A SURVEY DESIGNED TO REFINE AN INVENTORY OF TEACHING STYLES TO BE USED BY INDIVIDUALS PREPARING FOR COLLEGE TEACHING

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ABSTRACT

A SURVEY DESIGNED TO REFINE AN INVENTORY OF TEACHING STYLES TO BE USED BY INDIVIDUALS PREPARING FOR COLLEGE TEACHING

By

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Problem

Thus far, little has been done in traditional doctoral programs to confront graduate teaching assistants with the matter of considering and adopting some philosophy of teaching or of education on which to base their instructional practices. The primary assumption in this study was that if an individual has the opportunity to re-think his approach to teaching, it is quite likely that there are many things that he can do on his own to improve, whereas if we set up a program which is oriented to specifics, we may provide a person with gimmicks that are a little more effective but we may not necessarily change his point of view.

The purpose of this work was to develop and refine an Inventory composed of several categories of teaching, which seemed reasonably distinctive from each other, that would provide a way in which an individual could engage in self-assessment, construct his own profile, and then consider whether this was the way he really wanted his teaching

practices to be characterized. The Inventory itself was originally prepared as a part of a study of the new Doctor of Arts degree for college teaching.

Design

An Inventory of Teaching Styles was mailed to the total population of graduate teaching assistants (a total of 195) in six disciplines: Education, English, Engineering, Chemistry, Mathematics, and Psychology, to determine to what extent the Inventory could be used by them to self-assess their particular style of teaching.

Twelve graduate teaching assistants from each discipline were randomly selected (a total of 72) to be individually interviewed and observed in their classrooms while engaged in teaching. They were selected for the purpose of obtaining additional feedback that would be helpful to us in working out instructions in classifying statements and clarifying the particular statements which caused difficulty.

Findings

Based upon the data collected, there appear to be some serious problems associated with the graduate teaching assistantship programs included in this study. The teaching assignments given to graduate teaching assistants included

in this survey varied widely; some had little, if any, input into the selection of various elements of teaching while others were given almost total control. Too many were performing some teaching function but were not given adequate supervision and evaluation; and some of the graduate teaching assistants were teaching in situations where the needs of the department or the major professors were allowed to supersede the needs and capabilities of the graduate teaching assistants.

The teaching assistants who were assigned to teach the recitation and laboratory classes had difficulty understanding the purpose and meaning of the Inventory of Teaching Styles, and difficulty self-assessing their particular styles of teaching. Their inability to relate to the Inventory perhaps stemmed from the fact that the components of teaching as described and defined across four styles of teaching did not characterize their particular role and function as "college teachers." The teaching assistants assigned to controlled classes were able to understand the Inventory and to assess their teaching styles but seemingly rejected the notion that there is value in self-assessment of one's attitude, philosophy, and approach to teaching. As a result of this position, as a group they did not attempt to suggest ways in which the instrument could be improved. Teaching assistants given almost total

responsibility for a course appeared to understand the purpose of the Inventory and were receptive to the notion of self-assessing their styles of teaching and appeared to be comfortable in their role as college teachers. They indicated on their Inventories and in the interviews an interest in obtaining a way in which to look at their teaching practices, and assess where they should seek to change and improve so as to bring about more meaningful learning.

Recommendations

The findings of the present study suggest that there is a need for some type of continuous program directed and systematically planned to prepare graduate teaching assistants for college and university teaching, such that they could conveniently participate in the planned teaching-learning activities with adequate guidance and supervision from individuals who have demonstrated concern for, interest and expertise in the preparation of college and university teachers. Whereas most of these programs have emphasized either content or techniques, materials, and methodology, this study reinforces the initial conviction that some consideration of a philosophy of education and of the responsibilities and obligation of teachers may be even more important.

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By

Nellie Tebo Hardy

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
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DOCTOR OF PHILOSOPHY

College of Education

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DEDICATION

To my husband Leon,

my son Allan,

and my family.

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A number of people offered and gave their help during the course of the present study, but I am especially grateful to the following individuals:

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CHAPTER I

INTRODUCTION

Following World War II, undergraduate enrollments in American higher educational institutions expanded rapidly and graduate teaching assistants were hired by colleges and universities to fill the need for more instructional staff.[1] Twenty years later, during the decade of the sixties, student enrollments are reported to have more than doubled[2] and, once more, individuals with less than the traditional doctoral degree were employed by American higher educational institutions to fill the need for instructional staff. While the graduate teaching assistants have to some degree become an integral part of, and perhaps a quite necessary element in, the academic community, they have been given minimal preparation in most institutions for their instructional responsibilities.

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[1] "Memo to the Faculty," No. 51, The Center for Research on Learning and Teaching, The University of Michigan, Ann Arbor, Michigan, 1973.

[2] According to the Department of Health, Education, and Welfare, Office of Education, data reported 1972 Standard Education Almanac, enrollment in higher educational institutions was 3,582,726 in 1960 and 7,920,149 in 1969, Table 80, p. 104. The Standard Education Almanac is published by Academic Media, Inc., 32 Lincoln Avenue, Orange, New Jersey 07050.

The enrollment increase during the decade of the sixties, brought with it demands for more quality and meaningful education. Institutions found themselves forcefully faced with, among many other things, the evaluation of instructional quality. Evaluation of instruction remains a concern in the decade of the seventies, and has been given more impetus by such occurrences as (1) a continuing increase in college and university enrollments; (2) a cut in educational budgets by state and federal governments, who are seeking more acceptable ways to make use of taxpayers' dollars; and (3) an inflationary spiraling of costs, which continue to reduce the purchasing power of college and university budgets.

Instruction is only one aspect of the institutional budget to be reviewed, but it has surfaced as a major one due to its labor implications in the educative process. The question of who should be hired has become very vital in American higher education. Inherent in the question of who should be hired is the notion of quality instruction. Unlike practitioners in other professions, most college teachers enter their first job with little preparation in the area in which they are expected to practice and with minimal appreciation or awareness of the complexity of the tasks they are to perform. Ann M. Heiss asserts that "the American college teacher is the only high-level professional

who enters his career with no practice and with no experience in using the tools of his profession" (Heiss, 1970, p. 229).

The underlying attitude or assumption supporting this practice appears to strongly suggest that if one has mastery of the subject matter of his or her discipline, the ability to communicate it effectively to students, provide competent educational counsel and effectively become involved in curriculum evaluation, reform will follow automatically (Heiss, 1970; Finger, 1970). The student unrest during the sixties called attention to this prevailing opinion and to some degree caused some educators to seriously question its validity and motivated a few institutions to begin providing their graduate teaching assistants with some instructional experiences under the guidance of a master teacher. According to Koen and Ericksen (1967), the number of institutions which claimed to provide graduate teaching assistants with education and/or experience for college and university teaching increased. Since that period, at least 23 institutions have begun offering the Doctor of Arts degree for individuals who have demonstrated interest in undergraduate teaching (Koenker, 1975). However, it has been reported that upon close examination of the institutions which purport to provide their graduate students with appropriate experiences to teach at the

undergraduate level, the primary activity, which served as the essence of the teaching-learning experience, was and still is the teaching assistantship (Heiss, 1970, p. 231). One report indicated that at least 50 percent of the graduate students who are hired as teaching assistants are given neither adequate nor consistent supervision by a senior faculty member (Heiss, 1970, p. 231; see also, "Memo to the Faculty," September 1965, p. 2).

In many institutions, the responsibilities of graduate teaching assistants vary widely among departments, i.e., within some departments graduate teaching assistants are given total responsibility for planning and teaching a course, while others may assume duties such as grading papers, developing tests, or completing routine nonacademic tasks (Heiss, 1970).

There is evidence that there are a significant number of graduate teaching assistants who are assuming full responsibility for planning and teaching a course at the undergraduate level, many of whom are not receiving adequate education and experiences designed to prepare them to be college teachers. None of the research available calls attention to the self-formulated teaching styles of graduate teaching assistants, and yet there are indications that a large number of graduate teaching assistants, once they have satisfied requirements for the traditional

doctoral degree, do go on to teach at the undergraduate and graduate level, with or without adequate preparation to do so, carrying with them the style of teaching developed while in practice as a graduate teaching assistant. The Center for Research on Learning and Teaching at the University of Michigan reported that of their 1970 and 1971 University of Michigan graduates, 53 percent were employed as teachers ("Memo to the Faculty," March 1973, p. 51).

While enrollment projections for the 1980s suggest that there will be a need for more college teachers in the future, criticism of undergraduate teaching is seemingly on the rise. Considering the number of graduate teaching assistants who have received awards for their performance in teaching it is reasonable to believe that not all college teaching by graduate teaching assistants deserves to be criticized. Many have developed styles of teaching that are effective and that could possibly provide some insight into the types of learning activities that would be appropriate in programs directed toward training graduate students to teach at the college level. Many educators are beginning to consider seriously if there is indeed a need for a doctoral program specifically designed for college teachers. Dunham (1969) has presented supportive data in his report that there is a need for such a degree program.

In the Office of Institutional Research at Michigan State University, some long-term studies designed to take an intensive look at Doctor of Arts programs which have been instituted to specifically prepare individuals for college teaching, and to identify some of the distinctive components and patterns of good college teaching, are being carried on. Growing out of this broader project is the need for D.A. candidates to have some way of engaging in self-assessment as to the nature of college teaching, the kind of program and experience that they need in their courses, internship, and teaching related studies, in order to enhance and change their instructional practices. In our assessment of these programs we moved from thinking only about students engaged in full-time D.A. program to thinking about individuals in doctoral programs who, as part of their work, engaged in college teaching--the graduate teaching assistant.

Thus far, little has been done in traditional doctoral programs to confront the graduate teaching assistant with the matter of considering and adopting some philosophy of teaching or of education. Too often these programs have employed either content or techniques, materials and methodology, and do not consider confronting graduate teaching assistants with the matter of developing a philosophy of teaching or of education on which to base their instructional practices.

One primary assumption in this study was that if an individual takes the opportunity to come to grips with his or her philosophy of teaching or of education before considering content or techniques, materials and methodology, then there are many things that he/she can do on his/her own to improve; whereas, if we set up a program which is oriented to specifics, we may give a person some "gimmicks" which are generally a little more effective but--without changes in his/her point of view--may be misused or ineffectively used.

In developing the particular instruments used in this study an attempt was not made, as have so many other approaches, to do something on the basis of a factor analytic approach. Rather an attempt was made from analysis of previous attempts, and from our own thinking and discussions with others, to develop several categories of teaching which seem to be reasonably distinct from each other. We do not purport to say that these categories really represent significantly different groups of teachers. Given these categories of teaching styles we were interested in knowing whether:

1. The graduate teaching assistants' reactions to the inventory and to the statements in it would assist us in its refinement.

2. By observing some of the graduate teaching assistants in the classroom situation, the kinds of discussions which we had with them about the statements in the Inventory had any obvious relationship to the kinds of things actually going on in their classes.

This survey starts with a review of past research on graduate teaching assistants, then presents the information derived from the Inventory of Teaching Styles, the personal interview, and the classroom observations. Finally some conclusions and recommendations are presented, along with ways in which the present findings could be utilized.

CHAPTER II

REVIEW OF THE LITERATURE

There appears to be a limited amount of research literature available on teaching assistants, and that which has been recorded primarily focuses on (1) problems associated with preparing teaching assistants for college and university teaching; (2) the duties and responsibilities assumed by teaching assistants in higher educational institutions; and (3) some of the features of graduate teaching training programs, none of which call attention to the teaching styles of teaching assistants that have grown out of their own philosophies of teaching and/or of education. Nevertheless, a review of the current literature related to graduate teaching assistants warrants discussion.

Ann Heiss, in her discussion of the survey conducted by the University of Michigan Center for Research on Learning and Teaching, points out that 75 percent of the 450 institutions surveyed by the CRLT indicated that the teaching assistantship was the primary method utilized for preparing future college teachers (Heiss, 1970, p. 231). Other researchers reported that in some instances many institutions provide opportunities in the form of special

courses, seminars, workshops and interdisciplinary programs (Clark, 1963; Koen and Ericksen, 1967; Heiss, 1968; Eble, 1971; and Mayhew, 1972).

Part of the problem associated with assessing the value of existing programs developed to prepare college and university teachers appears to be the lack of information and knowledge regarding what is covered and what should be covered. Koen and Ericksen (1967, p. 6) stated that:

> Since the profession of college teaching is a multifaceted one, and since there are certain skills associated with each aspect of it, information on the means adapted to develop these skills could prove quite useful in establishing programs for preparing new instructors. There is little published on the matter. The question of what professional knowledge and skills are developed by the current programs appears unanswerable on the basis of readily available reports. The amount and kind of instruction that is given on many of the topics which would seem to be highly relevant is indeterminate.

One of the major criticisms of graduate teaching assistant programs, as reported by 25 of the largest graduate institutions in the United States, is the fact that these programs for the most part have remained unchanged during the past decade or more (Heiss, 1970, p. 231).

John Chase (1970, p. 2) asserts in his report "Graduate Assistantships in American Universities," that

> there is a growing awareness . . . that there are many serious problems associated with the utilization of graduate teaching assistants in contemporary American higher education. And these problems are of sufficient importance to growing numbers of people to merit careful and thorough analysis.

Barnard Berelson (1960, p. 66) pointed out in his 1960 study of graduate education, that the teaching assistantship had three major drawbacks: "(1) Not all potential teachers have experience; (2) Many have it far too long, and (3) The experience is insufficiently directed and planned."

There appears to be a minimal number of studies completed that have examined graduate teaching assistantship programs in such a way so as to improve their methods for preparing college and university teachers.

Mildred Clark (1963, Preface) conducted a dissertation research of the functions engaged in by graduate teaching assistants. The conclusion she came to was not at all reassuring:

> The data indicate that, although almost 88 percent of the respondents performed some teaching function, with few exceptions supervision and evaluation of the assistants' work was at best casual and intermittent, and often altogether lacking. Assistants appeared to consider their programs deficient in the provision of guided experiences in the major roles of the college teacher which they expect to assume after graduation. The data further suggests that many of the experiences were incidental rather than deliberately planned.

Clark identified seven broad categories of teaching functions and ten broad categories of nonteaching functions engaged in by the graduate assistants (Chapter IV). She arrived at six basic conclusions related to the weaknesses in the graduate teaching assistantship programs reported by the 1,110 respondents. The first had to do with the lack of

adequate and consistent effort to provide graduate teaching assistants with worthwhile experiences to prepare them for college and university teaching. The second one called attention to the frequency to which the needs of the institution are allowed to supersede the needs and capabilities of graduate assistants. The third focused on the lack of unity that exists between the student's assistantship responsibilities and the content of his total degree program. The fourth stressed the tendency of most institutions toward involving graduate teaching assistants almost immediatly in the teaching role, rather than a gradual increase in responsibilities. The fifth area of weakness which she identified had to do with the functions engaged in by graduate teaching assistants neither being clearly directed nor appropriate for the major role of a college and university teacher. And, sixth, she concluded that the supervision of many graduate teaching assistants' work was in most cases too irregular and inadequate (Chapter VII).

In 1967, the results of a survey completed by Koen and Ericksen were published, in which academic departments representing 42 major graduate institutions were reviewed. Administrative officers of these units were asked to identify the substantive features of their most active graduate assistantship training programs. Koen's and Ericksen's general findings were that more than 60 percent of the

programs reviewed contained activities related to concrete instructional procedures; close to 50 percent claimed activities related to the planning of class sessions, course sections or entire course content; about 33 percent of the respondents identified activities related to the design and analysis of test items and grading procedures; and one-fourth of those included in the study claimed activities related to the study of the philosophy, history, and problems of higher education, or the objectives and philosophy of a particular course.

Based upon the data they received and on their own attitudes towards teaching, Koen and Ericksen made the following recommendations for a program design for graduate teaching assistants:

> A viable model for a training program should meet the following criteria: (a) Each teaching assistant will receive only such instruction and guidance as is necessary and sufficient to enable him to plan and conduct an undergraduate class in his area of subject-matter competence; (b) a model should be sufficiently flexible to serve the basic needs of the various disciplines; (c) all aspects of a training program should be directly applicable to real instructional problems and the training should be kept to a minimum; (d) the most useful form for a training program is an evolutionary one, in which systematic and continuing self-evaluation is a design feature; and (e) an efficient program will minimize increases in faculty time allotted to supervisory activities [Koen and Erickson, 1967, p. 40].

To successfully implement the above recommendations, Koen and Erickson suggested that the training program for graduate teaching assistants be divided into three phases:

- Phase I: The Apprenticeship
- Phase II: The Assistantship
- Phase III: The Instructorship.

Both the apprenticeship and assistantship phases would be open to and recommended for teaching assistants, but the instructorship phase would only include those students who had demonstrated interest in a college teaching career. The graduate student would begin as an apprentice under a well-structured and appropriately supervised preservice program. Under close supervision, he would be gradually moved to the more independent role of an instructor. During the instructorship phase, the graduate teaching assistant would be encouraged to become involved in departmental affairs, in order to gain more insight into the "extra classroom and administrative aspects of the college teacher role" (Koen and Ericksen, 1967, pp. 41-43).

Ann Heiss (1970, p. 236) in her study of 10 major graduate institutions, identified eight basic educational features of teaching assistantships:

1. Orientation-to-teaching meetings.
2. Intensive preservice training.
3. Special seminar for teaching assistants.
4. Regularly scheduled meetings with faculty supervisor.

5. Regular but informally scheduled meetings with supervisors.
6. Recommended meetings with sponsor.
7. Evaluation of T.A.'s work by their students.
8. Provided the T.A. with a written statement of his duties and responsibilities.

A most descriptive account of various training programs for graduate teaching assistants was written by Nowlis, Clark, and Rock, 1968, entitled "The Graduate Teaching Assistant as Teacher." This report analyzes the teaching assistantship at the University of Rochester and identifies problems of the teaching assistantship, as viewed by graduate students. They assert that:

1. Departments, with rare exception, are not sufficiently concerned with helping them be good teachers.
2. The recurring conflict among his teaching duties as a student and his duties as a professional apprentice in a discipline.
3. The teaching assistant's uncertainty about his status or the certainty that his status is ambiguous [Nowlis et al., 1968, pp. 28-30].

Nowlis also obtained the departmental view toward the graduate teaching assistantship and found that there was a significant degree of discrepancy between what the department chairman thought happened in the classroom of the graduate teaching assistant and what both the graduate teaching assistant and his students indicated actually occurred. He attributed the discrepancy more to "the chairman's ignorance of actual practice" than to "inaccurate reporting on the part of the student" (p. 30).

CHAPTER III

INSTRUMENTS AND METHODOLOGY

A considerable amount of literature has been generated in the areas of teaching, learning, and evaluation, but three sources in particular that have had the greatest impact on the development of the instruments used in this survey are the writings of Joseph Adelson, Richard Mann, and Joseph Axelrod. Each of these individuals calls attention to various styles of teaching and how each style or type relates to the teaching-learning process.

Joseph Adelson (1962) focuses on three types of teachers: (1) the teacher as Shaman, (2) the teacher as Priest, and (3) the teacher as Mystic Healer. The teacher as Shaman is described by him as an individual who has a narcissistic orientation and who primarily concerns himself with attracting and holding his audiences' attention. He is generally the type of individual who is admired as one admires a professional entertainer. The teacher as Priest, Adelson asserts, is one who assumes the role of preparing students for the trials they will encounter in the educational process and administering the tests that will initiate them into the powerful collectivity of scholars;

and the teacher as Mystic Healer, he claims, directs his energy toward helping students find their best qualities and what is most important within themselves, moving toward an intrinsically abstract ideal.

Richard Mann (1970) calls attention to six different styles of teaching: (1) the teacher as Expert, (2) the teacher as Formal Authority, (3) the teacher as Socializing Agent, (4) the teacher as Facilitator, (5) the teacher as Ego Ideal, and (6) the teacher as Person. He describes the teacher as Expert as an individual who believes he is an expert on certain areas of knowledge; the teacher as Formal Authority, Mann asserts, views himself as an agent of instruction, control, and of evaluation. He believes he is responsible for maintaining uniformity of standards in his field and maintaining a justifiable evaluation system; the teacher as Socializing Agent, he claims, functions as a representative of his field and as a protector of the professional community; the teacher as Facilitator is described by him as being an individual who is interested in the aspirations of students. He participates more in active listening rather than lecturing and more in questionning rather than assigning; the teacher as Ego Ideal, Mann suggests, allows his student to use him as an ideal model; and the teacher as Person encourages his students to become involved in a mutual validating relationship with him--one

that allows both teacher and students to openly discuss their concerns about the course and about matters outside of the course content.

Joseph Axelrod (1973) focuses on two major modes of teaching: the didactic mode and the evocative mode. He asserts that the didactic mode includes styles of teaching that are based on objectives that are clear and easy to formulate. The emphasis is on cognitive knowledge via memorization, repetition, and practice. The evocative modes differ from the didactic modes in that they stress inquiry and discovery. The difference between these two modes is also dependent on the emphasis given to the teacher, the learner, the subject matter, and the skill to be taught. Under these two modes of teaching, he discusses four basic styles of prototypes of teaching: The first style of teaching has to do with emphasis being placed on the subject matter, the second style focuses on the instructor as the main source of knowledge, the third style stresses the importance of both the cognitive and affective development of the student, and the fourth calls attention to the total development of the student.

Embracing the thinking of each of these sources from a humanistic point of view, this study was undertaken to develop an instrument that could be used as a self-assessment by individuals preparing for college teaching.

The study was based on the beliefs that (1) individuals who engage in college teaching should face up to a characterization of their present teaching and their ideal of what college teaching ought to be, (2) that if a person has the opportunity to re-think his approach to teaching, there are many things he can do on his own to improve; whereas, by setting up programs oriented to specifics, we may provide a person with gimmicks that are a little more effective but we may not change his point of view, and (3) that individuals who engage in college teaching ought to develop a philosophy of teaching and, as a basis for planning their instructional practices, they should look closely at how their philosophy of teaching is related to meaningful learning.

In the early stages of this study, our attention was called to what we believe to be four basic styles of teaching which seemingly reflected distinctive philosophies of teaching or of education: Discipline-Centered Teaching; Instructor-Centered Teaching; Student-Centered Teaching, Cognitive Approach; and Student-Centered Teaching, Affective Approach. The following definitions were generated for each of these styles of teaching:

Discipline-Centered Teaching: The content and structure of the discipline are rigidly emphasized and cannot (should not) be re-arranged to meet the requirements, needs, or special conditions of the teacher or learner.

Instructor-Centered Teaching: The teacher is the expert and the main source of knowledge in the subject matter or discipline for the student. Both subject matter and student are expected to be adjusted to the instructor, who is the focal point of wisdom in the teaching-learning process.

Student-Centered Teaching, Cognitive Approach: The intellectual development of the student is held to be the most important element in the teaching-learning process. Both content and teacher should be adjusted to accommodate the cognitive growth of the student.

Student-Centered Teaching, Affective Approach: The personality and intellectual development of the student is considered to be the important element in the teaching-learning process. Both subject matter and teacher should be adjusted to accommodate the total development of the student. The student should not be expected to adapt to the other two elements in the teaching-learning process.

For each of the styles of teaching identified and defined, we focused our attention on six components of the teaching: (1) Selection of Course Content, (2) Instructional Methodology, (3) Classroom Setting, (4) Student Interaction, (5) Purposes for Assignments, and (6) Criteria for Evaluation. Descriptive statements were written for each of these components in an attempt to further

characterize the four styles of teaching defined. From this was developed the Matrix of Teaching Styles (Appendix D) which included the four styles of teaching across the six components. After several editings, the first draft of an Inventory of Teaching Styles was developed and presented to graduate students in Administration and Higher Education at Michigan State University Winter Term 1976, and to three experts in the field of learning and evaluation (Lawrence Alexander, Stephen L. Yelon, and Walter Hapkiewicz). Based on their reactions, several revisions of the instruments were required and completed, hence the Inventory of Teaching Styles used in this survey evolved (Appendix A).

The questionnaire (Appendix B) utilized in the personal interviews was designed to obtain additional feedback from an individual who had been presented with the Inventory, that would be helpful in working out instructions, clarifying any particular statements which caused difficulty, and for the classification of statements which grew out of our own modification of them. More specifically, the questionnaire was developed to obtain from each graduate teaching assistant included in this survey information on:

- What type of formal or informal training they had received to teach at the college level.
- How long they had been teaching at the college level.

- What criteria they used in selecting their course content.
- What method(s) of instruction they used in their class(es).
- How their students interacted with them and with each other.
- What their purposes were for giving assignments.
- What criteria they used to evaluate their students.

The Observation Inventory (Appendix E) was developed based on the items included in the Inventory of Teaching Styles, and was constructed such that the observer was able to indicate if an individual teacher's behavior in the classroom was consistent with the feedback obtained from the Inventory and the personal interview, and to further clarify any particular statements which seemed to be inconsistent. In the structure of the Observation Inventory, attention was called to the six components of teaching and to written statements developed to characterize each of the four teaching styles. Under each component were listed the four statements, along with sufficient space for the observer to include comments that would more closely explain or describe the behavior exhibited by the teacher while in action. The observer, while viewing the teacher (in this case the teaching assistant) in action in the

classroom, was asked to check the statement under each component that best characterized the behavior being exhibited, and include any additional comments that would further explain the behavior exhibited.

Population and Sample Selection

The population for this study included 195 graduate students identified as teaching assistants in six disciplines: Education, English, Engineering, Chemistry, Mathematics, and Psychology. From the 195 graduate teaching assistants identified in the Faculty Course Listing for Fall Term, 1975, twelve graduate teaching assistants from each discipline were randomly selected (a total of 72) to be included in the survey.

The Inventory of Teaching Styles Survey

An Inventory of Teaching Styles was mailed to the total population of graduate teaching assistants (a total of 195). They were asked to select two statements under each of the six components of teaching which they felt best characterized their particular style of teaching.

In reacting to the Inventory (after one follow-up letter plus one telephoned reminder) 74 percent (145) of the graduate teaching assistants returned their responses. Of the Inventories returned, 3 percent (5) of the

respondents, four from chemistry and one from engineering, returned their Inventories with no responses along with notes indicating that they were not teaching assistants. This left us with 72 percent (140) completed and returned Inventories (see Table 1).

Table 1. Total Population of Graduate Teaching Assistants by Disciplines

Discipline	Total Population (N = 195)	Returned Responses	Percent Return
Education	14	13	93
English	33	20	61
Engineering[a]	30	18	53
Chemistry[b]	62	45	73
Mathematics	42	38	90
Psychology	14	11	79
Totals	195	145	73

[a]One Inventory was returned with no responses.

[b]Four Inventories were returned with no responses.

Interview Technique

Each graduate teaching assistant interviewed was given the definitions of the four styles of teaching identified: Discipline-Centered Teaching; Instructor-Centered Teaching; Student-Centered Teaching, Cognitive Approach; Student-Centered Teaching, Affective Approach, and were asked to react to them, indicating which of the styles of teaching, as defined, best characterized their particular style of teaching (Appendix C); then they were given the Matrix of Teaching Styles (Appendix D) which included the four styles of teaching across the six components of teaching, and were asked to react to the styles as presented, indicating once more the one that best characterized their style of teaching; and lastly, each teaching assistant interviewed was asked to answer the questions contained in the Interview Questionnaire (Appendix B).

All of the interviews (42) were done individually and each interviewee gave his/her permission to have the conversation taped. Each interview was transcribed and then reviewed and analyzed by the writer. Because only a few of the students were presented with questions pertaining to professorial self-image and the professor's image of students, no attempt was made to analyze the few responses given.

Observation Technique

Of the 72 graduate teaching assistants randomly selected 42 agreed to be interviewed and observed in the classroom setting.

In the Observation Inventory (Appendix E) attention was called to the statements written to characterize each of the four styles of teaching across six components of teaching: (1) Selection of Course Content, (2) Instructional Methodology, (3) Classroom Setting, (4) Student Interaction with Professor and Student Interaction with Each Other, (5) Assignments, and (6) Evaluation. While the graduate assistant was engaged in teaching, the observer checked the appropriate statements or statements under each component of teaching which seemingly best characterized the behavior being exhibited, and included additional comments to further describe the graduate assistant's actions and statements. Each teaching assistant was observed twice and the observation usually began the moment the teaching assistant presented himself to his students and continued until he left the classroom. Because six of the graduate teaching assistants who agreed to be observed were assigned to nonteaching duties, only 36 of the 42 planned observations were obtained.

CHAPTER IV

ANALYSIS OF THE DATA

Inventory Findings

Of the 195 graduate teaching assistants contacted, 148 (76%) responded; three included notes indicating that they did not want to participate in the survey. Of the Inventories returned, 121 (82%) included comments, providing us with additional insight into the graduate teaching assistants' reactions to the Inventory of Teaching Styles. The remarks submitted covered three broad categories:

1. How the graduate teaching assistants perceived the Inventory applied to their teaching responsibilities,
2. How the graduate teaching assistants believed they were influenced by the Inventory, and
3. The graduate teaching assistants' justification for adopting their particular styles of teaching.

How the Graduate Teaching Assistants Perceived the Inventory Applied to Their Teaching Responsibilities

Of the 148 graduate teaching assistants who responded, 60 (41%) asserted that while they had been given some teaching responsibilities, they did not believe the

Inventory of Teaching Styles was applicable to their situations. The respondents in this group noted that they were either responsible for recitation sections of a main course, help-sessions, or were responsible for meeting with students in a laboratory situation. In each case, they did not have input into the selection of the course content, in making assignments, or in the final evaluation of the students in their classes; these teaching components were pre-determined either by the department offering the course or by the major professor in charge of the course.

Twenty (14%) of the graduate teaching assistants replying to the survey expressed in their remarks that they believed we were attempting to evaluate their teaching rather than providing them with a means of assessing it themselves. They went on to note that they did not think their teaching style could be characterized by an Inventory, and that the statements written were too simplistic to be of any use.

Eighty-four (57%) of the graduate teaching assistants noted in their remarks that they did not believe they had very much control over their present style of teaching, and that their style of teaching would probably differ greatly if they were given more responsibility for selecting the course content, making assignments, and the final evaluation of their students.

How the Graduate Teaching Assistants Believed They Were Influenced by the Inventory of Teaching Styles

After responding to the Inventory, 79 (49%) of the graduate teaching assistants asserted that the way in which they had self-assessed their style of teaching on the Inventory was not the way in which they had desired it to be portrayed. This same group indicated in their remarks that after giving some thought to the way they taught and to the way their teaching had been represented, they began to seek ways in which they could increase and improve student interaction in and out of class, and to look for alternative methods of presenting the course to their students that would be more effective. Most of the teaching assistants in this group were among those who claimed that, although they had minimal input into the selection of course content, making assignments, and the final evaluation of their studdents, they were free to present the content selected for the courses in whatever way they preferred as long as the topics specified by either the department offering the course or the major professor in charge of the course were covered.

Eleven (7%) of the teaching assistants noted in their comments that the way in which they had self-assessed their styles of teaching was the way in which they had expected and desired it to be characterized. This same

group indicated that before replying to the survey, they had spent a great deal of time planning and reflecting on effective ways in which they could best present their course to the students. All of the teaching assistants in this group claimed they had been given almost total responsibility for teaching a course along with guidance from their major professors. They noted that they did have input into the selection of course content, in making assignments, and in the final evaluation and grading of their students.

The Graduate Teaching Assistants' Justification for Adopting Certain Styles of Teaching

Forty-seven (32%) of the graduate teaching assistants noted in their comments that they had never attempted to assess their style of teaching before replying to the survey, and could not realize any value in this exercise. Most of those in this group also asserted that they had adopted a style of teaching which had been and still is favored, and commonly practiced by the senior teaching faculty in their discipline. They further expressed the notion that if one had command of the subject matter, the ability to communicate it will follow automatically. This group claimed in their remarks that there appears to be, in their opinion, only one effective way to represent the

subject matter in their discipline and that was the method being utilized.

Interview Findings

Purposes and Problems

The present study was based on the belief that most graduate teaching assistants become engaged in teaching without ever reflecting on their approach or adopting a philosophy of teaching and of education directed toward meaningful learning. One broad question therefore must be considered: What type of education and experiences are necessary to prepare individuals to be effective college teachers? This question was not included in the Inventory because there was a desire for a better understanding of the graduate teaching assistants' reactions to self-assessing their own college teaching experiences, which could best be handled through personal interviews. By talking with teaching assistants actively engaged in college teaching, we believed insight could be gained into the problems and attitudes which persisted even for those graduate teaching assistants who believed they were effective in carrying out their teaching responsibilities.

The attitudes and assumptions held by many of the graduate teaching assistants regarding the type of education and experiences necessary to effectively teach at the

college level was evidenced by the reluctance with which some of them agreed to be interviewed and the brevity of their responses in the interview. Many of them agreed to be interviewed noting that they did not believe their teaching responsibilities related to the survey. Some of the graduate teaching assistants appeared to be strongly against discussing the Inventory and their teaching styles and only after several requests for an interview were we able to talk with them. Others expressed concern about their teaching practices and wanted to discuss the way in which they had assessed their teaching styles.

Because the graduate teaching assistants who participated were given assurance that they would not be identified, their annonymity has been safeguarded. By design and by constraint, a topical approach has been taken in identifying their reactions to the various components of teaching where difficulties were typically found. Statements from the graduate teaching assistants supplied examples of problems militating against them being adequately prepared for college teaching.

It has been pointed out that the utilization of graduate teaching assistants in many higher educational institutions involves serious problems--problems that deserve to be assiduously addressed and thoroughly analyzed (Chase, 1970). Over 80 percent of a group of graduate

teaching assistants included in one study were found to be performing some teaching function in situations where supervision and evaluation seldom, if ever, took place. The assistants reportedly looked upon their programs as being dificient and believed many of their experiences were chance rather than purposely planned (Clark, 1963, Preface). Also in the literature, attention has been called to some major weaknesses associated with graduate teaching assistantship programs. There are individuals who assert that many graduate teaching assistantship programs do not provide teaching assistants with worthwhile experiences to prepare them for college and university teaching; that the needs of the institution are too often allowed to supersede the needs and capabilities of graduate assistants; that a lack of unity exists between teaching assistants' responsibilities and their total degree program; and, that most institutions involve graduate teaching assistants almost immediatly in the teaching role rather than gradually increasing their involvement (Clark, 1963; Koen and Ericksen, 1967).

Graduate teaching assistants in the survey were found to be teaching in (1) recitation classes, (2) laboratory classes; (3) classes that were rigidly controlled by either the department offering the course or a senior faculty member, and (4) classes where teaching assistants were given almost total control over their teaching assignments.

Teaching Assistants in Recitation Classes

All of the graduate teaching assistants who were assigned to teach a recitation class asserted that they were essentially responsible for presenting their students with a review of the topics discussed in the lecture by the major professor; for answering questions students presented concerning the topics under consideration; and for posing questions over concepts, principles, terminology that students usually had difficulty understanding. They claimed that they were not responsible for selecting the content for the course, the standard text, for making assignments, or for the total evaluation of the students' performance. Neither experience nor discipline seemed to have been a determining factor. The duties they were assigned seemed to have been selected primarily to relieve the major professor in charge of the course from having to engage in these particular teaching functions. Many of the people in this group claimed they had been functioning as graduate teaching assistants for at least three years, and some for as long as four years. All of the disciplines represented by this group reportedly offered some type of brief training to their graduate teaching assistants in the form of three-day seminars or workshops directed by a senior faculty member and two or three experienced graduate teaching assistants. During these training sessions, it was reported

that graduate students were given an opportunity to demonstrate their teaching skills and receive feedback from the session leaders on ways they should improve. However, none of the disciplines represented were reported to have programs directed and planned to prepare their graduate teaching assistants for college and university teaching on a continuous basis.

Teaching Assistants in Laboratory Classes

The graduate teaching assistants of laboratory classes asserted that their responsibilities essentially rested with providing students with an overview of their laboratory assignments using the standard text, laboratory manual, or other materials selected and/or developed by the major professor. They reported that much of their time is spent answering questions students present related to laboratory experiments and equipment, and supervising and assessing how well students have performed on the experiments. The content, standard text, laboratory manual, or other printed material used in the course are selected by the major professor, usually with very little, if any, input from the graduate teaching assistant.

> The course content is always selected by the professor. I'm locked in by the lecture and the standard text. Recitation sections are mainly used for problem solving, problems designed to test the students on whether they actually

> understand the problems they should have already worked. What I decide to discuss in the recitation is based primarily on my feeling of what is important. Certain fundamental concepts have to be taught in this course regardless of who is teaching it. But, it is usually designed to see if the students understand the principles that the major professor covered in his lectures. Usually, it is a question and answer type period, with myself posing the questions and the students responding.

One graduate teaching assistant responsible for teaching a laboratory class stated:

> I do not choose the lab experiments that are done by the students. I have assisted in preparing the problems but, as a rule, I don't do that. What can you say about teaching a lab? You go up to the head of the class; run through the procedures; point out any pitfalls they may encounter; tell them where all the equipment is; stay there for questions and any help they may need.
>
> The professor under whom I teach the lab had me go through a couple of dry runs before I met with the class. He listened to me and gave suggestions that he felt would be helpful.
>
> What I have to say to the students is taken from the professor's materials. I couldn't do this at first because I have no experience. The laboratory assignments are given by the professor in the lecture to force the students to be prepared for the lab session.

Teaching Assistants in Controlled Classes

Another group of graduate teaching assistants reported that they were assigned to teach a class for which the course content, standard text, method of instruction and final evaluation of students were predetermined by either the department offering the course or the major professor in charge. This group asserted that they were

primarily responsible for presenting the content selected via the selected text and the method of instruction approved of by the person or persons in charge. Generally, when engaged in teaching, they claimed they worked towards preparing students for the departmental final examination or the final examination designed by the major professor--stressing concepts, principles, or techniques deemed most significant by the person or persons in charge, and those included on the final examination. All puported to have adopted a style of teaching approved of by either the department and/or practiced by their major professors. Two graduate teaching assistants from this group commented very openly on their teaching assignments. One teaching assistant stated:

> The method of instruction I use is based largely on the major professor's preferences. I have to single that out because I am teaching this course specifically for one professor and because he hasn't been here, I am teaching just what he gave me, and in what I feel is his style. I am imitating him as much as I can. I think consequently his style is my style. The course content and other materials used in the course were selected by him, but I have chosen some of the ditto materials. Assignments are given because the professor said to give them. The purpose for assignments is to force the students to look at the subject matter more deeply and to help them develop teaching strategies for their actual future teaching experiences in the field. Students are graded on their participation in class, term papers, and the final examination developed by the major professor.

Another teaching assistant stated:

> I don't control the course content. That is the function of the lecturer. But, to the extent that I do control it within the classroom (which is a minor extent in the course), I talk about things that I am interested in and that I know something about. Students view me as a resource person. They feel free to ask me questions about things related to the course which they don't understand. I ask them questions about matters of fact, terminology, about general principles, and about connections between facts and principles. Assignments are given by the lecturer to cover the information he selected for the course and about application of that theory to applied areas of study. The students are given three tests; two hourly examinations and a final exam, each determined by the lecturer.

Teaching Assistants in Uncontrolled Classes

Among the graduate teaching assistants in this survey, one group was reported to have been assigned classes for which they were given almost total responsibility; almost, because the graduate teaching assistants were expected to report to either the department or a particular senior faculty person in charge of the course. Nevertheless, this group of graduate teaching assistants asserted to have been given the responsibility for selecting the content of their courses; for their own methods of instruction, assignments, and the criterion for evaluating their students. Individuals who claimed they taught a section of the same course, reported they often met as a group to select important basic topics that should be included in each section of the course and a standard text. Once these issues were

agreed upon, each claimed to function independently, stressing topics that were of interest to the students and to themselves. Individuals of this group who were teaching courses with no additional sections asserted they used professors within their departments as resource persons to help them solve their pedagogical problems. The consultations with these professors were never reported to be systematically sequentially planned learning encounters; most were arranged when the graduate teaching assistant had problems in teaching which he could not resolve alone. Unlike the other groups of graduate teaching assistants discussed so far, this group asserted that the Inventory of Teaching Styles provided them with a way in which to look more closely at elements of teaching which they personally and individually wanted to change and/or improve. Each talked about how much they enjoyed teaching and the teaching-learning experiences they were having. One graduate teaching assistant stated:

> I have groped at times for techniques, theories, and sometimes lesson plans. I've received some input from professors, but nothing specific. I feel that the material to be covered should be what is characterized as the field. I teach a survey course so the lecture method is the best way to give the material. In the course of lectures I try to choose certain topics for discussion to get student participation and get input. I encourage discussions and questions.
>
> My assignments tend to supplement my lectures and compliment them too. I generally don't have time to go into details in some areas and so the

assignments are designed to sort of force the students to probe more deeply into one area and to approach it from an evaluative, analytic point of view.

I'm very informal in the classroom because I don't like to create extreme status differences. I'm still a student and it wasn't so long ago that I was an undergraduate. If there is an open, friendly atmosphere, students are more likely to participate, and to criticize me, and I need feedback--positive and negative.

When evaluating my students, I try to test an important area in the field. I view evaluation and testing as a learning experience.

Another graduate teaching assistant stated:

The first time I taught this course I was very nervous. I would go too fast and some of the students took it rather negatively. It was basically nervousness on my part. But some type of formal training to teach at the college level would simply have been a lot more helpful to me.

All of us who are teaching the course have a general agreement about what will be taught in terms of certain topics to be covered and the textbook.

Direct lectures is the method of instruction I use with time always left open for questions. At the start of the class I usually ask if there are questions on the material from last time. I present a film about once a week. Usually the film topic is close to what I'm lecturing on--they can see connections between what I've been lecturing on and the movie, so there is some discussion that goes on after each film presentation.

Assignments are given to help the student learn the material. What they are reading will make my lectures more coherent, so they can put the two together. Hopefully, the assigned reading will give them a practical sense of how the material applies to the real world.

When evaluating my students, I'm interested in knowing how much do they apply what we have talked about in the course of their own experiences. I evaluate my students on the basis of what I consider important. I do include a project which should have some creativity,

but that's just a small part of the grade. The basis of the grade is dependent mostly on their ability to give back what I have taught.

Observation Findings

Graduate teaching assistants who were observed teaching recitation classes were primarily engaged in discussion sessions with the students, focusing on the topics previously presented by the major professor in the lecture. The method of instruction utilized was basically that of answering questions the students raised regarding related concepts, techniques, or terminology. Sometimes the teaching assistant, when it was appropriate, provided the students with examples of how to use a certain technique for solving a problem or attempted to explain the use of terminology characteristic of the discipline. In all of the recitation classes visited both the graduate teaching assistant and students appeared to be at ease in the classroom situation. The sessions were generally informal in that students often referred to the teaching assistants on a first-name basis, and freely asked questions related to the topic under discussion. In several of the classes visited, the teaching assistants used the first quarter of the class to give a 25 point quiz over the material that had been presented in the lecture by the major professor and discussed in the recitation class. After

the quiz was collected, the remaining three-quarters of the class period was used by the teaching assistant to solve the problems included in the quiz and answer questions the students presented concerning his explanation. No assignments were given by the teaching assistants responsible for recitation classes visited, but students were apprised of the next recitation quiz to be given. Often, after each class period was over, some of the students remained to talk with the teaching assistant and with each other; some wanted answers to questions not covered during the class discussion and others were attempting to make conference appointments with the teaching assistants.

The observed laboratory classes taught by graduate teaching assistants were all conducted in about the same manner: The graduate teaching assistants began their classes by reviewing the directions for the experiments under consideration, directing students to the laboratory equipment, and answering questions the students presented regarding the implementation of the experiments. Most of the students worked in pairs and in some cases, such as the laboratory survey class, they worked in groups of five or six. Most of the teaching assistants who were observed in laboratory classes spent most of their time casually walking around the room, observing students assemble the apparatus and start their assigned experiments. The students freely

asked questions and solicited the aid of the teaching assistants when necessary; the teaching assistants appeared to have been comfortable functioning in this capacity. In the labs observed, no assignments or tests were given. One laboratory class observed was taught via closed circuit television. The teaching assistant started the class by announcing to the students that the directions for their laboratory experiment would be explained on video tape by the major professor in charge of the course. During the video tape presentation, both the teaching assistant and students viewed and listened intently. After the presentation was given the teaching assistant directed the students to the appropriate equipment and they began setting up the experiment. While the students were setting up the apparatus, he walked slowly around the room, sometimes pausing to offer suggestions on how best to complete the tasks.

In classes where the course content, standard text, and final evaluation were predetermined by either the department offering the course or the major professor in charge, the teaching assistants were observed reviewing the homework assignments with their classes and illustrating techniques for solving the problems assigned. The topics discussed and the assignments given seemed to have been based primarily on and taken from the text chosen for the

course. Most of the teaching assistants presented mini lectures over key concepts, principles, techniques, and terminology related to the discipline, emphasizing those they believed would most likely be included on the departmental final examination. Generally, the atmosphere in these classes was formal; that is, students raised their hands when they wanted to ask a question, and the teaching assistants usually answered but not necessarily recognizing by name the individuals who presented the questions. In one of the classes observed, the students were administered a 15 point quiz designed by the teaching assistant to examine the students' understanding of the concepts and problem-solving techniques discussed in the previous classes. After the quiz, the students were provided with the answers to the questions and solutions to the problems included, with the teaching assistants sometimes providing alternative answers and solutions for solving the problems. In all of the classes observed in this group, the teaching assistants gave their students assignments and called attention to principles and techniques that would be considered during the next class period.

In classes where course content, standard text, assignments, and evaluation were determined by the graduate teaching assistant, both teaching assistants and students appeared to be at ease. The teaching assistants in these

classes generally used a variety of techniques to present the content which they had selected for their courses. In one class observed, the teaching assistant gave a mini lecture covering key concepts and principles for about 15 minutes; during the second quarter of the class period, he role-played with a visiting expert on the topic under consideration; and for the remaining two quarters of the period, he allowed the students to work in groups, practicing the techniques presented earlier in the class period. In another class visited, the teaching assistant collected papers written by the students and made appointments to meet with them in groups to discuss their work and, before the class ended, he gave them directions for writing and submitting their next paper. All of the classes in this group appeared to be somewhat informal; students appeared to be interested in the topics and at ease asking questions related to the course. The teaching assistants appeared to enjoy their teaching responsibilities and seemed at ease in their role as college teachers.

Summary

Based upon the data collected, there appear to be some serious problems associated with the graduate teaching assistantship programs included in this survey. The teaching assignments given to graduate teaching assistants

included in this survey varied widely; some had little, if any, input into the selection of various elements of teaching while others were given almost total control. Too many were performing some teaching function but were not given adequate supervision and evaluation; and some of the graduate teaching assistants were teaching in situations where the needs of the department or the major professors were allowed to supersede the needs and capabilities of the graduate teaching assistants. The data collected strongly suggest that there are educators who appear to believe that, while graduate assistants may be knowledgeable enough to provide the correct answers and solutions to question and problems students may pose, they are not and will not be qualified to handle traditional or regular classes until they have been awarded the terminal degree; and any effort to systematically provide graduate teaching assistants with guided and sequentially planned educational experiences designed to adequately prepare them for college and university teaching, would be useless.

The teaching assistants who were assigned to teach the recitation and laboratory classes had difficulty understanding the purpose and meaning of the Inventory of Teaching Styles, and difficulty self-assessing their particular styles of teaching. Their inability to relate to the Inventory perhaps stemmed from the fact that the components

of teaching as described and defined across four styles of teaching did not characterize their particular role and function as "college teachers." The teaching assistants assigned to controlled classes were able to understand the Inventory and to assess their teaching styles but seemingly rejected the notion that there is value in self-assessment of one's attitude, philosophy, and approach to teaching. As a result of this position, as a group they did not attempt to provide ways in which the instrument could be improved. Teaching assistants given almost total responsibility for a course appeared to understand the purpose of the Inventory and were receptive to the notion of self-assessing their styles of teaching and appeared to be comfortable in their role as college teachers. They indicated on their Inventories and in the interviews an interest in obtaining a way in which to look at their teaching practices and assess where they should seek to change and improve so as to bring about more meaningful learning.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

One purpose of this survey was to see whether the reactions of graduate assistants to the Inventory of Teaching Styles would assist us in its refinement. A second purpose was to determine the possible usefulness of such an instrument with graduate students. We were concerned that traditional programs usually do not confront graduate teaching assistants with the matter of considering and adopting a philosophy of teaching and of education that will serve as a base for their instructional practices. By interviewing and observing some of the graduate teaching assistants it was believed that additional insight could be gained which would be helpful to us in further refining this Inventory, so that it could be used as a self-assessment by individuals preparing for college teaching. The present survey was based on the beliefs that: (1) at some point individuals who engage in college teaching should face up to a characterization of their present teaching and their ideal of what college teaching ought to be; (2) that if a person has the opportunity to re-think his approach to teaching, there are many things he can do on his own to improve, whereas by

setting up a program oriented to specifics we may provide him with gimmicks that are a little more effective, but we may not necessarily change his point of view; and (3) that individuals who engage in college teaching ought to develop a philosophy of teaching and, as a basis for planning their instructional practices, they should look closely at how their philosophy of teaching is related to meaningful learning.

Based on a review of the literature and the immediate returns from the Inventories, personal interviews, and classroom observations, very little has been done to stimulate the individuals included in this survey to face up to a characterization of their present teaching or to their ideal of what college teaching ought to be and what constitutes effective college teaching. Most of the teaching assistants indicated that, before participating in this survey, they had not considered characterizing their own teaching styles, but after doing so via the Inventory and the personal interviews, they felt that some type of systematically planned program designed to prepare graduate teaching assistants to effectively teach at the college level would have been helpful to them in fulfilling their responsibilities, especially if the timing of the program was flexible and kept to a minimum.

Most of the graduate teaching assistants included in the survey had been assigned some teaching function without ever being confronted with the matter of developing a philosophy of teaching or of education on which to base their teaching practices, and very few of them seemed to have planned their instructional practices based on well-developed philosophies of teaching and of education.

Most of the graduate teaching assistants included in the survey had not been assigned teaching responsibilities to adequately prepare them to fully function as college teachers. The majority of them taught in situations (recitation classes, laboratory classes, and controlled classes) where the major components of teaching were predetermined by either the department in which they functioned or by a senior faculty member. The majority of graduate teaching assistants included in the survey seemingly assumed their teaching responsibilities primarily to obtain financial support, rather than as a way in which to become effective college teachers.

While one group of graduate teaching assistants appeared to be functioning effectively in their roles as college teachers (those given almost total responsibility for a course), very few were being given adequate guidance and supervision. There was no indication on their returned Inventories, in their personal interviews, or in the

observations of their classes that their instructional practices were necessarily based on clearly formulated philosophies of teaching or of education. One was left with the feeling that their efforts were more a demonstration of their ability to survive as college teachers and their ability to mimic the behavior of a senior faculty member, rather than the representation of teaching techniques that were selected and adopted because they were believed to be appropriate, well thought out, and based on well-defined beliefs and assumptions about what constitutes effective college teaching.

The findings of the present survey strongly suggest that:

1. There is a need for educators within each discipline, and especially in the Natural Sciences to confront individuals committed to teaching with the matter of considering a philosophy of teaching and of education that would provide them with a basis for acquiring mastery of the subject matter and the ability to communicate it effectively to students with something more than content coverage in view.
2. There is a need for some type of continuous program directed and systematically planned to prepare graduate teaching assistants for college and university teaching. Such a program should be designed

to gradually and systematically allow graduate assistants to assume responsibility for teaching as they demonstrate command of the teaching-learning process.

3. A program should be planned such that graduate students who are committed to college teaching could conveniently participate in the program activities and be provided with adequate guidance and supervision during their involvement in the teaching-learning process as teaching assistants.

Because most of the current senior teaching faculty have not indicated interest in teaching graduate teaching assistants how to effectively teach at the college and university level; because they themselves have come through an educational system that did not necessarily prepare them to become or be effective college teachers; and because they may or may not themselves be effective college teachers; it would seem most appropriate to have the responsibilities for such a program delegated to person(s) who have demonstrated concern for, interest, and expertise in the preparation of college and university teachers, supported by the departments and directly related to the disciplines of the graduate assistants.

Such a program designed for graduate teaching assistants would seemingly function most effectively and efficiently if interested and competent faculty from each discipline were utilized as consultants where and when it was appropriate, and if it was designed as a central service to all the departments within the university which use graduate students as teachers.

Implications of Survey Findings

Based on the data collection, the Inventory of Teaching Styles was useful to graduate teaching assistants in the Social Sciences and Humanities, perhaps because they were already oriented to the idea of assessing their effectiveness as college teachers and because many of them had been given almost total responsibility for teaching undergraduate courses.

Use of the Inventory by graduate teaching assistants in the Sciences and Mathematics was found not to be useful, perhaps they had never been given sufficient duties and responsibilities for teaching undergraduate courses and had never been confronted with self-assessing how effective they were as college teachers. In order for the Inventory to be useful to this group, a program or seminar designed to orient graduate teaching assistants to the importance of teaching at the college and university level would need to be implemented.

Most of the graduate teaching assistants included in this study indicated when interviewed that after giving thought to the Inventory, to the way they taught and to the way their teaching had been represented, they began to examine closely alternative methods of presenting their courses to the students based on their philosophies of teaching or of education.

The fourth category on the Inventory of Teaching Styles--Student-Centered Teaching, Affective Approach--should be revised to a Cognitive-Affective Approach, basically because none of the graduate teaching assistants included in this study believed it related to their teaching practices. Indeed, there are probably very few teachers who would subscribe to an entirely affective approach to teaching.

Recommendations for the Application of the Present Findings

Although restricted in nature, the findings of this survey could be of assistance in at least three areas of the teaching profession. These three areas are:

1. Training programs for Doctor of Arts candidates;
2. Pre-service training programs for teaching assistants;
3. Inservice training on college teaching.

The Inventory could be especially useful for D.A. candidates who have committed themselves to a career in undergraduate teaching; it may also be useful with graduate assistants in confronting them with some of the choices about teaching, in planning seminars, or in planning discussion on college teaching.

APPENDICES

APPENDIX A

INVENTORY OF TEACHING STYLES

APPENDIX A

INVENTORY OF TEACHING STYLES

CONTENT

____ 1. The course content is chosen to be at once interesting to the students and productive of intellectual growth.

____ 2. Course content is based upon the professor's preferences and perceptions of the discipline and may include practical applications or interrelations with other disciplines.

____ 3. Content is necessary--used to help students to grow and confirm their status as adults.

____ 4. The course content is determined by selecting those concepts, methods, theories, or materials which best present the discipline.

____ 5. Other _____

_____

_____

INSTRUCTIONAL METHOD(S)

____ 1. The instructional procedures reflect the professor's personality and preferences.

____ 2. By lectures and use of standard texts and references, the professor systematically covers the body of knowledge accepted by scholars in the discipline.

____ 3. Student discussions or dialogues supplemented with lectures and explanations are used to encourage students to think.

____ 4. Methods emphasize group interaction to the end of individual insight, acceptance, and development.

____ 5. Other _____

_____

_____

CLASSROOM SETTING

____ 1. Classroom atmosphere is highly informal, encouraging student participation and full expression of feelings and concerns.

____ 2. The professor dominates and develops the classroom setting to his own liking.

____ 3. The classroom setting tends to be formed with emphasis on scholarly authority and objectivity.

____ 4. Classroom setting is somewhat relaxed, encouraging student participation and encouraging them to become more analytical and logical in their thinking.

____ 5. Other _____

_____

_____

_____

STUDENT-FACULTY INTERACTION

____ 1. Student-professor and student-student interactions relate primarily to issues arising out of course content.

____ 2. Student discussions and interactions are preferred modes of understanding in applying concepts and principles.

____ 3. Intensive group interactions are viewed as a preferred mode of learning.

____ 4. Classroom discussions focus upon and clarify the views expressed by the professor.

____ 5. Other _____

_____

_____

_____

ASSIGNMENTS

____ 1. Assignments are largely self-determined and self-imposed.

____ 2. Assignments reflect the professor's personality and preferences.

____ 3. Assignments are designed to require and develop cognitive abilities and to motivate the student toward self-reliance and intellectual maturity.

____ 4. All students are given the same or very similar assignments to be pursued through the text or standard reference materials.

____ 5. Other _____

_____

_____

_____

OBJECTIVES AND EVALUATION

____ 1. Students are judged and graded on specific items of knowledge and standard ways of presenting it.

____ 2. Students are judged and grading on the basis of their ability to solve problems that require new resources and strategies.

____ 3. The professor judges and grades students on the basis of their ability to imitate and reflect his approaches, perspectives, conceptions, and formulations.

____ 4. Each student is encouraged to develop his or her own standards and goals and evaluate accordingly.

____ 5. Other _____

_____

_____

_____

PROFESSORIAL SELF-IMAGE

____ 1. The professor views his role as that of encouraging students to think for themselves.

____ 2. The professor radiates self-confidence and a strong ego.

____ 3. The professor views himself more as a counselor and resource person than as a teacher.

____ 4. Professor identifies closely with discipline and especially with certain subphases or courses in which he is the resident expert.

____ 5. Other _____

_____

_____

_____

STUDENTS

____ 1. The professor views students as an audience and a source of acolytes.

____ 2. Students are all viewed as prospective majors and graduate school prospects.

____ 3. Students are regarded as individuals who must become self-reliant and who will use their knowledge in ways not predictable by the professor.

____ 4. Students are viewed as individual who must understand themselves and accept full responsibility for their own behavior and goals.

The cognitive emphasis may be conjoined with a recognition that affect often directs and controls cognition. Affect then is to be recognized and brought under control to achieve fully rational behavior.

____ 5. Other _____

_____

_____

_____

APPENDIX B

INTERVIEW QUESTIONS

APPENDIX B

INTERVIEW QUESTIONS

1. Your Sex

   Male _____

   Female _____

2. Your Discipline and Major Area of teaching responsibility.

   Discipline: _____

   Major Area: _____

3. What type of formal training have you received to teach at the college level?

   _____

   _____

   _____

   _____

4. What type of informal training have you received at the college level?

   _____

   _____

   _____

   _____

5. How long have you been teaching at the college level?

   _____

   _____

   _____

   _____

6. What criteria do you use in selecting course content?

   _____

   _____

7. What methods of instruction do you use in your class(es)?

8. What kind of climate do your class(es) have, i.e., emotion-free, relaxed, formal, informal?

9. How do your students interact with you in the classroom?

10. How do your students interact with each other in the classroom?

11. What are the purposes underlying assignments in your class, i.e., why do you give assignments?

12. What criteria do you use to evaluate students in your class(es)?

APPENDIX C

DEFINITIONS

APPENDIX C

DEFINITIONS

Discipline-Centered Teaching: The content and structure of the discipline are rigidly emphasized and cannot (should not) be re-arranged to meet the requirements, needs, or special conditions of the teacher or learner.

Instructor-Centered Teaching: The teacher is the expert and the main source of knowledge in the subject matter or discipline for the student. Both subject matter and student are expected to be adjusted to the instructor, who is the focal point of wisdom in the teaching-learning process.

Student-Centered Teaching (Cognitive Approach): The intellectual development of the student is held to be the most important element in the teaching-learning process. Both content and teacher should be adjusted to accommodate the cognitive growth of the student.

Student-Centered Teaching (Affective Approach): The personality and intellectual development of the student is considered to be the important element in the teaching-learning process. Both subject matter and teacher should be adjusted to accommodate the total development of the student. The student should not be expected to adapt to the other two elements in the teaching-learning process.

APPENDIX D

MATRIX OF TEACHING STYLES

APPENDIX D

MATRIX OF TEACHING STYLES

COMPONENTS	DISCIPLINE-CENTERED TEACHING	INSTRUCTOR-CENTERED TEACHING	STUDENT-CENTERED TEACHING (COGNITIVE APPROACH)	STUDENT-CENTERED TEACHING (AFFECTIVE APPROACH)
Course content	The college content is determined by selecting those concepts, methods, theories, or materials which best present the discipline	Course content is based upon the professor's preferences and perceptions of the discipline and may include practical applications or interrelations with other disciplines	The course content is chosen to be at once interesting to the students and productive of intellectual growth	Content is secondary--used to help students to grow and confirm their status as adults
Method	By lectures and use of standard texts and references, the professor systematically covers the body of knowledge accepted by scholars in the discipline	The instructional procedures reflect the professor's personality and preferences	Student discussion or dialogues supplemented with lectures and explanations are used to encourage students to think	Methods emphasize group interaction to the end of individual insight, acceptance and development
Classroom setting	The classroom setting tends to be formed with emphasis on scholarly authority and objectivity	The professor dominates and develops the classroom setting to his own liking	Classroom setting is somewhat relaxed encouraging student participation and encouraging them to become more analytical and logical in their thinking	Classroom atmosphere is highly informal, encouraging student participation and full expression of feelings and concerns
Student-faculty interaction	Student-professor and student-student interactions relate primarily to issues arising out of course content	Classroom discussions focus upon and clarify the views expressed by the professor	Student discussions and interactions are preferred modes of understanding and applying concepts and principles	Intensive group interactions are viewed as a preferred mode of learning
Assignments	All students are given the same or very similar assignments to be pursued through the text or standard reference materials	Assignments reflect the professor's personality and preferences	Assignments are designed to require and develop cognitive abilities and to motivate the student toward self-reliance and intellectual maturity	Assignments are largely self-determined and self-imposed
Objectives and evaluations	Students are judged and graded on specific items of knowledge and standard ways of presenting it	The professor judges and grades students on the basis of their ability to imitate and reflect his approaches, perspectives, conceptions, and formulations	Students are judged and graded on the basis of their ability to solve problems that require new resources and strategies	Each student is encouraged to develop his or her own standards and goals and evaluate accordingly
Professorial self-image	Professor identifies closely with discipline and especially with certain subphases or courses in which he is the resident expert	The professor radiates self-confidence and a strong ego	The professor views his role as that of encouraging students to think for themselves	The professor views himself more as a counselor and resource person than as a teacher
Students	Students are all viewed as prospective majors and	The professor views students as an audience and a source	Students are regarded as individuals who must become self-reliant and who will use their knowledge in ways not predictable by the professor	Students are viewed as individuals who must understand themselves and accept full responsibility for their own behavior and goals
			The cognitive emphasis may be conjointed with a recognition that affect often directs and controls cognition. Affect then, is to be recognized and brought under control to achieve fully rational behavior.	

APPENDIX E

OBSERVATION INVENTORY

APPENDIX E

OBSERVATION INVENTORY

Code No. _____ Discipline _____

Class Title or Number _____

Day Visited _____ Class Time _____

Room No. _____ Location _____

CONTENT

____ 1. Focus of the learning unit was on principles, theories, and methods characteristic of the discipline. Comments:

_____

_____

____ 2. Focus of the learning reflected the professor's personal choices, preferences, and perceptions of the discipline. (The professor uses phrases such as "I suggest," "I prefer," "My interpretation of," to indicate his preferences.) Comments:

_____

_____

____ 3. Focus was on both content and the students; students were encouraged and allowed to indicate and pursue their interest within the boundaries of the content area. Comments:

_____

_____

____ 4. Focus was primarily on the students--content was secondary--used primarily to encourage student involvement and student feedback. Comments:

_____

_____

METHOD OF INSTRUCTION

____ 1. Method of instruction utilized was primarily lectures from notes and the standard texts. Comments:

_____

_____

_____

_____

____ 2. The method of instruction was based primarily on the professor's personal point of view. (Consider various statements that the professor makes, such as: "I" or "my"; the way he shifts his approach or technique with students.) Comments:

_____

_____

_____

_____

____ 3. The method of instruction was by way of discussion sessions or dialogues or mini lectures and explanations which were used to encourage the students to participate in the classroom. Comments:

_____

_____

_____

_____

____ 4. The method of instruction was by way of discussion sessions led by the students allowing the professor to participate. Comments:

_____

_____

_____

_____

CLASSROOM SETTING

____ 1. The atmosphere in the class was emotion-free with emphasis on scholarly objectivity. (There was no emotional involvement displayed by students and teacher.) Comments:

_____

_____

_____

_____

____ 2. The atmosphere in the class was such that the professor assumed a dominant role or position. (Students were not encouraged to become involved in the presentation or discussion, or they did not become involved.) Comments:

_____

_____

_____

_____

____ 3. The atmosphere in the class was somewhat relaxed. Students were encouraged to participate in the discussion sessions, and use their ability to think analytically, and to keep to the subject. Comments:

_____

_____

_____

_____

____ 4. The atmosphere in the class was highly informal and encouraged students to direct the class activities and behavior. Comments:

_____

_____

_____

_____

STUDENT INTERACTION WITH PROFESSOR

____ 1. The professor, although not unfriendly, did not relate personally to the students. Comments:

_____

_____

_____

_____

____ 2. The professor was sensitive to student interest and involvement with the subject matter but restricted questions to the assigned content. Comments:

_____

_____

_____

_____

____ 3. The professor encouraged students to determine the nature and depth of the analysis of the subject matter; emphasis was on clarifying and analyzing the topics at hand. Comments:

_____

_____

_____

_____

____ 4. The professor interacted informally with students. Often they referred to each other on first name basis. He showed little concern for coverage or integration of knowledge, or closure. Comments:

_____

_____

_____

_____

STUDENT INTERACTION WITH EACH OTHER

____ 1. If students interacted with each other, they did so before and after class, not during the class. Comments:

_____

_____

_____

_____

____ 2. Students were not encouraged to work together, though they might. Comments:

_____

_____

_____

_____

____ 3. Students were encouraged to exchange ideas, to stimulate each other's thinking; with the instructor and with other student participants in the instructor-led discussion. Comments:

_____

_____

_____

_____

____ 4. Students interact with each other informally and in groups. Comments:

_____

_____

_____

_____

ASSIGNMENTS

____ 1. The assignment was highly structured and designed to help students learn the principles, theories, and methods identified in the lecture. Comments:

_____

_____

_____

_____

____ 2. Assignments were designed by the professor to encourage application, analysis, and integration of knowledge in the discipline. (Directions or other comments made about assignment will indicate this notion.) Comments:

_____

_____

_____

_____

____ 3. The assignment was planned to engage the interest of the students, appeal to their curiosity, and to cultivate within them the desire to move towards intellectual maturity. (Students' attendance, facial expressions, etc., should indicate whether assignment is interesting. Assignment encourages the students to engage in activities that will require them to apply what they have learned in the classroom.) Comments:

_____

_____

_____

_____

____ 4. Only general assignments were given. Students were encouraged to continue working towards self-development. Comments:

_____

_____

_____

_____

EVALUATION (Should ask for course outline to verify this category.)

____ 1. Evaluation was by way of formal examination, quizzes or tests that require mastery of the body of knowledge presented. Comments:

_____

_____

_____

_____

____ 2. Evaluation was by way of examinations that required the students to demonstrate their ability to apply, analyze, and integrate the body of material that was presented--discouraged rote learning. Comments:

_____

_____

_____

_____

____ 3. Evaluation was by way of classroom participation, papers, and examinations, the focus of which was on their ability to utilize a variety of sources in a number of learning activities. Comments:

_____

_____

_____

_____

____ 4. Evaluation was based on their classroom participation and other affective gains such as attitude, behavior, etc. Comments:

_____

_____

_____

_____

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