father's occupation is considered working-class, receive higher grades on the objective test (67%) than the students whose fathers hold middle and upper-class occupations, students whose fathers have a salary of \$12,000 or more, have a professional education, and hold a professional position achieve higher grades on both types of examination than students whose fathers are considered working-class. It is also evident that middle-class students in most cases do better than the working-class in performance. However, these results are highly speculative in that not only are none of the relationships significant at the .05 level, but the total sample of 635 does not indicate any significant relationship between social class and performance. In view of this, the reader is cautioned to treat these relationships as being of questionable validity.

Religion and Performance

There were a number of other social background variables which did not seem to affect the major relationship between performance and instructional press. Most of

TABLE 3.15

The Effect of Father's Income on Academic Performance
Controlled by Instructional Press

<u>Performance</u>	Lecture - Oriented			Tutorial - Oriented		
	Lower	Middle	Upper	Lower	Middle	Upper
<u>Objective Test</u>						
Low	64% (14)	40% (19)	50% (13)	58% (7)	50% (11)	55% (18)
High	36% (8)	60% (28)	50% (13)	42% (5)	50% (11)	45% (15)
	N = 95, 2 df. $\chi^2 = 3.28$, $P < .20$			N = 67, 2 df. $\chi^2 = .46$, $P < .90$		
<u>Essay Test</u>						
Low	64% (14)	40% (19)	23% (6)	42% (5)	36% (8)	21% (7)
High	36% (8)	60% (28)	77% (20)	58% (7)	64% (14)	79% (26)
	N = 95, 2 df. $\chi^2 = 7.91$, $P < .02$			N = 67, 2 df. $\chi^2 = 2.42$, $P < .30$		

TABLE 3.16

The Effect of Father's Education on Academic Performance
 Controlling for Instructional Press

Performance	Lecture - Oriented			Tutorial - Oriented		
	Lower	Middle	Upper	Lower	Middle	Upper
<u>Objective Test</u>						
Low	48% (10)	52% (30)	35% (6)	72% (10)	50% (19)	47% (7)
High	52% (11)	48% (27)	65% (11)	28% (4)	50% (19)	53% (8)
	N = 95, 2 df. $\chi^2 = 1.70$, $P < .50$			N = 67, 2 df. $\chi^2 = .84$, $P < .90$		
<u>Essay Test</u>						
Low	48% (10)	39% (22)	41% (7)	43% (6)	30% (11)	20% (3)
High	52% (11)	61% (35)	59% (10)	57% (8)	70% (27)	80% (12)
	N = 95, 2 df. $\chi^2 = .17$, $P < .90$			N = 67, 2 df. $\chi^2 = 1.50$, $P < .50$		

TABLE 3.17

The Effect of Father's Occupation on Academic Performance
Controlling for Instructional Press

<u>Performance</u>	<u>Lecture - Oriented</u>			<u>Tutorial - Oriented</u>		
	<u>Lower</u>	<u>Middle</u>	<u>Upper</u>	<u>Lower</u>	<u>Middle</u>	<u>Upper</u>
<u>Objective Test</u>						
Low	67% (14)	42% (26)	50% (6)	54% (7)	58% (19)	48% (10)
High	33% (7)	58% (36)	50% (6)	46% (6)	42% (14)	52% (11)
	N = 95, 2 df. $\chi^2 = 3.61$, $P < .20$			N = 67, 2 df. $\chi^2 = 1.56$, $P < .50$		
<u>Essay Test</u>						
Low	33% (7)	42% (26)	50% (6)	31% (4)	30% (10)	28% (6)
High	67% (14)	58% (36)	50% (6)	69% (9)	70% (23)	72% (15)
	N = 95, 2 df. $\chi^2 = 1.39$, $P < .50$			N = 67, 2 df. $\chi^2 = .09$, $P < .80$		

these, moreover, did not contain large enough cells to adequately test the significance of the relationship when controlled for by instructional press. The intended major, ethnicity, marital status, and year in college were not suitable for testing. Variables which did have an adequate sample size when controlled for by instructional press, such as urban-rural residence and sex did not show any significant effect on the dependent variable.

What was surprising and was not considered at the early stages of the study was the impact of religion or the lack of it on academic performance. Table 3.18 which indicates religious affiliation and academic performance shows that there is a significant relationship between religious affiliation and performance; Protestant students do considerably better on both tests (56% and 64%) than do Roman Catholic students, (45% and 56%). The data also show that those students with no religious affiliation receive the highest grades on both tests-- (62% and 76%). When controlled for instructional press, as is indicated in Table 3.19, the relationship is not significant but the same trend is evident with a few exceptions. Clark's (1970) study offers further support for these findings, as she found the same relationship existing between religion and performance, in which Roman Catholic students scored the lowest of the three groups and the students with no religious ties received the highest grades. These results may be explained by Crittenden's (1969:8)

TABLE 3.18

The Effect of Religion on Academic Performance

<u>Performance</u>	<u>Roman Catholic</u>	<u>Protestant</u>	<u>None</u>
<u>Objective Test</u>			
Low	55% (82)	44% (161)	38% (32)
High	45% (66)	56% (206)	62% (52)
N* = 599, 2 df. $\chi^2 = 8.06$, $P < .02$			
<u>Essay Test</u>			
Low	44% (64)	36% (132)	24% (20)
High	56% (84)	64% (235)	76% (63)
N* = 598, 2 df. $\chi^2 = 8.45$, $P < .02$			

* Those of other denominations were not included.

TABLE 3.19

The Effect of Religious Affiliation on Academic Performance
Controlled by Instructional Press

<u>Performance</u>	<u>Lecture - Oriented</u>			<u>Tutorial - Oriented</u>		
	<u>Roman Catholic</u>	<u>Protestant</u>	<u>None</u>	<u>Roman Catholic</u>	<u>Protestant</u>	<u>None</u>
<u>Objective Test</u>						
Low	65% (15)	43% (25)	50% (5)	44% (4)	55% (22)	42% (5)
High	35% (8)	57% (33)	50% (5)	56% (5)	45% (18)	58% (7)
	N* = 91, 2 df. $\chi^2 = .92$, P < .90			N* = 61, 2 df. $\chi^2 = .97$, P < .90		
<u>Essay Test</u>						
Low	57% (13)	36% (21)	30% (3)	33% (3)	35% (14)	8% (1)
High	43% (10)	64% (37)	70% (7)	67% (6)	65% (26)	92% (1)
	N* = 91, 2 df. $\chi^2 = 3.23$, P < .20			N* = 61, 2 df. $\chi^2 = 4.19$, P < .20		

* Cases are missing as Jewish and other denominations were excluded from sample

report that stated that "regardless of whether a sociology course is examination or essay-based in its evaluation procedure, a certain type of student--one characterized by open-mindedness--is likely to perform well." It is suggested then, that religion may be seen as a deterrent toward learning sociology, especially if one has a Roman Catholic background. It is not surprising, then, that the lack of religious affiliation seems to have a greater impact on performance on the essay tests than on the objective test where open-mindedness is probably an asset to high performance.

The one other factor which was thought to have an effect on performance was satisfaction. However, the results were similar to those found by Watson (1956) in his dissertation study, that a satisfied student does not necessarily appear to be a more effective learner.

E) Summary of Results

The major hypothesis stated that academic performance and satisfaction varies directly with the degree of congruency existing between the student's input, the environmental input, and the evaluation criteria. The analysis was then directed toward testing the validity of this hypothesis by correlating factors such as instructional press, value profile, and academic performance. In other words, if the results indicated that high performance on a particular type of examination was related to the orientation the student brings to the

classroom and the particular type of instructional environment he chose to emphasize there would then be some justification for considering the hypothesis valid. Secondary analysis consisted of testing whether or not other factors, such as authoritarianism, social class, and previous academic record independently affected academic performance.

In view of the results, there is partial support for the major hypothesis. It was found that although there is no significant relationship between instructional press and academic performance, there is a tendency for lecture-oriented students to receive higher grades on the objective test than the tutorial-oriented students, and for tutorial-oriented students to receive higher grades on the essay test than the lecture-oriented students. There is also partial support in that students' perceptions of the instructional press in which they learn the most sociology is significantly related to attendance at that particular press. Furthermore, for the lecture-oriented students, this perception of the press which facilitates learning is significantly related to high academic performance. The fact that the values the students bring to the classroom somewhat affects performance also tends to support the hypothesis. The results, although not entirely in the direction suggested, do indicate that an intrinsic or "academic" value profile significantly affects performance; intrinsic-reward oriented students achieved high grades on both types of tests. It should also be noted that there is

a tendency for extrinsic-reward oriented students or those students whose purpose in university is to secure the necessary skills for a professional career, receive, in most cases, the lowest grades. In summary, there is a tendency for performance on final examinations to vary directly with the degree of congruency existing between the student's input, the environmental input, and evaluation criteria.

There were other factors found to be related to academic performance. As was expected, high school final grades were found to be a valid and reliable predictor of academic performance. It was, therefore, not surprising that midterm grades were also highly related to final academic performance. Although it was not ascertained whether or not the higher average students from high school were the same students as those who received high grades at midterm and end-of-term, very few low or average grade students raise their grades in their first year at university; in fact, if anything, the grades received are usually lower. Authoritarianism, however, did not turn out to have a high level of predictability. Although lecture-oriented students achieve higher grades on both tests when indicating a low level of authoritarianism, tutorial-oriented students on the essay test received high grades with a high level of authoritarianism. Nevertheless, since it was found that in the larger sample, students on both types of tests with low levels of authoritarianism received high grades, it may be concluded

that authoritarianism is inversely related to academic performance. The other background factor found to affect performance was religious affiliation. The results indicate that there is a significant relationship between religious affiliation, no religious affiliation and academic performance. In other words, students with no religious affiliation achieved the highest grades and students with a Protestant affiliation achieved higher grades than Roman Catholic students. These relationships, however, when controlled for instructional press were no longer significant at the .05 level. The proposed hypothesis concerning social class and performance was not substantiated; although there is a tendency for upper-class students to receive high grades. Other background variables, such as ethnicity, intended major, urban-rural residence and sex, showed no significant relationship with academic performance.

On the basis of these results, it is suggested that there is a need for further research in this area of the sociology of education, especially on the importance of congruent learning environments for certain students, and the effect of religion on academic performance. This is all the more important in that, as was previously mentioned, over one hundred studies found no support for the relationship between instructional methods and academic performance. This study, although limited as to the degree of generalizing, has offered a substantive explanation for the repeated failures

of earlier research in this area. It is suggested here that no significant differences between teaching methods and performance appeared simply because the final examinations in most of the studies were objective, or multiple choice tests, which not only limited all students in expressing their ability for conceptual or problem-solving questions, but especially curtailed the tutorial-oriented and intrinsic-reward type of student. In other words, the effect of the learning environment was all but eliminated by the criteria used to measure performance. Another factor that played a part in washing out differences was the use of experimental groups, whereas this study took into consideration the choice of instructional press by the student. The implications of these results, and of the other factors which were found to affect performance regardless of the degree of congruency, are discussed in the concluding chapter.

CHAPTER IV

Conclusions

The major inference which may be drawn from the results, although limited in validity and general application, is that a more concrete analysis of the teaching-learning process in universities is justified. What is more important however, is that this further work focus on the conceptual properties of the teaching-learning process which will hopefully lead to the development of a theoretical model. This chapter attempts to aid in this development by analyzing the results of the study, and by suggesting the importance of the student input and the environmental input in understanding the teaching-learning process. The chapter concludes with a proposed model of the teaching-learning process and a few practical suggestions for curriculum reform. The analysis of the data and the tentative support for the major hypothesis suggests that the teaching-learning process cannot be conceptualized by simply comparing particular teaching methods and their effect on academic performance. As with other issues of sociological concern, the history of the study of the teaching-learning process in universities and colleges has been long on repetitious studies and short on developing a theoretical model in which results could be

interpreted. The results of this study, however tentative, suggest that the direction taken here lends support for further consideration of building a theoretical framework in which to explain the effects of social and academic variables on university performance. The results of Pascal and McKeachie's (1970) recent study indicates the fruitfulness of the approach taken here and the importance of further study.

The initial step in this approach must be an elimination process, thereby facilitating future research. The question, then, becomes what are the necessary factors which should be included in any attempt to explain the teaching-learning process? The findings reported in Chapter III would seem to indicate that provisionally the following factors are, to some degree, related to the teaching-learning process.

The values students bring to the university and particularly the values concerning the purpose of a university education affect the attitudes the student has to the learning process in the university. These attitudes also tend to affect his choice of instructional press which, in turn, is reflected in his performance. It will be recalled that intrinsic-reward oriented students who preferred a tutorial instructional press achieved the highest grades on the essay test, whereas people-oriented students who preferred the same instructional press achieved the lowest grades on the essay test. In other

words, the "academic-intellectual" type of student seems to have the least amount of difficulty adjusting to the university environment and tends to seek out the instructional or learning environment most congruent with his needs and most beneficial to his purposes. Our findings, then, reflect those of Pace and Baird (1966:230), whose results indicate that students whose environments and personality traits were congruent reported mean achievement ratings on relevant objectives that were above the college average 94% of the time, whereas students with inconsistent environments only reached a mean achievement of 53%. There is some justification then for stating that this degree of congruency pays off in academic success.

There are, however, reservations concerning the impact of instructional press on performance for first year students. Pascal and McKeachie (1970:9-10) suggest in their recent study that some students, when offered the choice of instructional press, do not choose the best option for them, or, once chosen, have a difficult time adjusting to a new learning environment. This would especially refer to high school students who often come from a fairly formal learning environment and once in university choose a more flexible instructional press. It is quite possible, therefore, that after a year of attending this press certain students realize that this learning environment is detrimental to their learning. It would probably be advisable in future studies

to ask students to indicate whether or not they found the particular press they emphasized to be beneficial or detrimental. Those students who found the instructional press to be detrimental to their learning could then be deleted from the sample.

Although final high school grades are a valid indicator of academic performance, it would have been helpful to know what constituted the evaluation criteria in high school. If it had been similar to the one used in this study, a comparison of the grades might have indicated whether or not first year students are consistent in their performance on particular tests or experience difficulty in learning conceptual or factual knowledge. We need to know much more about the incoming student if our goal is to understand the teaching-learning process at the university level.

The impact of authoritarianism on academic performance is certainly worthy of further study given the results of this study. Although the results supported the hypothesis that the lower the level of authoritarianism, the higher the academic performance, the relationship did not hold when controlled for by instructional press. At least, as far as the tutorial-oriented students are concerned the relationship, in fact, is contradictory; for these students high authoritarianism is related to high performance. It is possible that writing a term paper or essay demands certain authoritarianism traits, or at least, that the particular tutor or

professor who is supervising and grading the assignment demands a formalistic, structural format and content. The freshman, in other words, learns fairly quickly to give the professor in assignments what he expects the professor prefers and wants. Ebel (Powell, 1964:187) has noted that what a student studies largely depends on what he expects to be tested on, and the way in which he studies is determined by the type of tests which he anticipates facing at the end of the course. Nevertheless, since the results are contradictory to previous findings, it may be necessary in further research to compare two groups of authoritarian students under the same instructional press on academic performance by giving one group a formal and structured assignment and the other group a flexible and loose requirement.

A further complication concerning authoritarianism is the effect of religious affiliation on academic performance. The fact that religious affiliation was found to affect performance and that students with no religious affiliation achieved the highest grades should not be surprising. It has been generally accepted that a dogmatic attitude toward religion is considered a basic attribute of the authoritarian personality. Nevertheless, religious affiliation should be treated as an independent factor, as not everyone who is dogmatic about his or her religion is necessarily authoritarian. Research is needed to ascertain whether this relationship applies to earlier educational training and socialization

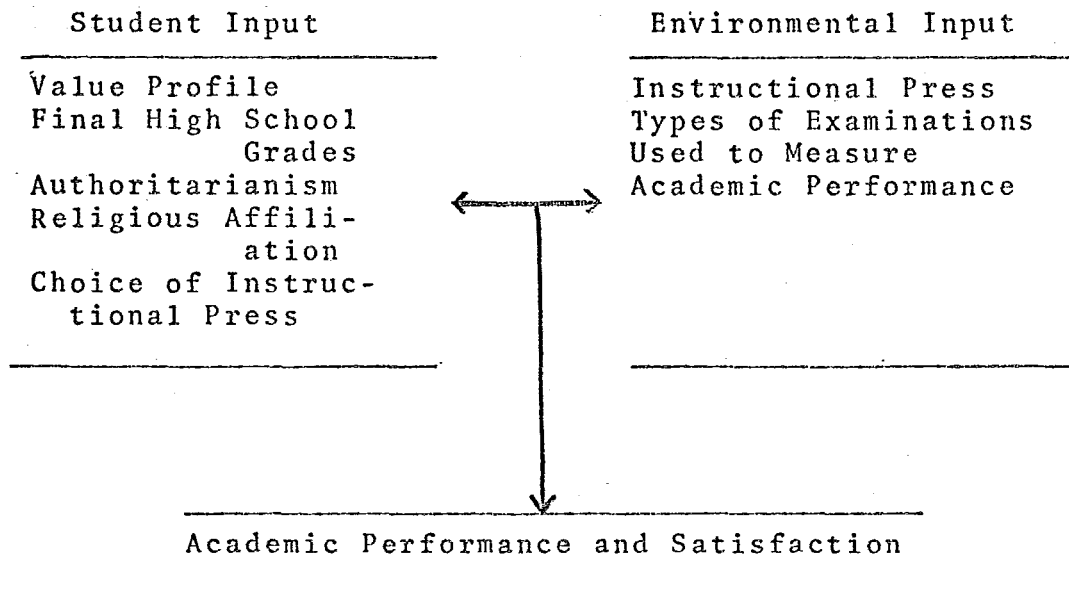
to the same degree.

The differentiation of performance on the two types of knowledge testing is a clear indication that the evaluation criteria is a necessary factor in understanding the teaching-learning process. It is possible that different cut-off points between what was designated as high and low performance would have produced different results. It is, therefore, recommended that future research endeavour to keep the cut-off points for the two or more evaluations to be used as similar as possible. It should be noted that there is always a tendency to mark essays higher than objective tests and for tutors and professors to infrequently fail students on essays and term papers.

It should be noted that since there was only partial support for a number of the proposed hypotheses the discussion cannot move to a consideration of the theoretical interdependence of the various factors which have been examined. That is to say, this study has demonstrated that certain factors may have an effect on academic performance in first year sociology. It is the task of further research to reinforce this position by employing a more rigid research design and analysis and advance the analysis to the point where the independent factors are combined within a more concrete theoretical framework. Here it is only possible to suggest a partial revised model of the teaching-learning process. This revision, which applies to only post-secondary education,

may be presented diagrammatically, as follows:

Figure 3 -- Revised Model of the Teaching-Learning Process



Further research is also recommended to ascertain whether or not on the basis of these first year results students in second and third year courses continue to perform at the same level of performance depending upon their choice of instructional method. Although most of the findings are probably applicable to only social science courses, comparative research would be worthwhile employing other disciplines, especially in courses which offer two or more different instructional methods.

In summary, the findings of the present study have suggested the need for further research into the teaching-learning process, both in terms of a theoretical construct

of the process, and its practical applications in designing university curriculae. The study's major conclusion, that is, the importance of the congruency of the learning environment with the student's orientation to learning as a means of realization of learning potential, may well prove to be a cornerstone in any future consideration of the teaching-learning process.

Implications and Practical Proposals

Although there are dangers in making inferences and generalizations based on the tentative results of this study, it seems that, as long as the reader is aware of these dangers, the following suggestions may be considered. It would seem at the first year level that it would be beneficial to the student and the goals of academiae if more than one type of evaluation criteria were employed in the yearly testing procedures. This suggestion is based on the tentative results in this study and the results McKeachie (1963:1124) reported, that

instructors whose students did well on an objective test on psychology were ineffective when their students' achievement was measured on an essay test designed to measure understanding and integration of the material.

If there is only one type of knowledge testing, and it is usually objective multiple choice tests that are used, there is a real danger that passing the less able students on the basis of an objective score may be a disservice to the student, who, in second and third year, may have considerable

difficulty in relating to essay examinations and term paper assignments. Furthermore, first year students, especially in the social sciences, should be given the opportunity to express their ideas other than choosing the right answer on a multiple choice type of test. The other implication is that if there is a certain degree of validity to the importance of congruent learning environments for successful performance, then it may be helpful to offer the student the instructional press which best suits his learning ability and which may improve it. It is then frustrating and probably confusing for the student to offer him various learning environments and then to evaluate him on only one type of testing procedure. It is probably equally frustrating and confusing to offer students more than one type of evaluation procedure but to only provide one type of instructional press. It is hoped that further research may, in fact, lead to a serious consideration of Domino's (1969:259) conclusion, that,

rather than fit the student to the curriculum as is presently done, it might be extremely worthwhile to fit the curriculum to the student by providing each student with the type of setting which most effectively utilizes his potential.

A consideration of these implications, plus the significance of authoritarianism and religious affiliation as partial deterrents to the learning process may help university officials in improving university education. It

may also help in destroying what Pope, Wiggins and Bushell (1968:10) have described as the standard myth that faculty and administrators adhere to, that poor performance is due either to the student's lack of ability or poor motivation. This myth, in other words, should be replaced with a genuine concern for understanding and improving the teaching-learning process.

APPENDIX A

SOCIOLOGY 1A6

Course Evaluation Questionnaire

Mr. R.W. Hornosty
April, 1970

Dear Student:

This questionnaire is designed to serve the purpose of course evaluation, and the results when analysed will be used to help determine the structure and content of the Sociology 1A6 class next year. We have included some attitudinal questions to see if different types of students favour and respond to different aspects of the course. It is very important that everyone answer the questionnaire, since any non-response lessens the validity of the entire study.

Your answers to this questionnaire will be completely anonymous. You are asked to indicate your student number on the optical scanning sheet, so that we can correlate other information (e.g., term paper grade, the number of exercises completed, etc.) with your responses. Once the correlations are made by the computer we will destroy the optical scanning sheets.

Instructions:

1. There are two parts to this questionnaire. Please record answers to Part I on the optical scanning sheets provided. Your written open-ended responses to Part II will be very much appreciated.
 2. Please WRITE and CODE your STUDENT NUMBER in the appropriate blocks on the optical scanning sheet. DO NOT put your name on scanning sheet.
 3. Read each question and its lettered responses. When you have decided which answer is closest to the one you would like to give, please mark the whole of the corresponding oval in the appropriate column on the optical scanning sheet.
 4. Please use a medium soft pencil and make your pencil marks heavy. Enter only ONE mark for each question. If you want to change your answer, please erase the original mark completely.
-

Note: As an incentive to complete the questionnaire, we will give you the benefit of any doubt we may have about your final grade. If you would like your tutorial leader to know that you have completed the questionnaire please print your name clearly below. Detach this sheet and turn it in separately.

Student's Name _____

Teaching Assistant's Name _____

Part I - Questions to be answered by you on optical scanning sheet

Column:

1. Your age last birthday?

- A) 18 or 19
- B) 20 or 21
- C) 22 or 23
- D) 24 or 25
- E) 26-30
- F) 31-40
- G) over 40

2. Sex.

- A) Male
- B) Female

3. In what year are you enrolled?

- A) 1st year
- B) 2nd year
- C) 3rd year
- D) 4th year
- E) Graduate or Continuing

4. Day or Extension student?

- A) Day
- B) Extension

5. What is your major area of study?

- A) Social Sciences
- B) Humanities
- C) Divinity
- D) Nursing
- E) Natural Sciences
- F) Engineering
- G) Commerce or Business Administration
- H) Physical Education
- I) Pre-medicine

6. Were both your parents born in Canada?

- A) Both of them
- B) Father only
- C) Mother only
- D) Neither of them

Column

7. Where did you live most of your life before attending university?
- A) In a metropolis (over 200,000)
 - B) In a city of over 50,000
 - C) In a city of under 50,000
 - D) In a town (1,00-5,000)
 - E) In a village (under 1,000)
 - F) On a farm
8. How often did you attend lectures?
- A) Attended nearly all lectures
 - B) About 75% of the time
 - C) About 50% of the time
 - D) About 25% of the time
 - E) Seldom or not at all
9. How often did you attend tutorials?
- A) Attended tutorials nearly all the time
 - B) About 75% of the time
 - C) About 50% of the time
 - D) About 25% of the time
 - E) Seldom or not at all
10. How often did you stay for the interviews following the lectures?
- A) Nearly all of the time
 - B) About 75% of the time
 - C) About 50% of the time
 - D) About 25% of the time
 - E) Seldom or not at all

People look for different things in a career. Ideally, that is, if you had a completely free choice in the matter, what kind of career would you choose? Indicate in the appropriate spaces on the optical scanning sheet how important each of the following characteristics is for your ideal job. Mark:

Space "A" for those which are highly important
 Space "B" for those which are of medium importance
 Space "C" for those which are of little importance

11. A career that is considered a worthy one and one which has prestige and high standing in the community.
12. A vocation which will provide me with an opportunity to be creative and original.
13. An occupation which will enable me to express my special abilities and/or aptitudes and to excel in these areas.

Column

14. A job which will provide me with a chance to earn a great deal of money.
15. An occupation which will enable me to meet the public and deal directly with people.
16. A job which provides a stable, secure future.
17. An occupation which will give me the opportunity to be helpful to others and to directly benefit my fellow man.

18. Which of the above characteristics is most important for you?

- A) Statement opposite column 11
- B) Statement opposite column 12
- C) Statement opposite column 13
- D) Statement opposite column 14
- E) Statement opposite column 15
- F) Statement opposite column 16
- G) Statement opposite column 17

19. Which of the above characteristics is next most important?

- A) Statement opposite column 11
- B) Statement opposite column 12
- C) Statement opposite column 13
- D) Statement opposite column 14
- E) Statement opposite column 15
- F) Statement opposite column 16
- G) Statement opposite column 17

20. Which of the following statements comes closest to describing how you feel about learning sociology?

- A) Before one can begin to deal with important issues and problems in sociology, it is necessary to have a firm grasp of the basic concepts of the discipline.
- B) One can best acquire an appreciation of sociology by beginning with important issues and problems in the discipline and then seeking out the basic concepts as the need arises.

21. Compared with other large first year lecture classes I have taken I found the work load (readings, exercises, exams, etc.) in Sociology 1A6:

- A) Considerably greater than most
- B) Somewhat greater than most
- C) About the same as most
- D) Somewhat less than most
- E) Considerably less than most
- F) This is the only large lecture class I have taken

Column

22. Which of the following did you enjoy reading the most?
- A) Bensman & Rosenberg, Mass, Class, and Bureaucracy
 - B) Peter Berger, Invitation to Sociology
 - C) Rosenberg (ed.), Analysis of Contemporary Society: I & II
 - D) Catalyst No. 4
 - E) Bobbs-Merrill Reprint Series
23. Which of the following did you enjoy reading the least?
- A) Bensman & Rosenberg, Mass Class, and Bureaucracy
 - B) Peter Berger, Invitation to Sociology
 - C) Rosenberg (ed.), Analysis of Contemporary Society: I & II
 - D) Catalyst No. 4
 - E) Bobbs-Merrill Reprint Series
24. From which of the following readings did you learn the most sociology?
- A) Bensman & Rosenberg, Mass, Class, and Bureaucracy
 - B) Peter Berger, Invitation to Sociology
 - C) Rosenberg (ed.), Analysis of Contemporary Society: I & II
 - D) Catalyst No. 4
 - E) Bobbs-Merrill Reprint Series
25. From which of the following readings did you learn the least sociology?
- A) Bensman & Rosenberg, Mass, Class, and Bureaucracy
 - B) Peter Berger, Invitation to Sociology
 - C) Rosenberg (ed.), Analysis of Contemporary Society: I & II
 - D) Catalyst No. 4
 - E) Bobbs-Merrill Reprint Series
26. As compared with the other large lecture courses I have taken, I found the severity of grading in this course is, in general:
- A) really rough; hard to make good grades
 - B) tougher than average; hard
 - C) about average
 - D) somewhat easier than average
 - E) a snap
27. As compared with other large lecture courses I have taken, I think the fairness of grading in this course is, in general:
- A) Considerably more fair than most
 - B) More fair than most
 - C) About the same in fairness as most
 - D) Less fair than most
 - E) Considerably less fair than most
 - F) This is the only large lecture class I have taken

Column

Please indicate in the appropriate spaces on the optical scanning sheet the extent to which you agree or disagree with each of the statements opposite columns 28-37.

Please use the following response categories:

- "A" - strongly agree
- "B" - agree somewhat
- "C" - feel rather neutral about it
- "D" - disagree somewhat
- "E" - strongly disagree

- 28. I dislike women who disregard the usual social or moral conventions.
- 29. I find that a well ordered mode of life with regular hours is congenial to my temperament.
- 30. There must be something wrong with a person who is lacking in religious feeling.
- 31. Homosexuality is a particularly rotten form of delinquency and ought to be severely punished.
- 32. A person should adapt his ideas and his behaviour to the group that happens to be with him at the time.
- 33. It is essential for learning or effective work that our teachers outline in detail what is to be done and exactly how to go about it.
- 34. Young people should not be allowed to read books that are likely to confuse them.
- 35. Disobedience to the government is never justified.
- 36. Most people inwardly dislike putting themselves out to help other people.
- 37. It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes.

-
- 38. Compared with large lecture classes given "live" would you say that closed-circuit television is:
 - A) Much better
 - B) Better
 - C) About the same
 - D) Worse
 - E) Much worse

39. In which of the following situations do you think you learn the most sociology?
- A) The television lectures
 - B) The tutorial discussions
 - C) Private study and reading on your own
 - D) Discussions with other students
 - E) In the "live" taping sessions
 - F) The interviews following the lectures
 - G) Private and group discussions with the instructor in the course
40. Do you feel that you learn more sociology in the large lectures or in the tutorials?
- A) Much more in lectures
 - B) Somewhat more in lectures
 - C) About the same
 - D) Somewhat more in tutorials
 - E) Much more in tutorials
41. Which of the following situations do you enjoy the most?
- A) The Sociology 1A6 television lectures
 - B) The Sociology 1A6 tutorial sessions
 - C) Private study and reading sociology on your own
 - D) Discussions about sociology with other students
 - E) The "live" taping sessions
 - F) The interviews following the lectures
 - G) Private and group discussions with the instructor in the course
42. Which of the following situations do you enjoy the next most?
- A) The Sociology 1A6 television lectures
 - B) The Sociology 1A6 tutorial sessions
 - C) Private study and reading sociology on your own
 - D) Discussions about sociology with other students
 - E) The "live" taping sessions
 - F) The interviews following the lectures
 - G) Private and group discussions with the instructor in the course
43. Compared with other large lecture classes, how did you enjoy the lectures in Sociology 1A6? Were they:
- A) Considerably more enjoyable than most
 - B) Somewhat more enjoyable than most
 - C) About the same as most
 - D) Somewhat less enjoyable than most
 - E) Considerably less enjoyable than most
 - F) This is the only large lecture class I have taken

Column

44. Compared with other large lecture classes, how much did you learn from the lectures in Sociology 1A6?
- A) Considerably more in Sociology than in most
 - B) Somewhat more in Sociology than in most
 - C) About the same as in most
 - D) Somewhat less in Sociology than in most
 - E) Considerably less in Sociology than in most
 - F) This is the only large lecture class I have taken
45. Compared with other large lecture classes you have taken, did you find that the lectures in Sociology 1A6 made you think about things?
- A) Considerably more often than most
 - B) Somewhat more often than most
 - C) About the same as most
 - D) Somewhat less often than most
 - E) Considerably less often than most
 - F) This is the only large lecture class I have taken
46. Compared with other large lecture classes, how would you rate the lectures in Sociology 1A6 overall and in general?
- A) Considerably above average
 - B) Somewhat above average
 - C) About average
 - D) Somewhat below average
 - E) Considerably below average
 - F) This is the only large lecture class I have taken
47. It has been said that the greatest sin a teacher can commit is to bore his students. As compared with other large lecture courses I have taken, I found lectures in this course boring:
- A) most of the time
 - B) quite frequently
 - C) on several occasions
 - D) once in a while
 - E) quite rarely
48. What was your final High School grade?
- A) Below 60%
 - B) 60 - 62
 - C) 63 - 65
 - D) 66 - 69
 - E) 70 - 74
 - F) 75 - 79
 - G) 80 and above
 - H) Did not finish high school; entered university as a mature student

49. What grade did you receive at Christmas in Sociology 1A6
- A) 75% or above
 - B) 66 - 74%
 - C) 60 - 65%
 - D) 50 - 59%
 - E) 40 - 49%
 - F) 39% or below
50. Compared with tutorials in other large lecture classes, how did you enjoy the tutorials in Sociolog 1A6? Were they:
- A) Considerably more enjoyable than most
 - B) Somewhat more enjoyable than most
 - C) About the same as most
 - D) Somewhat less enjoyable than most
 - E) Considerably less enjoyable than most
 - F) Did not attend tutorials
51. Compared with tutorials in other large lecture classes, how much did you learn from tutorials in Sociology 1A6?
- A) Considerably more in Sociology tutorials than in most
 - B) Somewhat more in Sociology tutorials than in most
 - C) About the same as in most
 - D) Somewhat less in Sociology tutorials than in most
 - E) Considerably less in Sociology tutorials than in most
 - F) Did not attend tutorials.
52. Compared with tutorials in other large lecture classes you have taken, did you find that the tutorials in sociology made you think about things?
- A) Considerably more often than most tutorials
 - B) Somewhat more often than most tutorials
 - C) About the same
 - D) Somewhat less often than most tutorials
 - E) Considerably less often than most tutorials
 - F) Did not attend tutorials
53. Compared with tutorials in other large lecture classes, how would rate the tutorials in Sociology 1A6 overall and in general?
- A) Considerably above average
 - B) Somewhat above average
 - C) About average
 - D) Somewhat below average
 - E) Considerably below average
 - F) Did not attend tutorials

Column

54. Which one of the following purposes or results of university is the most important to you personally?
- A) A basic general education and appreciation of ideas
 - B) Having a variety of experiences while getting a degree
 - C) Getting the information, training and qualification necessary for a career.
 - D) Developing the ability to get along with different kinds of people
 - E) More rapid promotion in my chosen career'
 - F) Developing my latent creative mental ability
 - G) Help develop moral capacities, ethical standards and values
 - H) Develop knowledge and interest in community and world problems
 - I) Other
55. Which one of the following purposes or results of university is the next most important to you personally?
- A) A basic general education and appreciation of ideas
 - B) Having a variety of experiences while getting a degree
 - C) Getting the information, training and qualification necessary for a career
 - D) Developing the ability to get along with different kinds of people
 - E) More rapid promotion in my chosen career
 - F) Developing my latent creative mental ability
 - G) Help develop moral capacities, ethical standards and values
 - H) Develop knowledge and interest in community and world problems
 - I) Other
56. What is your father's educational level?
- A) 8th grade or less
 - B) Part High School
 - C) High school graduate
 - D) Part College
 - E) College graduate
 - F) Graduate or professional degree beyond Bachelor's degree
57. What is your mother's educational level?
- A) 8th grade or less
 - B) Part High School
 - C) High school graduate
 - D) Part College
 - E) College graduate
 - F) Graduate or professional degree beyond Bachelor's degree

Column

58. Which of the following categories best describes the usual occupation of your father or chief wage earner in your family of orientation (the family into which you were born)?
- A) Professional - income from fees e.g., doctor, lawyer
 - B) Professional - income from salary e.g., teacher, social worker, clergyman
 - C) Proprietor or manager e.g., farm owners, managers of financial and industrial enterprises, assistant executives
 - D) Sales (other than sales manager or administrator)
 - E) Clerical e.g., bankclerk, secretary, cashier
 - F) Skilled worker, e.g., electrician, plumber, watchmaker
 - G) Semi-skilled worker e.g., assembly line worker, assistant to plumber
 - H) Service worker, e.g., policeman, baker, taxi-driver
 - I) Unskilled worker, e.g., janitor, farm and other heavy labour
59. Which of the following is the income category for your family of orientation? Please consider annual income from all sources before taxes. If your father or chief wage earner is retired please estimate the approximate income category your family would be in if he or she were working today.
- A) Less than \$3,999 per year.
 - B) \$4,000 to 6,999
 - C) \$7,000 to 7,999
 - D) \$8,000 to 8,999
 - E) \$9,000 to 9,999
 - F) \$10,000 to 11,999
 - G) \$12,000 to 14,999
 - H) \$15,000 to 19,999
 - I) \$20,000 and more
60. Education is a costly affair. What proportion of this year's expenses (tuition, books, room and board, clothes, etc.) was provided for you without obligation to repay by your parents, relatives or other benefactors (other than spouse)?
- A) Nearly all
 - B) About 75%
 - C) About 50%
 - D) About 25%
 - E) Little or none
61. What is your marital status?
- A) Single, do not expect to be married before Fall, 1970
 - B) Single, expect to be married before Fall, 1970
 - C) Married, no children
 - D) Married, expecting a child
 - E) Married, one or more children
 - F) Separated, divorced, widowed

62. What is your religious affiliation?

- A) Roman Catholic
- B) Jewish
- C) Protestant
- D) Other
- E) None

63. What do you consider your ethnic background to be?

- A) British (English, Irish, Scottish)
- B) French
- C) Scandinavian, Dutch, or German
- D) Slavic
- E) Italian
- F) Other European
- G) Asian
- H) Other

THANK YOU FOR COMPLETING PART I OF THE QUESTIONNAIRE.

WOULD YOU PLEASE COMPLETE PART II WHICH IS ON A SEPARATE PAGE.

IF YOU WISH, YOU MAY RESPOND TO PART II AT SOME OTHER TIME AND MAIL OR DELIVER YOUR COMMENTS TO MR. HORNSTY LATER.

BIBLIOGRAPHY

- Athanasίου, Robert. "Technique Without Mystique: A Study of Authoritarianism in Engineering Students", Educational and Psychological Measurement, Vol. 28, (1968), 1181-1188.
- Beach, Leslie, R. "Sociability and Academic Achievement in Various Types of Learning Situations", Journal of Educational Psychology, Vol. 51:4, (1960), 208-212.
- Blanton, Wincie L., and Peck, Robert F. "College Student Motivation and Academic Performance", Educational and Psychological Measurement, Vol. 24:4, (1964), 897-912.
- Bloom, B. S. (ed.). Taxonomy of Educational Objectives, Handbook I: Cognitive Domain. New York: Longmans, Green and Company, 1956.
- Bolton, Charles D., and Kammyer, Kenneth, C. W. The University Student: A Study of Student Behaviour and Values. New Haven, Conn.: College and University Press, 1967.
- Centi, Paul, and Sullivan, Richard. "Motives for College: Utilitarian or Liberal?" Journal of College Student Personnel, Vol. 8, (1967), 305-7.
- Chansky, Norman M. "Aptitude, Personality, and Achievement in Six College Curricula", Educational and Psychological Measurement, Vol. 25:4, (1965), 1117-1124.
- Congdon, Robert G. "Personality Factors and the Capacity to Meet Curriculum Demands", Personnel and Guidance Journal, Vol. 42:8, (April, 1964), 767-775.
- Crittenden, Butler. "A Lecture-tutorial Approach to Mass Instruction in Sociology: Attitudes and Performance", Institute for the Study of Social Change, Department of Sociology, Purdue University, Purdue Experiment in Mass Instruction, Bulletin No. 2, (1969), 1-10.
- Desena, Paul A. "The Role of Consistency in Identifying Characteristics of Three Levels of Achievements", Personnel and Guidance Journal, Vol. 43, (December, 1964), 145-149.

----- . "The Non-Occupational Scales of the SVIB and Achievement in College", Vocational Guidance Quarterly, Vol. 13, (Autumn, 1964), 58-62.

Dietrick, David C. "Review of Research," in A Comparative Study of Lecture and Discussion Method, (ed.) Richard Hill, New York: The Fund of Adult Education, 1960.

Domino, George. "Differential Prediction of Academic Achievement in Conforming and Independent Settings", Journal of Educational Psychology, Vol. 59:4, (1968) 256-260.

Doty, Barbara A. "Teaching Method Effectiveness in Relation to Certain Student Characteristics", Journal of Educational Research, Vol. 60:8, (April, 1967), 363-365.

-----, and Doty, Larry A. "Programmed Instructional Effectiveness in Relation to Certain Student Characteristics", Journal of Educational Psychology, Vol. 55:6, (1964) 334-338.

Ebel, R. L. "Using Examinations to Promote Learning", in The Two Ends of the Log, R. M. Cooper (ed.) Minneapolis: University of Minnesota Press, 1958.

----- . (ed.) Encyclopedia of Educational Research. Toronto, Ontario: MacMillan Company, 1969, 4th edition.

Eckert, Ruth E., and Neale, Daniel C. "Teachers and Teaching", in Learning and the Professors. Ohmer Milton and Edward Joseph Shoben, jr., (eds.) Athens, Ohio: Ohio University Press, 1968.

Feldhuser, John, and Wang, Henry. "Discussion Groups in Educational Psychology", Journal of Teacher Education, Vol. 17, (Spring, 1966), 83-88.

Feldman, Kenneth A., and Newcomb, Theodore M. The Impact of College on Students: Volume I, An Analysis of Four Decades of Research. San Francisco: Jossey-Boss Inc., Publishers, 1969.

Flaherty, Sister M. Rita., and Ruetzel, Eileen. "Personality Traits of High and Low Achievers in College," Journal of Educational Research, Vol. 58:9, (May-June, 1965) 409-411.

- Hollander, Melvyn, and Parke, Harry J. "Occupational Stereotypes and Needs: Their Relationship to Vocational Choice", Vocational Guidance Quarterly, Vol. 18:2, (December, 1969), 91-98.
- Hornosty, Roy, et al. "Teaching Methods, Frames of Reference and Learning: A Proposal", State University of New York at Buffalo, (May, 1964), mimeographed, 1-21.
- Jensen, Barry T. "Instruction and Personality as Factors in Student Performance", Journal of Educational Research, Vol. 47, (March, 1954), 529-535.
- Kipnis, David, Lane, Gorham, and Berge, Leonard. "Character Structure, Vocational Interest, and Achievement", Journal of Counselling Psychology, Vol. 16:4, (1967), 335-341.
- Lindsay, Carl A., and Althouse, Richard. "Comparative Validities of the Strong Vocational Interest Blank Academic Achievement Scale and the College Student Questionnaire Motivation for Grades Scale", Educational and Psychological Measurement, Vol. 29, (1969), 489-493.
- MacLeish, John. "Lecture, Tutorial, Seminar: The Student's View", Education for Teaching, Vol. 75, (Spring, 1968), 21-27.
- Madison, Peter. Personality Development in College. Reading, Mass.: Addison-Wesley Publishing Company, 1967.
- McConnell, T. R., and Heist, Paul. "The Diverse College Student Population," in The American College. N. Sanford, (ed) New York: John Wiley and Sons, Inc., 1962, 225-252.
- McDowell, James V. "Student Role Orientation in the Freshman Year: Its Stability, Change, and Correlates at Thirteen Colleges", in The Instructional Process and Institutional Research. Galen N. Drewcy, (ed.) The Association of Institutional Research, 1967, 105-111.
- McKeachie, W. J. "Research on Teaching at the College and University Level," in The Handbook of Research on Teaching. (ed.) N. L. Gage. Chicago: Rand McNally and Company, 1963, 1118-1172.
- , "Research on Teaching: The Gap Between Theory and Practise", in Improving College Teaching. Calvin B. T. Lee (ed.) American Council on Education, 1967, 211-239.

- Frumkin, Robert M. "Dogmatism, Social Class, Values, and Academic Achievement in Sociology", Journal of Educational Sociology, Vol. 34, (May, 1961), 398-403.
- Gage, N. L. "Teaching Methods", in Encyclopedia of Educational Research, Robert L. Ebel (ed.) Toronto, Ontario: MacMillan Company, 1969. 4th edition.
- Gayles, Anne Richardson. "Lecture vs. Discussion", Improving College and University Teaching, Vol. 14, (Spring, 1966), 95-99.
- Gottlieb, David, and Hodgkins, Benjamin. "College Student Subcultures: Their Structure, and Characteristics in Relation to Student Attitude Change", School Review, Vol. 71, (Fall, 1963), 266-289.
- Grande, Peter P., Simons, Joseph B., and Pallone, Nathaniel J. "The Perception of the College Experience and Academic Motivation", Journal of Educational Research, Vol. 61:2, (October, 1967), 65-67.
- Gross, Neal. "The Sociology of Education", in Sociology Today, Robert K. Merton, L. Broom, and Leonard S. Cottrell, Jr., (eds.) New York: Harper and Row, Publishers, 1959, 128-152.
- Hartnett, Rodney, and Steward, Clifford T. "Final Examination Grades of Independent Study Students Compared with those of Students Taught by Traditional Methods", Journal of Educational Research, Vol. 59:8, (April, 1966), 356-357.
- Heist, P. "Diversity in College Student Characteristics", Journal of Educational Sociology, Vol. 33, (1960), 279-291.
- , and Webster, Harold. "Differential Characteristics of Student Bodies", in Selection and Educational Differentiation, Report of a Conference, May 25-27, 1959, Berkeley, California, Sponsored by the Field Service Centre and Centre for the Study of Higher Education, University of California (Berkeley).
- Holland, John. The Psychology of Vocational Choice. Waltham, Mass.: Blaisdell Publishing Company, 1966.
- , "Explorations of a Theory of Vocational Choice", Journal of Applied Psychology, (Monograph Supplement), Vol. 52:1, Part 2, (February, 1968), 1-37.

- Meaney, J. W. Televised College Courses. New York: New York Fund for the Advancement of Education, 1962.
- Nachman, Marvin and Opochnsky, Seymour. "The Effects of Different Teaching Methods: A Methodological Study", Journal of Educational Psychology, Vol. 49:5, (1958).
- Oakland, James A. "Measurement of Personality Correlates of Academic Achievement in High School Students", Journal of Counselling Psychology, Vol. 16:5, (1969), 452-457.
- O'Donovan, Thomas R., and Leila, Sister Mary. "Non-academic Involvement of Students and Their Academic Achievement", Catholic Education Review, Vol. 62, (April, 1964), 217-230.
- Olson, Leroy A. "Academic Attitudes, Expectations and Achievement", Improving College and University Teaching, Vol. 13, (Winter, 1965), 39-41.
- Pace, Robert, and Baird, Leonard. "Attainment Patterns in the Environmental Press of College Subcultures", in College Peer Groups, Theodore M. Newcomb and Everett K. Wilson (eds.), Chicago: Aldine Publishing Co., 1966, 215-242.
- Pascal, Charles E., and McKeachie, W. J. "Offering Course Option: Personality, Option Preference and Course Outcome". Paper presented at the Meeting of the American Educational Research Association, Division C, March 4, 1970.
- Pope, Hallowell, Wiggins, James A., and Bushnell, Don, Jr. "Improving Student Performance in Introductory Sociology: A Discussion of the Lack of Research and a Report of a Pilot Study", (Summer, 1968), mimeographed, 1-46.
- Porter, John. The Vertical Mosaic. Toronto, Ontario: University of Toronto Press, 1965.
- Powell, J. P. "Experimentation and Teaching in Higher Education", Educational Research, Vol. 6, (1964), 179-191.
- Richards, J. M. Jr. "Life Goals of American College Freshmen", Journal of Counselling Psychology, Vol. 13, (1966), 12-20.
- Roid, Gale. "Lecturing: Time for a Change?" Monthly Bulletin of the Centre for Learning and Development. Montreal, Que., McGill University, December 2, 1969.

- Rosenberg, Morris. Occupations and Values. Glencoe, Ill.: Free Press, 1957.
- Rowe, Frederick B. "Non-intellective Factors Affecting Student Performance", in Research Related to College Admissions. Kenneth M. Wilson (ed.) Atlanta, Georgia: Southern Regional Education Board, 1963.
- Ryan, Antoinette. "Testing Instructional Approaches for Increased Learning", Phi Delta Kappan, Vol. 46:10, (June, 1965), 534-536.
- Sanford, N. "Higher Education as a Field of Study", in The American College. N. Sanford (ed.) New York: John Wiley and Sons, Inc., 1962, 31-73.
- Siegel, L., and Siegel, L. C. "A Multivariate Paradigm for Educational Research", Psychological Bulletin, Vol. 68:5, (1967), 306-326.
- "The Contributions and Implications of Recent Research Related to Improving Teaching and Learning", in Learning and the Professor. Ohmer Milton and Edward Joseph Shoben (eds.), Athens, Ohio: Ohio University Press, 1968, 136-157.
- Smith, Leland.. "Significant Differences between High-Ability Achieving and Non-Achieving College Freshmen as Revealed by Interview Data", Journal of Educational Research, Vol. 59:1, (September, 1965), 10-12.
- Stern, George. "Environment for Learning", in American College. N. Sanford (ed.) New York: John Wiley and Sons, Inc., 1962, 690-730.
- "Measuring Noncognitive Variables in Research on Teaching", in Handbook of Research on Teaching. N. L. Gage (ed.) Chicago: Rand McNally and Co., 1963, 398-447.
- , Stein, Morris, and Bloom, Benjamin. Methods in Personality Assessment. New York: Free Press, 1956.
- Taylor, Ronald G. "Tutorial Services and Academic Success", Journal of Educational Research, Vol. 62:5, (January, 1969), 195-197.
- Thistlethwaite, Donald L. "College Press and Student Achievement", Journal of Educational Psychology, Vol. 50:5, (October, 1959), 183-191.

- Trow, Martin, and Clark, Burton. "The Organizational Context", in College Peer Group, Theodore M. Newcomb and Everett K. Wilson (eds.), Chicago: Aldine Publishing Co., 1966, 17-70.
- Vavoulis, Alexander. "Lecture vs Discussion", Improving College and University Teaching. Vol. 12 (Summer, 1964), 185-189.
- Verner, Coolie, and Dickinson, Gary. "The Lecture, An Analysis and Review of Research", Adult Education, Vol. 17:2, (April, 1964), 217-230.
- Warren, J. R. "Student Perceptions of College Subcultures", American Educational Research Journal, Vol. 5, (1968), 213-232.
- Watson, Charles G. "Cross-Validation of Certain Background Variables as Predictors of Academic Achievement", Journal of Educational Research, Vol. 59:4, (December, 1965), 147-148.
- Watson, Paul. "The Relationship Between Selected Personality Variables, Satisfaction and Academic Achievement in Defined Classroom Atmospheres". Unpublished Ph. D. dissertation, University of Michigan, 1956.
- Webster, Harold, Sanford, Nevitt, and Freedman, Mervin. "A New Instrument for Studying Authoritarianism in Personality", Journal of Psychology, Vol. 40, (1955), 73-84.
- Woodside, M. S. "University Teaching", Improving College and University, Vol. 12, (Summer, 1964), 170-175.
- Woolford, G. A. "Teacher Influence in a College of Education". Educational Research, Vol. 11:2, (1964), 148-152.