5-1-1992

General Education Requirements for Elementary Preservice Teachers: A Case Study

Judith K. McCutchan

Follow this and additional works at: https://commons.und.edu/theses

Recommended Citation

https://commons.und.edu/theses/1207

This Dissertation is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact zeinebyousif@library.und.edu.
GENERAL EDUCATION REQUIREMENTS FOR ELEMENTARY
PRESERVICE TEACHERS: A CASE STUDY

by
JUDITH K. MCCUTCHAN

Bachelor of Science, The University of North Dakota, 1979
Master of Education, The University of North Dakota, 1986

A Dissertation
Submitted to the Graduate Faculty
of the
University of North Dakota
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

Grand Forks, North Dakota
May
1992
This Dissertation submitted by Judith K. McCutchan in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota has been read by the Faculty Advisory Committee under whom the work has been done, and is hereby approved.

Mary M. Russell
(Chairperson)

John E. Moore
Richard D. Sanders
Myrna R. Olson
Mark Laufe

This Dissertation meets the standards for appearance and conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

Harvey Knell
Dean of the Graduate School
4-29-92
PERMISSION

Title: GENERAL EDUCATION REQUIREMENTS AND ELEMENTARY TEACHERS: A CASE STUDY

Department: CENTER FOR TEACHING AND LEARNING; SPECIAL EDUCATION

Degree: DOCTOR OF PHILOSOPHY

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the Library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in his absence, by the Chairman of the Department or the Dean of the Graduate School. It is understood that any part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation.

Signature

Date April 20, 1992
LIST OF TABLES

1. Frequency of Students by Major Reporting
   Why Courses Were Taken ........................ 79

2. Number of Students by Major Enrolling in
   English 102 and 209 ............................ 84

3. Department of Courses Completed to Satisfy
   the Social Science GER and the
   Satisfaction Index ............................ 86

4. Department of Courses Completed to Satisfy
   the Arts and Humanities GER and the
   Satisfaction Index ............................ 89

5. Department of Courses Completed to Satisfy the
   Mathematics, Science and Technology GER and the
   Satisfaction Index ............................ 91

6. Courses that Students by Major Felt Beneficial
   to a Future Teacher ............................ 92

7. Courses Students Would Like to Have Taken ....  96

8. Reasons Given for the GER ...................... 98

9. Number of Students by Major Taking Courses
   to Meet Social Science GER and Mean of
   Satisfaction Index ............................ 133
10. Number of Students by Major Taking Courses
to Meet Arts and Humanities GER and Mean
of Satisfaction Index ................................ 135
11. Actual Classes Taken by Student Major for
GER in Mathematics, Science & Technology
and Mean Satisfaction Index .......................... 139
ACKNOWLEDGEMENTS

To pursue the "impossible dream" takes a lot of nudging, help and support from many people. Above all I would like to thank my husband, Neil, for his constant support in my being able to obtain an education while he saw to it that the house ran smoothly. I would like to thank our son, Allen, for his support and admiration. And thanks too to the smallest family member, Max, who was constantly by my side and was happy to see me regardless of my mood. I dedicate my dissertation to these three.

I would like to thank Dean Mary Harris, committee chair, for all of her support and many hours spent on my behalf, and the rest of my committee, Dr. Myrna Olson, Dr. John Williams, Dr. Dick Landry and Dr. Mark Grabe for seeing that I had a well-rounded education and for the hours spent on my committee.

Thank you also to Dr. Steve Harlow and Dr. Larry Smiley who gave me support during the early stages of work on my dissertation.
ABSTRACT

The purpose of this study was to investigate curricular patterns for general education requirements in elementary teacher education during the period 1970-1990 and to examine the general education of elementary education seniors at the University of North Dakota in 1987-88 within the framework of changing views of the purposes of general education in teacher education.

Students were selected randomly from a list of seniors majoring in elementary education, elementary/early childhood education and elementary/special education during spring semester of 1988. Sixty students were contacted by telephone and interviewed during the final two weeks of the spring semester. Twenty-one faculty members whose names were provided by the department chairs were interviewed in person by the researcher during the final two weeks of the spring semester of 1988.

Students reported selecting courses to fill the requirement more often in areas where there were few offerings available. Interest in the content was the reason most frequently given by students to account for course selection. Students recommended courses which they...
felt would have the most impact on preparation to teach. They valued courses viewed as relevant to their future profession and courses which were well taught. The main function of General Education Requirements were perceived as providing subject matter background or content by 33% of the students and 67% of the faculty.

The University of North Dakota accomplished many curricular milestones at the same time as other American institutions of higher learning and the General Education Requirements had many things in common with these institutions and exceeded the requirements set by some other universities. Many of the recommendations of the students and faculty surveyed paralleled the recommendations advanced by the reform organizations.

It is recommended that the students and faculty maintain a common understanding of the purpose of each element of the program, that the strong liberal arts features of the program be maintained, and that the curriculum be continuously monitored.
CHAPTER I

BACKGROUND FOR THE STUDY

After a year of study of education in the United States, The National Commission on Excellence in Education released its 1983 report concluding that the nation is at risk not from outside forces, but from within. It asserted that American students were not being as effectively educated as either students in other countries or as their parents were educated in the past. This startling conclusion came during a period when knowledge was expanding at a phenomenal rate. The Commission, trying to remedy this dire situation, which was disclosed in its 1983 report, A Nation at Risk, recommended that future teachers be required to meet high education standards, show an aptitude for teaching, and obtain competence in an academic discipline (National Commission on Excellence in Education, 1983, p. 30).

Following A Nation At Risk, the Carnegie Forum on Education and the Economy and the Holmes Group, in 1986, published reports recommending that undergraduate teacher education be abolished and replaced with graduate level teacher education. Because the University of North Dakota
is a charter member of the Holmes Group, it is advantageous to ascertain how teachers graduating from the University of North Dakota were being educated and saw their education before the teacher reform signaled by publication of these two documents.

Background

The University of North Dakota was established in 1883 as a College of Arts and Sciences with a Normal School for the education of teachers (UND Undergraduate Catalogue, 86-88). The obligation of the University was to preserve knowledge, to disseminate knowledge and to create new knowledge. Its mission remains to provide challenging and diverse programs to fulfill the obligation of the University throughout the state.

From the opening of the University until 1955 the entire scope of courses taken to complete a degree was determined by the student's major. With the proliferation of knowledge in the twentieth century, the idea that educated people should have common knowledge was advanced. This idea lead to the start of what was termed the General Education Requirements (GER). Starting in 1955, the University required each undergraduate student to complete courses from a prescribed set of courses in the areas of English, the Social Sciences, Arts and Humanities, and
Mathematics, Science and Technology. This requirement was established to help each student:

- develop (1) the ability to make informed choices,
- the ability to communicate effectively,
- intellectual curiosity and creativity,
- (4) a continuing commitment to learning,
- (5) a capacity and interest in serving others,
- (6) a sense of responsibility both to specific communities and to a culturally pluralistic world, and
- (7) greater personal satisfaction through access to the larger social, political, economic, scientific, and aesthetic culture (UND Undergraduate Catalog 86-88, p 26).

According to the 1986 University catalogue, in addition to the courses required by the University for graduation, the typical student was required to take approximately one-fourth of the total number of credits needed to graduate in an area of concentration called a major.

Students who majored in elementary education in 1986 were required to take a minimum of 52 credits in a major to include sophomore experience, cluster areas (communications, creative expression, human relations, and math/science), activities (junior team, electives and independent study), and student teaching. Of these 52 credits, 5 credits of course work could apply to both the elementary education major and the General Education Requirements; however, 25 credits were required from
specifically designated courses in elementary education. The minimum number of credits required for graduation from the University was 125. For the typical student, the program included 38 credits to fulfill the General Education Requirements, 52 credits in elementary education, and 40 credits in areas of interest to the student.

Many students elected to use these elective credits to obtain a second major in a related area. While second majors in music, physical education, mathematics, theatre arts, visual arts, special education, early childhood education and library science and audio visual instruction were available in 1988, a majority of students who chose to have a second major decided on either early childhood or special education. Not only did the students majoring in elementary education, elementary/special education and elementary/early childhood education constitute the majority of elementary education majors, they were also the students whose programs of study were most systematically comprised of courses offered by the Center for Teaching and Learning.

**Purpose of the Study**

The purpose of this study was to investigate curricular patterns for general education requirements in elementary teacher education during the period 1970-1990 and to
examine the general education of elementary education seniors at the University of North Dakota in 1987-88 within the framework of changing views of the purposes of general education reform in teacher education at the beginning of a period of major reform in teacher education.

Methodology and Overview

In 1988, a review of the literature on general education through an Educational Resources Information Center (ERIC) search and through an on-line search of Psychological Abstracts and ERIC uncovered many articles written on the purposes for general education throughout history and also on the reasons for general education. No studies of preservice teacher choice of courses to fulfill general education requirements were found. The review of literature in chapter 2 presents two major sections. The first traces the history of general education, general education reform in the 1960's, and general education at the University of North Dakota. The second presents an historical overview of teacher education in America, current reforms, and current general education reforms in teacher education. Chapter 3 describes elementary teacher education and related programs at the University of North Dakota, including their general education requirements, and the reforms that were contemplated in 1988. This
background information helps interpret the telephone surveys of students which enabled specific research questions to be addressed.

Methods employed to seek answers to the empirical questions are described in chapter 4. The student survey results and the program description presented in chapter 5 serve as a case study of institutional practice at the University of North Dakota in 1988. The case study of educational units has been extensively used in teacher education reform during the late 1980s, since this method lends itself to a descriptive study of conditions over time. Some of the more prominent research has been conducted in the colleges by Project 30 (Murray and Fallon), and the Association of American Colleges (Johnston and Associates, 1989). Similar studies of high schools and colleges were conducted by the Carnegie Foundation for the Advancement of Teaching in 1983 and 1987.

Integration of teacher reform in the 1980s with the answers received by faculty and students is combined to answer the final two research questions in chapter 6. While chapters 5 and 6 deal with the research questions presented in chapter 1, chapter 7 presents the overall conclusions and recommendations of the study.
Research Questions

The survey part of the study presented in chapters 4 and 5 was designed to answer the following questions:

1. Why did seniors majoring in elementary education at the University of North Dakota select the courses they took to satisfy each area of the General Education Requirements (GER)?

2. Did early childhood education and special education majors' reasons for choosing courses differ from those of the elementary education majors?

3. What courses did these students take to satisfy the GER in the communications area? Which of these two courses (English 102 or 209) did they find most beneficial to a future teacher?

4. What courses did these students take to satisfy the social science, arts and humanities, and mathematics, science and technology requirements of the GER? How valuable did the students find the courses selected?

5. What GER courses did these students see as being most beneficial for a future teacher to take?

6. What additional courses would these students have chosen from the General Education Requirements if they had the time?

7. What did these students see as the reason for the General Education Requirements?
8. What benefit did faculty in elementary, early childhood, and special education think the student would receive from taking General Education Requirement courses?

9. What courses did faculty in elementary, early childhood, and special education advise students to take to meet General Education Requirements?

Two additional research question related the case study material of chapters 3 and 5 to the more general review of literature presented in chapter 2:

10. How did the University of North Dakota General Education Requirements for elementary education students in 1988 compare to similar requirements nationally?

11. What changes in the General Education Requirements for elementary education students at the University of North Dakota were indicated by student and faculty perceptions and by the national reform agendas developing in 1988?

**Significance of the Study**

This study was designed to find out why seniors in elementary education, elementary and early childhood education, and elementary and special education chose certain courses in the liberal arts areas to satisfy the General Education Requirements for graduation from the University of North Dakota in 1988 (UND). This study further sought to determine which courses the students
felt were advantageous to their education and would be
good for a future teacher to have completed. Faculty
advisors of these students were also asked what GER
courses they recommended. This study, therefore, had the
potential benefit of helping college advisors to evaluate
and possibly alter the way in which information about
general education was disseminated to undergraduates.

Further, with the push for reform in the general
education of future teachers in America, it is imperative
that a program understand itself before curriculum changes
are implemented. A program study at an important point in
time provides a frame from which future gains can be
documented. This case study, therefore, has the potential
benefit of helping the faculty to assess the impact of
program changes on student perception of the general
education provided by the program and how the program and
student perceptions reflect the reform agenda of
increasing emphasis on the liberal arts preparation of
teachers.

Limitations of the Study

Subjects for this study were 60 students at the
University of North Dakota who attended the University for
at least three years and, therefore, fulfilled the General
Education Requirements at the University and who were
seniors in 1988. These seniors were selected by cluster
sampling of equal numbers of elementary education, elementary/early childhood education, and elementary/special education majors. The results of the study of these individuals cannot be generalized to transfer students, or to students with majors in secondary education, middle/junior high school education or elementary education with a double major in mathematics, physical education, library science and audio visual instruction, music, theatre arts, or visual arts or to students graduating from the University of North Dakota in other years nor to students graduating from the University with a major in another area of study.

Faculty interviewed for the study were limited to the faculty in elementary, early childhood, and special education who advised undergraduate students at the University of North Dakota in 1987-88. The results cannot be generalized to faculty in other schools or in Arts and Science. The study is limited by the extent to which the respondents gave accurate responses to the questions.

**Definition of Terms**

The following terms are used in particular ways in this study.

1. Cluster. Learning activities in four major areas (Communication, Creative Expression, Human Relations and
Mathematics/Science) required of all elementary education majors.

2. Credit. According to the University of North Dakota Undergraduate Bulletin (84-86), a credit "... represents one class period of lecture or two hours of laboratory for each of the weeks that constitute a semester" (p 123).

3. Double, Dual, or Combined major. A student who is taking courses to fulfill the requirements to graduate with a major in more than one area of study or teaching.

4. Early Childhood Education (EC). A course of study which fulfills the requirements for a degree in early childhood education and a degree in elementary education.

5. Elementary Education (EE). A course of study which fulfills the requirements for a degree in elementary education, and no other major area of concentration.

6. Elementary Education Requirements. The courses required by the Elementary Education faculty for graduation from the University with a degree in elementary education.

7. General Education Requirements (GER). A choice of courses in the areas of English, the Social Sciences, the Arts and Humanities, and Mathematics, Science and Technology to help students develop

(1) the ability to make informed choices, (2) the ability to communicate effectively, (3) intellectual
curiosity and creativity, (4) a continuing commitment to learning, (5) a capacity and interest in serving others, (6) a sense of responsibility both to specific communities and to a culturally pluralistic world, and (7) greater personal satisfaction through access to the larger social, political, economic, scientific, and aesthetic culture (Undergraduate Catalog, 86-88, p 26).

8. Major. An area of interest in which a student concentrates his/her course work to obtain a university degree.

9. Satisfaction Index. The mean of the value to their education that students assigned to each course completed.

10. Special Education (SE). A course of study which fulfills the requirements for a degree in special education and a degree in elementary education.

11. Teacher Education through Applied Methods (TEAM). Co-requisite courses taken as a 16-hour block in the junior year. This group of courses comprises about half of the required cluster courses.
CHAPTER II

REVIEW OF THE LITERATURE

This chapter presents two major sections. The first section traces the historical roots of general education, general education reform in the 1960's, and general education at the University of North Dakota. The second section provides an historical overview of teacher education in America, current reforms, and current general education reforms in teacher education.

General Education

Historical Roots of General Education

The concept of general education in colleges and universities has been highlighted by discourse of opposing factions; the traditional and the progressive. The traditional concept is based on a desire "to free a student from provincialism and to lead him to self-discovery through an awareness of tradition, to confront him with the persistent issues of morals and politics and to give him an understanding of the interconnectedness of knowledge" (Bell, 1966) and is highlighted by the general
education practiced by many institutions in the first half of the century. These courses were characterized by a prescribed set of courses to be successfully completed by students majoring in an area. The second concept, the progressive, is "centered on the individual, seeking to design an education that meets the needs of a pluralistic society" and provides a variety of options which fit the diverse clientele served (Kellams, 1985, p. 121). This second type of general education characterizes what is known at the University of North Dakota as the General Education Requirements. The progressive concept of general education was first introduced by the president of Harvard, Charles W. Eliot, in 1909.

Goodchild (1991) credits Harvard with the first undergraduate curriculum reform in reaction to Eliot's relaxation of undergraduate requirements around 1909. Eliot permitted the undergraduate students "to select their own courses until only a few compulsory ones remained in the freshman year" (p. 7). His successor, President Lowell, replaced free selection with what became known as distribution requirements and the concentration or major, which mandated half the curriculum. This change was accomplished to restructure undergraduate studies in a way that instructor-student interaction were to remain paramount (Goodchild, 1991). Since that time the two
conflicting beliefs have been vying for control of the curriculum.

**General Education Reforms in 1960**

Because of the conflicting ideas of general education, different authors recount educational reforms in different years. The second progressive reform reported by Goodchild, the reform of the 1960's, is the reform of interest for general education requirements as we know them today. Three main circumstances led to these particular changes in higher education: the low birth rate of the 1930's, the expansion of knowledge, and greater access to higher education. The result was that in the 1960's there were more students in American colleges and universities than ever before (Havighurst, 1960).

In the depression of the 1930's, there was a decline in the birth rate. That decade saw fewer births than either the 1920's or the 1940's and half the number of births that occurred in the 1950's. During the 1950's when students born in the 1930's reached high school age, there was a simultaneous proliferation of knowledge and an emphasis on a college education (Havighurst, 1960).

In 1940, there were 1750 colleges and universities in America, staffed by 110,000 faculty (Pusey, 1978). During the 1950's college-educated people came to be more in
demand because of the proliferation of knowledge and the availability of jobs for people with college educations. This was further enhanced when, in 1957, the Soviet Union launched the first artificial satellite, "Sputnik." In response to concerns that the Soviet Union had beaten the United States into space, an emphasis was placed on the teaching of science and mathematics with the passing of the National Defense Education Act (Schalock, 1983). By 1970 there were 2,850 institutions with nearly 500,000 instructors (Pusey, 1978). The expansion of knowledge also lead to a thirst for knowledge.

After World War II many of the people returning from the war could not find jobs. The government passed the G I Bill enabling them to attend school. Many took the opportunity and continued with their educations. Civilian scholarships came into their own and were awarded to students who needed help. While an education had once been available only to the upper class, the middle and the upper middle class were now able to attend college and to be upwardly mobile (Havighurst, 1960).

The reform wave of the 1960's resulted in relaxation of curriculum. Kridel (1983) says that a "do-your-own-thing" mentality or student unrest were not major factors in the "widespread relaxation of curricular requirements and the disarray of today's general education programs" (p. 155). Arguments for a prototype general education proposal were
advanced by Daniel Bell at Columbia in 1966. His plan was unsuccessful at Columbia, where he taught, but it affected many other institutions, which instituted nontraditional approaches (Goodchild, 1991). Lack of local success of Bell's plan was due to its being a solo effort, according to Gaff, who says it needed "a group working together to reach an agreement about the purposes of general education and to develop an appropriate program for their institution" (1983, p. 164). Bell's proposed curriculum had four parts. The first step required students to take a general course sequence in the history and traditions of Western civilization. The second step included special courses in the natural and social sciences as an introduction to disciplines of the student's choice. The third step was, in effect, a major. Fourth, and last, was a multidisciplinary approach to the methodological and philosophical presuppositions of the field of study. This, Bell called "the Third Tier" (Boyer, 1977).

By the 1970s the number of courses in the areas proposed by Bell (GER) had expanded to such an extent that they represented smorgasbords of courses, from which the students could pick and choose (Boyer, 1987, p. 83). This wide array of general education courses was characteristic of the courses offered at the University of North Dakota.
In 1955, the University of North Dakota accepted the concept of universal requirements in general education for all students with the institution of University College. University College was designed to be a program for freshman, regardless of their intended major, to discover their own special interests and abilities and to help each student make the adjustments necessary for successful college work (*University College Catalogue, 1956-57*). It was constructed to provide contact with fields of learning and ideas which the student would share with other people in school and in life. These first General Education Requirements, the forerunner of the GER of today, included: (a) freshman English - 1 year, (b) physical education - 1 year, (c) military science (males only) - 1 year, (d) basic general education - 1 year in 2 of the following areas: humanities, mathematics, natural sciences or social sciences. Students had about 60 choices.

The Military Science or Air Science requirement for men was a direct result of the mandatory draft which was in effect. By having satisfactory grades, a good attendance record, being physically fit and having interest in becoming an officer, men were able to be deferred from induction into the Armed Forces until after their educations were completed (*University College Catalogue*,
1956-57). According to Perrone (1984) this requirement was formally deleted on December 3, 1964.

With the advent of the General Education Requirements came three specific types of courses. The first type was the course specially designed to fulfill this requirement. Humanities 101, Biology 100 and Elements of Economics were examples. The second type was the course which introduced an area of study and on which other courses build. This type of course was exemplified by Sociology 101 and Psychology 101. The third type was the elective course and was exemplified by Anthropology 375 and History 204 (Perrone, 1986). Many educators felt that interdisciplinary courses would be established, but these courses did not materialize significantly at this time.

By 1976 the General Education Requirements (GER) were quite different and no justification for the GER was stated in the University Catalogue (1976-78). The number of credits required was raised from about 20 semester hours to 29 semester hours, and the requirements for physical education, mathematics and military science were deleted. The areas and semester hours required to meet the GER were: English Composition, 5; Social Studies, 8; Humanities, 8; Science, 8. There were no limitations on the distribution of courses within the various categories. The requirement read that course work or a successful CLEP (College-Level Examination Program) test score (25th
percentile in Humanities, Natural Science and Social Science, and the 40th-65th percentile in English) would satisfy this requirement.

**Changes to the General Education Requirements**

In 1976 a review of the GER was started by a committee appointed by the Vice President for Academic Affairs. In 1979 several proposals were presented by the General Education Requirements Committee to the University Senate. These recommendations were: (a) a statement of rationale should be given; (b) an increase in the number of hours required in the Humanities; (c) a decrease in the number of hours required in the Social and Behavioral Sciences; (d) the addition of a mathematics requirement; (e) a requirement of representation of two different academic departments within the Humanities and Social and Behavioral Sciences; and (f) an increase in the number of courses that can meet the GER (Perrone, 1979). This committee spent several years drafting a statement of philosophy which would give the faculty guidance in the preparation and teaching of courses which would fill the GER and also give the student an understanding of the purpose of a university education (Perrone, 1986).

By 1980, the number of credit hours required in the Social Sciences had been raised from 8 to 9 hours, and the credit hours in both Arts and Humanities, and Mathematics,
Science, and Technology, from 8 to 12 hours. Students were required to choose courses in at least two departments in the Social Sciences, three in the Arts and Humanities and two in Mathematics, Science and Technology. One course in the latter area had to be a laboratory science. The philosophy stated for the GER was that "the University has a responsibility to insure that students are exposed to a broadly based and liberal education" and that the requirements

...are designed to provide students with opportunities to extend their basic learning and communication skills, awaken their intellectual curiosity, develop their concern for social and historical perspective in relation to contemporary issues, and enlarge their understandings of themselves and the changing world (Undergraduate Bulletin, 1980-82, p. 24).

In 1985, the number of choices available to a student to meet the General Education Requirements was expanded to 358 (69 in Social Science, 231 in Arts and Humanities, and 58 in Mathematics, Science and Technology). Many people on the General Education Requirement Committee felt there were too many courses for students to choose among. The Committee therefore: (a) asked the Sub-committees (a committee in each of the general education areas) to re-study each course to see if it fit into the goals of the GER at the University of North Dakota and (b) decided to
conduct a survey of faculty and students to find the relationship between the principles stated in the philosophy and classroom practices.

The philosophy as stated by the General Education Requirements Committee contained eleven learning areas. They were:

(1) Critical Thinking (defining a problem, recognizing stated and unstated assumptions, understanding disciplined inquiry, using imagination and insight, questioning authority, relating skills to thought and action).

(2) Communication (expressing ideas, feelings and values—related to written and oral expression and/or interpretation of a range of symbol systems and modes of expression beyond writing and speaking).

(3) Creative Thinking (imagining alternatives, generating new ideas, transforming ideas, thinking analogically, engaging in original work, coming to terms with ambiguity and complexity).

(4) Recognizing Relationships (seeing the connectedness of ideas and events, their mutuality and contextual wholeness, understanding the ways that individual elements—ideas, entities, events—fit together).

(5) Recognizing and Evaluating Choices (understanding that choices need to be made and how these choices are
related to values as well as how to make informal choices).

(6) Historical Perspective.

(7) Special Modes of Inquiry (essentially special ways of analyzing problems and communicating interpreting information).

(8) Contributions of the Field of Inquiry Represented in this Course to Society.

(9) Introduction to the Underlying Structures of the Field of Inquiry Represented in this Course.

(10) Introduction to the Important Literature in the Field Being Studied.

(11) The Development of Appreciation for the Aesthetic Aspects of the Culture.

A survey of courses was conducted using faculty selected randomly from the Spring 1986 timetable of general education courses and up to ten students randomly selected in each specially designed, introductory and elective course (p. 38). Each person was asked to: (a) rate the course just completed in 11 areas of learning; (b) rate the emphasis (major, minor or no) of writing and reading in the course; and (c) rate how well the course served to enlarge the student's understanding of the world (Perrone, 1986). The survey results were compiled in May, 1986, by Vito Perrone. Of the 1080 forms distributed, 616 (114 faculty and 502 student) were filled out and
returned. This represented a return rate of 57% (80.3% of the faculty and 53.3% of the students). Although the student response was lower than the faculty response rate, when consideration was given to past return rates, the rate of response was considered excellent (Perrone, 1986).

Perrone reported that survey results showed students find the greatest emphasis in GER courses to be, in order: (a) recognizing relationships; (b) recognizing and evaluating choices; (c) critical thinking; (d) introduction to the underlying structures of the field of inquiry represented in this course; (e) contributions of the field of inquiry represented in this course; (f) creative thinking; (g) communication; (h) special modes of inquiry; (i) historical perspective; (j) the development of appreciation for the aesthetic aspects of the culture; and (k) introduction to the important literature in the field being studied. However, the emphasis reported by both students and faculty, as shown by the figures in the study, placed recognizing and evaluating choices higher than Perrone reported and special modes of inquiry lower than reported. This study found that the elective courses came closer to meeting the abilities desired by the GER philosophy than the specially designed course and the introductory courses and further, that "it might be argued that most introductory courses, as currently conceived,
organized, and taught, are inappropriate general education courses" (Perrone, 1986, p. 72).

Perrone (1986) concluded by saying:

Our introductory courses are not yet serving adequately the purposes of general education well enough; our specialized courses, though small in number, are not yet intense enough with regard to the intentions put forth in the Philosophical Statement; goals relating to writing, a richer core of reading, historical perspective, communication, creative thinking fall disappointingly short of what is needed and ought to be expected (p. 75).

In 1990, Etemad conducted a case study and created a profile of the general education classes recorded on the 1990 transcripts of 1433 baccalaureate degree graduates at the University of North Dakota and 179 1989 and 1990 associate degree graduates at the University of North Dakota-Lake Region. Etemad found that at the University of North Dakota only four General Education Requirements courses appeared on at least 25% of the transcripts. These courses were: English 101, Psychology 101, English 102, and Sociology 101. She also found that the transcripts of majors in natural science, political science and mechanical engineering had the greatest core of coursework in common, primarily English and mathematics courses (p. 175).
Etemad concluded that the choices of students for GER courses were "heavily weighted in the social sciences and humanities areas with limited study in fine arts, values, languages, and other traditional liberal studies," and that the loose distribution system at the institutions allowed students to select general education coursework related closely to their major rather than broadening their experience or electing a common core of experiences (p. 200).

**Teacher Education**

**Historical Overview**

When the United States was first settled, its economy was rural and formal education was not deemed a necessity. According to Haberman (1983), during the colonial period teacher training was a form of apprenticeship. A novice put himself into an apprentice relationship in order to learn to carry on an art or trade. It was not until the end of two centuries of our nation that teachers were formally educated (Urban, 1990, p. 59). The main role of early colleges and universities was to educate ministers and gentlemen (Haberman, 1987). As late as the opening decades of the nineteenth century, the three distinct college faculties were still law, medicine and theology (Wilshire, 1990).
In 1823 the first private normal school for the education of elementary teachers was established in Concord, Vermont, by Reverend Samuel Hall, but was soon closed because of financial difficulties (Haberman, 1983, p. 99). The first public normal school was established in 1839 in Lexington, Massachusetts, and this idea spread throughout the nation, reaching the south by the late nineteenth or early twentieth century (Urban, 1990, p. 59).

By the end of the Civil War, there were 11 state-supported normal schools, and by 1890 the number had grown to 114. By 1898, 167 public normal schools were in operation, which graduated 8,188 teachers of the approximately 403,000 teachers practicing (Haberman, 1983). Even by 1900 only an elementary school education was a prerequisite for entry to one of the normal schools which, according to Haberman (1983, 101), were "really offering high school level education with an infusion of pedagogy." The first programs in education were one or two years in duration (Urban, 1990, p. 59).

While the normal schools educated future elementary teachers, colleges educated future high school teachers (Geiger, 1958). Their education was acquired through liberal arts study, however, and departments of education in universities didn't start springing up until after the Civil War (Urban, 1990). "The first chair of pedagogy in
a university was established at the University of Michigan in 1879" (Urban, 1990, p. 63). The university, keeping to its emphasis on advanced study and research, had less of a technical nature and more of a focus on the daily problems in schools than did the normal school (Urban, 1990, p. 63).

World War I (1914) saw cities with populations of over 100,000 people training teachers in normal schools operated by the districts or in departments in its high schools; both students and teachers were trained by the public schools. At that time the separate normal schools in existence could not keep up with the demands of the expanding number of public schools. By the 1930's, only about 30 of the public school operated normals remained, as colleges assumed more responsibility for teacher education (Haberman, 1983, p. 101).

As more people received a high school education, teacher preparation obtained at a normal school assumed less of a remedial quality, and normal schools became colleges. According to Lemlech and Marks (1976), by 1935, most state institutions had expanded teacher preparation for elementary teachers to four years beyond a secondary education (p. 29), but it was not until the 1970's that the total number of qualified teachers caught up with the school population (p. 27). By the middle of the twentieth century, as the science of education evolved, former
normal schools, now teacher's colleges, often became universities (Urban, 1990).

The differences between the three types of schools for teacher education were distinct. The normal school was a two-year refresher of a high school graduate's basic skills, while the schools of education and teachers colleges had a base in the science and art of pedagogy, and the university emphasized the theoretical basis of education.

Current Reforms

Beginnings of the Reform.

In response to growing dissatisfaction with the test and employment performance of American high school graduates, the Secretary of Education, T. H. Bell, created the National Commission on Excellence in Education in August, 1981. This commission, chaired by David P. Gardner, then president of the University of Utah and president-elect of the University of California, was to provide solutions to problems affecting the quality of American education. The eighteen-member committee gathered information from a number of sources; these included invited papers, and testimony from letters and meetings with experts in education, administrators, teachers, students, parents, business leaders, public officials, representatives of professional and public
groups, and concerned citizens. The group also read
descriptions of notable programs and promising approaches
in education, primarily at the high school level.

The report of the Commission, aptly called *A Nation at
Risk*, stated that while we can take pride in what our
schools and colleges have accomplished and contributed to
American society, our educational foundations were "being
eroded by a rising tide of mediocrity that threatens our
very future as a Nation and a people" (National Commission
on Excellence in Education, 1983, p. 5). The results of
this 18 month study uncovered concerns in four major
areas: curriculum content, teacher expectations,
educational time, and teaching competence.

The Commission found that the content of the secondary
school curriculum had been watered down to the point that
it no longer had a central purpose. The Commission also
found that 25% of the credits received by general track
high school students were in non-academic courses such as
work experience and training for adulthood. The
Commission found that the students were receiving life
skill training, but not academic knowledge.

In the area called expectations, the Commission found
that less homework and study were expected of American
high school seniors than in years past, and fewer course
hours in mathematics and science after grade six were
expected in the U. S. than by other industrialized
nations. The "minimum competency" examinations required in 37 states fell short of what the Commission felt was needed. Observations about time in school from A Nation at Risk are closely related to expectations. In the area of time, the Commission found that when compared to students in other countries who spend 8 hours a day for 220 days per year in school, students in the United States attended school for only 6 hours a day, 180 days a year. Poor management of classroom time and an unplanned and haphazard manner of teaching study skills were also found.

Finally, the 18 month study found a shortage of teachers in critical subjects such as mathematics and science. It also found many teachers whose college educations contained numerous methods courses which reduced the number of courses in the subject matter taught. Furthermore, too many teachers were drawn from the bottom quarter of graduating high school and college courses. After entering the profession, teachers received low wages and had little influence on critical professional decisions such as textbook selection.

The National Commission found that the expectations for high school students were low and that expectations for the future teachers of these students were correspondingly low. Major recommendations to help alleviate these problems were as follows:
1. That State and local high school graduation requirements be strengthened and New Basics be required. The New Basics were defined as: 4 years of English, 3 years of mathematics, 3 years of science, 3 years of social studies, one-half year of computer science, and 2 years of a foreign language, for those going to college.

2. That "schools, colleges and universities adopt more rigorous and measurable standards and higher expectations for academic performance and student conduct, and that 4-year colleges and universities raise their requirements for admission" (The National Commission on Excellence in Education, 1983, p. 27).

3. That more time be devoted to learning the New Basics.

Seven separate recommendations on teaching were given. They were:

A. Future teachers "should be required to meet high educational standards, to demonstrate an aptitude for teaching and to demonstrate competence in an academic discipline." Further, that teachers' education programs be "judged by how well their graduates meet these criteria."

B. Professionally competitive, market-sensitive, and performance-based salaries for professional educators.

C. Adoption of an 11-month contract for teachers.
D. Development of career ladders that distinguish between beginning, experienced and master teachers.

E. Employment of nonschool personnel to help solve the shortages of mathematics and science teachers.

F. Incentives, such as grants and loans, available to attract outstanding students to the teaching profession (The National Commission on Excellence in Education, 1983, p. 30).

G. Master teachers involved in designing teacher preparation programs and in supervising probationary teachers.

The Commission recommended that educators and elected officials be held responsible for providing the leadership to achieve these reforms plus the necessary support and stability (The National Commission on Excellence in Education, 1983, p. 23-32).

Privately-funded experts came forth with alarms about public schooling at about the same time in books entitled *High School: A Report on Secondary Education in America* (Boyer, 1983) and *A Place Called School* (Boyer, 1987). It was not until 1986 that the reform of teacher education was addressed. Between 1986 and 1989, reforms with implications for the general education of teachers were advanced by a number of groups including the Carnegie Forum on Education and the Economy, the Holmes Group, the Association of American Colleges, Project 30, the National
Council for Accreditation of Teacher Education, the North Dakota Department of Public Instruction and the American Association of Colleges for Teacher Education.

**Carnegie Forum on Education and the Economy.**

In January, 1985, the Carnegie Forum on Education and the Economy was established by the trustees of the Carnegie Corporation of New York "to explore the link between economic growth and education of the people who will make that growth possible" (p. 6). In 1986 this Forum published its recommendations in a book entitled *A Nation Prepared: Teachers for the 21st Century: The Report of the Task Force on Teaching as a Profession.* Signatories included: Mary Hatwood Futrell, National Education Association; Bill Honig, California Secretary of Education; Judith E. Lanier, Dean, Department of Education, Michigan State University, and Albert Shanker, President, American Federation of Teachers from 1974 until 1989. The recommendations of this group included:

1. Creation of a National Board for Professional Teaching Standards.
2. Restructuring schools to provide a professional environment for teaching.
3. Restructuring the teaching force, and introducing a new category--Lead Teacher.
4. Requiring a bachelors degree in the arts and sciences as a prerequisite for the professional study of teaching.

5. Developing a new professional curriculum in graduate schools of education leading to a Master in Teaching degree.

6. Mobilizing the nation's resources to prepare minority youngsters for teaching careers.

7. Relating teachers' incentives to school-wide student performance, and providing the technology, services and staff essential to teacher productivity.

8. Providing teachers' salaries and career opportunities competitive with those in other professions.

The Carnegie Forum continued with their mission by establishing in 1987 a 63-member National Board for Professional Teaching Standard "to establish high and rigorous standards for what teachers should know and be able to do, to certify teachers who meet those standards, and to advance related education reforms for the purpose of improving student learning in American schools" (National Board for Professional Teaching Standards, 1989, p. 67). The culmination of the first phase of the Board's work, the initial policy formation, was published in 1989. The second phase, research and development, will be accomplished from 1989 to 1993 and will "concentrate on specification of certification standards for each field"
and development of assessment products and delivery systems" (p. 68). The third phase of the Board's work will commence in 1993. This will include accessing the first group of teacher candidates for National Board Certification.

The National Board was not looking to certify new teacher education graduates, but teachers who had classroom experience. The possession of at least a baccalaureate degree from an accredited institution and three years of teaching at one or more elementary schools were two of the prerequisites (p. 37).

While the Carnegie Foundation was starting its work toward teacher reform, a group of college deans was organizing its efforts as a organization known as the Holmes Group.

The Holmes Group.

In late 1983 a meeting of 23 deans and a number of the chief academic officers from research institutions was held to review and approve a two-phase plan to upgrade learning through development and implementation of rigorous new standards for teacher education in the leading research universities in each state. This meeting was sponsored by the Johnson Foundation. The Carnegie Corporation of New York, the Ford Foundation, the Johnson Foundation, the New York Times Foundation, and the U. S.
Department of Education granted financial support for the first phase of the plan.

The development of new standards began in the fall of 1984 and continued for eighteen months. It was decided to defer recommendations on special education, bilingual education, vocational education, and early childhood education until more intensive consideration of those fields could be accomplished. In 1986, publication of the goals and agenda of the Holmes Group was accomplished in a book called, *Tomorrow's Teachers*. The main goals of the Holmes Group were: 1. to find new ways to evaluate future teachers. 2. to make more solid the intellectual background of teachers. 3. to make schools better places for teachers to work and learn. 4. to recognize differences in knowledge, skill and commitment in education, certification and the work of teachers and 5. to make better connections between schools and institutions which educate future teachers. Methods by which goals were to be accomplished included for future teachers to receive a bachelors degree in a certifiable area in arts and sciences before study toward teacher certification commenced, differentiation of teachers by skill levels, and the establishment of professional development schools. However, much implementation discretion was left to the individual member schools.
The concept of a professional development school is analogous to a teaching hospital for medical education. Professional development schools would maintain student teachers and practicum students under the tutelage of master teachers, who would be adjunct faculty members, in conjunction with regular college instructors. Not only would teaching on all levels be done in this setting, but also classroom research. A complete description of the professional development schools was proposed in the second Holmes Group manifesto *Tomorrow's Schools* (1990). The Holmes Group intended to accomplish its agenda by establishing a network of committed research universities. They decided to include in its membership at least one leading public university from each state as well as at least one institution for every 25,000 teachers. Other considerations for invitations were: membership in the American Association of Universities; the offering of a doctoral program in education at the institution; a reputation for excellence of research and development in education; and the percentage of minority enrollment at the institution, as well as the investment in research and development of the university as a whole. In return, each institution was required to demonstrate an active effort to implement the reform agenda, continue research and development activities, provide adequate institutional support (Holmes, 1986) and an annual $4000 membership fee.
Each member institution was also required to submit an annual progress report and participate in regional and national activities of the Group (Holmes, 1986).

Charter memberships were invited jointly to the dean of education and the chief academic officer of 123 institutions. By November 15, 1986, 90 research institutions accepted, 25 rejected and 11 were unable to make a decision about joining the reform group by the cut-off date (Chronicle of Higher Education, 1986). Ultimately about 98 schools of higher learning joined the consortium, and this group is still being expanded.

The Carnegie Foundation for Education and the Economy and the Holmes Group advocated that courses in teacher education be completed after the receipt of the bachelor’s degree while other groups upheld teacher education as an undergraduate activity. Two such sets of people were the Association of American Colleges and Project 30.

The Association of American Colleges.

In 1989, a full six years after the start of teacher education reforms in the United States, Joseph S. Johnston, Jr., and Associates published the recommendations of the Association of American Colleges (AAC) in a book aptly named Those Who Can (Johnston, J. S. & Associates, 1989). One of the main concerns of the AAC
was who were becoming teachers. While students in America's schools are coming increasingly from minority groups, the number of minority teachers is not keeping pace. Neither is the total number of students going into teaching adequate to meet demand. AAC asked "How do we get more qualified students to chose teaching as a career?"

In May of 1987, AAC sent out questionnaires to 1378 United States colleges and universities granting baccalaureate degrees in the arts and sciences. Of the 804 (58%) institutions which replied by August, 601 (75%) had a process in effect whereby students majoring in the arts and sciences could prepare for teaching in the context of a four year program. Of these, 62% were private and 38% were public institutions. Questions dealt with the demographics of the university as well as how institutions informed students about teacher certification programs. This was the first such survey to be conducted and gave a baseline against which all future efforts can be measured.

From the answers to the questionnaire three main points became clear: 1. Colleges have found that the most effective method to get arts and sciences majors to consider going into teaching is by formal and informal academic advising. 2. The Arts and Sciences majors who are also being certified in teaching are as academically
able as those who choose an education degree. and 3. Some colleges have in effect innovative cross-disciplinary programs that are working. While the main two teacher reform efforts reviewed in previous sections advocated teacher education after the receipt of the baccalaureate, AAC promoted the present four-year teacher education preparation because it can work. However, they recommended that the content of the courses be studied for duplication and substance.

The background research for the Association of American Colleges has been completed, but the research for Project 30, which also advocates keeping teacher education as a four-year process, is just beginning.

**Project 30.**

The Carnegie Corporation of New York provided a three year grant to Texas A & M University and the University of Delaware as directors of Project 30. Of the 600 teacher education institutions which inquired, 30 colleges and universities, representing a cross-section of the four-year colleges of education in America, were chosen to participate in redesigning teacher education. Those selected included at least five institutions who were charter members of the Holmes Group. While the Holmes Group was administered by the Deans of Education at member
institutions, Project 30 has in full engagement both faculties of arts and sciences and faculties of education.

Project 30 started with the 1988-1989 school year and used as the catalyst for reform the following topics: "Subject Matter Understanding; General and Liberal Knowledge; Pedagogical Content Knowledge; Multicultural, International, and Other Human Perspectives; and Recruitment into Teaching" (p. 3). The faculty at each institution is seeking methods to help educate the right future teachers in the right way and in the right combination of campus and clinical experiences.

During the three years of Project 30, faculties of departments of Arts and Science and Education were to revise their course offerings for future teachers in an effort to ascertain the information that students should learn. After the three-year study,

"Project 30 will have begun reforms on the campuses of the participating institutions and will issue major publications calling for a national reform effort based on the best work and ideas consolidated during the life of the project" (Murray and Fallon, p. 3).

While the Carnegie Foundation for Education and the Economy, the Holmes Group, the Association of American Colleges and Project 30 worked with members of higher education to bring about reform in teacher education, other groups sought to bring educational reform through
the use of accreditation and state approval of programs. These groups included the National Council for Accreditation of Teacher Education (NCATE), the North Dakota Department of Public Instruction (DPI) and the American Association of Colleges for Teacher Education (AACTE).

**National Council for Accreditation of Teacher Education.**

The National Council for Accreditation of Teacher Education (NCATE) is a national forum which works to promote professional education that fosters the competent practice of graduates and encourages institutions to meet rigorous academic standards through the accreditation of teacher education units. Compliance with standards is maintained through reports required of member institutions and through visitations of trained evaluation teams.

As early as 1976 deans of land-grant colleges and state universities expressed concern regarding the standards and procedures in effect and called for their revision. The Institute for Research on Teaching at Michigan State University in 1980, and the American Association of Colleges for Teacher Education (AACTE) in 1983 expressed similar concerns. In June of 1983 NCATE adopted six principles to direct its redesign and gave responsibility for recommending necessary changes for implementation to
the NCATE Council (Gollnick & Kunkel, 1986). These principles were in the areas of (a) Unit accreditation (b) Reaccreditation (c) Coordination of State approval and accreditation (d) Team training and standardization (e) New Standards and (e) Reporting of accredited units. Between 1983 and 1985 the Council, with the help of interested organizations, constructed the redesign which was put into effect in July, 1986. The new design included the requirements of professional organizations in which these institutions were members, but left specialized areas to the "learned societies."

In the redesign of NCATE, were six areas not previously included in the accreditation process which are relevant to the consideration of general education within the teacher education program.

1. Ten preconditions for accreditation/reaccreditation included criteria for admission to and exit from basic teacher education programs.

2. Programs would be accredited, accredited with stipulations, denied or revoked as a unit. A unit could have two divisions (upper and basic levels), but all areas of education and all education branches of the institution were included. If one area of education is not approved, the whole unit is not approved.
3. Units could submit folios to each of the "learned societies" for approval or have approval from their NCATE-approved state board.

4. The visitation teams would go through rigorous training to standardize recommendations across campuses.

5. There were 18 new standards in the areas of: curriculum, practice, students, faculty, and governance and resources. One standard directly addressed general education as follows:

   The unit ensures that education students receive appropriate depth and breadth in an integrated course of study that is offered by faculty in the liberal arts and other general studies. At the advanced level, education students should have a solid grounding in general education that will allow for concentration of professional and specialty studies (National Council for Accreditation of Teacher Education, p. 46)

6. The curriculum is designed on current knowledge base.

   With the redesign of NCATE, two voids existed for the institutions of higher learning in North Dakota:

   1. The North Dakota Department of Public Instruction (DPI) did not have standards recognized by NCATE. Without them, the institutions of higher learning in North Dakota would need to submit folios to the various "learned
societies" for approval. Given the resource demands of such a process, DPI sought to rectify that situation.

2. While the NCATE standards covered teacher education from kindergarten through twelfth grade, there is no "learned society" in the area of elementary education. The American Association of Colleges for Teacher Education (AACTE) recognized this void and designed requirements for this area of education.

**The North Dakota Department of Public Instruction.**

In 1982 the North Dakota Department of Public Instruction appointed six members to the North Dakota Program Approval Board. This Board was implemented to review and recommend approval, approval with stipulations, denial or to revoke approval of programs of teacher education in accordance with the state's standards established by the Department of Public Instruction through the Teacher Professional Practices Commission.

Two separate evaluation procedures were set up, one for those education units which are NCATE accredited, and the second, for those which are not NCATE accredited. Evaluation teams or boards of examiners for units seeking NCATE accreditation consisted of four state members who were added to an NCATE team as representatives of both NCATE and the North Dakota Board and with equal authority. A visiting team to units seeking state approval only were
composed of seven members from the education community and appointed by the Board and were to have been trained "in the state standards and their use in evaluating programs" (Department of Public Instruction, 1989, p. I-5).

North Dakota standards were adapted for the governance, students, faculty, facilities and material, school-institution relations and curriculum of teacher education programs. These attempted to incorporate NCATE standards into the state standards, except in specific curriculum areas, where the National Association of State Directors of Teacher Education and Certification (NASDTEC) standards served as a primary source. The requirements for general education consisted of four standards to provide the knowledge, skill, "understanding and appreciation associated with a well-educated, sensitive individual" (p. VII-1). Required was: study to develop competence in written and oral communication, study to develop the ability to use basic mathematical properties, processes, and symbols, and study in humanities, natural sciences, and behavioral sciences. Foremost was the fourth requirement that "there is in place a process for coordinating the development, implementation, and evaluation of the general education curriculum between those departments offering general education courses and the teacher education faculty to assure that the goals of general education for teacher education programs are
achieved" (p. VII-1, 2). Other criteria were set for teaching majors in specific areas, including elementary, early childhood and special education. These criteria took into account the requirements of the professional organizations which oversee education in that area of study as members of NCATE.

DPI thus simplified the accreditation process for UND and other North Dakota institutions of higher learning. Meanwhile, the American Association of Colleges for Teacher Education provided the perspective of a learned society for all institutions in the United States seeking approval of elementary education programs.

The American Association of Colleges for Teacher Education.

In 1988, the American Association of Colleges for Teacher Education (AACTE) submitted a paper for discussion and study in which they set forth guidelines for the educational preparation of all elementary teachers. AACTE proposed "that these guidelines be recognized as those of a 'learned society' for the general preparation of elementary teachers" since there is no organization filling that need (American Association of Colleges for Teacher Education, 1988, p. 2).

The AACTE publication incorporated relevant NCATE statements and expressed the belief that "Elementary
teachers should have comprehensive preparation in the liberal arts and sciences" since they generally have primary instructional responsibilities for all discipline areas at the assigned level. They set the guideline as follows:

The general studies component of elementary teacher preparation should develop educated persons who can demonstrate appropriate levels of knowledge in liberal arts and general studies. Foundations in general studies for elementary teachers should be designed to provide both breadth and depth of knowledge in fundamental disciplines, their structure, and modes of inquiry" (American Association of Colleges for Teacher Education, 1988, p. 6).

They further stated that an elementary teacher's education should contain a strong grounding in one or more disciplines taught in the elementary school and obtained through a cross-disciplinary major, a traditional academic major or by a combination of academic minors (p. 4). While specific guidelines and indicators were stated, the exact method of implementation was left to the individual teacher education institution.

The general education advocated by AACTE was typical of what was recommended by professionals at the time as noted in the following review of the current reform.
General Education in the Current Reforms

In 1983 when A Nation at Risk was published it stated that "Future teachers should be required to meet high educational standards, to demonstrate an aptitude for teaching and to demonstrate competence in an academic discipline" (National Commission on Excellence in Education, p. 24).

As a result of this and other factors, the Carnegie Foundation on Education and the Economy and the Holmes Group recommended that colleges require a bachelors degree in the arts and sciences as a prerequisite for the professional study of teaching.

Other groups to address this issue took a different approach. The Association of American Colleges advocated that the present four-year structure remain, but that each college study the content and overlap of courses that graduates now take to earn a degree (Johnston, 1989). Project 30 set out to do just that: they will publish their findings after a three-year study has been accomplished (Murray and Fallon).

The accreditation organizations brought about change through the refinement of standards. NCATE requires that education students have a solid grounding in general education, and North Dakota, for the first time, required that all elementary education programs, whether NCATE-accredited or not, meet approximately this same standard.
AACTE, acting as a learned society within the NCATE structure, advocated that elementary teachers have a strong background in subjects presented in the school curriculum. This necessitated a strong background in one or more academic majors or minors. The requirements set by these certification and approval organizations indicated need for review of the current programs at the University of North Dakota.

General Education Requirements (GER) at the University of North Dakota were inacted in 1955. These requirements started with about 60 choices and were expanded to about 358 in 1985. Although the committee responsible for the GER foresaw the development of interdisciplinary classes, these classes did not materialize and students tended to choose among a narrow core of classes.
CHAPTER III

ELEMENTARY EDUCATION AT THE UNIVERSITY OF NORTH DAKOTA

The purpose of this chapter is to review the history of elementary teacher education at the University of North Dakota, with particular focus on the general education requirements for teacher education students. This information, when combined with the survey data reported in chapter 5, constitutes a case study of the University of North Dakota elementary education curriculum in 1988, at the brink of a major reform initiated in teachers education. "Teacher education at the University of North Dakota: Highlights of a century-long history," prepared by Vito Perrone for the centennial of the University of North Dakota, is a major source for the material in this chapter. Other references are cited in the text.

Historical Review

The University of North Dakota was established as a Liberal Arts and Letters College and a Normal School with other departments and professional schools to be added from "time to time" (University Catalogue, 1883). Since
1883, the education of future elementary school teachers has gone from a prescribed set of courses in the Normal School, to an elective program in the New School, and back again to a prescribed set of courses in the current Center for Teaching and Learning. Also, during this time departments have been added, namely Special Education in 1967 and Early Childhood Education in 1968 (Perrone, 1983).

The Preparatory School

Before the University opened its doors in September of 1884, the administration realized that few prospective students were sufficiently schooled to take advantage of a college education. The University, therefore, added a preparatory school to instruct students so that they could take advantage of high-school learning in a scholarly atmosphere. The 1896 catalogue states this objective as follows:

This daily association with college students in the classroom, and in the literary and debating societies, the consciousness that these friends have embarked upon a more extended course of study than they themselves, the influence of enthusiastic scholars at the heads of the various college departments, the general atmosphere of a higher institution of learning, all tend to cultivate that thirst for more
knowledge so desirable in a teacher, and to check that petty self-complacency characteristic of narrow scholarship (University of North Dakota Catalogue, 1896, p. 71).

The preparatory school required testing for admission and demonstration of sufficient learning at the end of each year. The preparatory school was a part of the college until pressure exerted by public educators forced the separation of the preparatory school from the college in 1907. At this time the name was changed to "Model School," and it was used in the preparation of future high school teachers. The name was changed to the "University High School" in 1927. The high school was completely abolished in 1932. After this time future teachers were required to do their practice teaching primarily at Central High School in Grand Forks. It is interesting to note that during this time, a high school education was deemed a sufficient general knowledge base to teach students at the grade school level, but a college education was required to teach at the high school level.

The Teachers College

In 1905 the Normal College curriculum was extended from two years to four years beyond the secondary school level. The Board of Trustees thus replaced the Normal School with a Teachers College and extended the curriculum
to full college rank. This action established the primary aim of the College, to be a professional school for the education of teachers and leaders of educational thought.

As in past years, there were specific entrance and graduation requirements. For entrance to the Teachers College, 15 units of high school work or a state certificate were necessary. College courses needed for graduation were: education, both general and special methods; psychology; English; social science; physical science; a foreign language; public hygiene; physical culture; library science; and additional credits in a specialized area of core courses to equal 125 hours. Very few courses were chosen by the student.

In 1909 Woodworth Hall was erected, and in 1910 this three story building was occupied by the Teachers College. A year later the name of the College was changed to the School of Education. By 1922 students had four degrees from which to choose. They were able to receive a Bachelor of Science, a Bachelor of Arts, a Bachelor of Arts in Education or a Bachelor of Science in Education degree. Each degree had specific course requirements to be completed for graduation, but a student could graduate without taking courses in a foreign language, which was not possible before this time.

According to the 1922 UND catalogue the Bachelor of Arts in Education and the Bachelor of Science in
Education, permitted the student to "substitute 16 hours of art, commercial work, home economics, manual arts, music, or physical education in lieu of the requirements in a foreign language, science or social science" (p. 204). The differences between the Bachelor of Arts and the Bachelor of Science was that the Bachelor of Science required a major and a minor divided "within the following three groups: (a) natural sciences (b) mathematics (c) business, or commercial subjects, arts, home economics, or manual arts" (p. 204).

At the same time that the "University High School" closed its door in 1932, the elementary education program, which was the largest program in the School of Education, was also closed, only to be revived in 1958 (Perrone, 1984, p. 20). The education of elementary teachers at UND was expanded to include the Department of Special Education in 1967 and the Department of Early Childhood Education in 1968. In 1968 the New School for Behavioral Studies was added to the University with the express purpose of educating less-than-degree teachers; in 1972 the New School for Behavioral Studies and the School of Education combined to form the Center for Teaching and Learning.
In January 1967, the degree program (Perrone, 1984, p. 33) for future teachers of the mentally handicapped was added as a subdivision of the Department of Education (University of North Dakota, 1989). This new area of study, Special Education, was started because of the need for teachers trained to teach the mentally handicapped in the state. From that first course the department has grown to include undergraduate courses for certification to teach the visually impaired, and educable and trainable mentally handicapped as well as graduate courses to teach the learning disabled, the emotionally disturbed, preschool handicapped and the visually handicapped. The latest area to be added was a dual degree in special education and secondary education. Each of these areas has been added as the need arose (University of North Dakota, 1989) and made it possible for a student to take the necessary courses to combine certification in elementary education with an endorsement to teach in another area. Students taking this option were said to have a dual, double, or combined major.

While the Special Education Department was added in 1967, the addition of the Early Childhood Education Department was not far behind.
Early Childhood Education

In 1968 the first course, Early Childhood Education, was introduced. This course was introduced to help provide training for Head Start Teachers and for Day Care Programs. In 1972 this major, as well as the University Day Care Center, was established. The Center has provided the opportunity for students to observe children and as a site for student teaching for preschool majors. In 1978 a pre-school handicapped center was added and expanded not only the experiences that college students obtained, but also the leadership this department had throughout the state.

The 1974-76 catalogue was the first to list a B.S. degree with a major in Elementary Education and specialized study in early childhood education, while the 1978-80 catalogue was the first to list a combined major in Elementary and Early Childhood Education (Early Childhood Education, 1990, p. 6).

Although departments were added to the elementary education area, it was not long until a new idea in teacher education was advanced at the University. This new idea was to help less-than-degree teachers obtain a college degree. A government grant was received to help finance this experiment.
The New School of Behavioral Studies

In 1965, the legislature instituted a state wide study regarding the quality of schools and their escalating costs. The study was completed in 1967 and, among other findings, reported that the elementary teachers in the state ranked 50th "among the states in the matter of educational preparation; 59.7 percent lacked baccalaureate degrees" (Perrone, 1984, p. 22). With this report in mind, the legislature called for an experimental college to be set up at the University of North Dakota to assist these teachers in completing college degree requirements. Instead of becoming a part of the College of Education, this experimental school became the New School for Behavioral Studies in 1968. Its main method of operation was to offer an exchange program between less-than-degree teachers and masters interns and to promote individualized and personalized methods of instruction in the elementary school through its approach to instruction at the college level. Instruction at the New School emphasized independent study, small group seminars and clinical experiences. The New School was successful, with applications for the courses greatly outnumbering the students which could be accepted. By 1970 plans were being made to recombine the School of Education and the New School, and in 1972 the two became the Center for Teaching and Learning (Perrone, 1984).
The School of Education

In 1968 the School of Education had specific general education requirements of its own. They included: 6 credit hours in English Composition, 4 in Physical Education, 3 in Psychology and Speech, 8 in Humanities or a foreign language, 4 in literature or fine arts, 12 in Social Studies, 8 in a laboratory science and 3 in mathematics. This was a requirement of 48-51 semester credit hours. The stated purpose for the requirement was as follows:

...basic to all teacher education curricula, is to provide for the subject matter course experiences necessary for effective citizenship, a satisfactory personal life, and a general cultural background, regardless of the vocational or professional specialization by the individual student (UND Catalogue, 1968, p 118).

When the two elementary education units combined in 1972, each of these schools brought a somewhat different educational philosophy regarding the general education of teachers. The School of Education brought with it the TEAM (Teaching Experience through Applied Methods) concept, which required a group of students to complete a set of required education courses together. The New School brought the cluster concept, a required set of mini-general education requirements beyond those required
by the University. The requirements were in communications, 8; human relations, 8; creative expression, 8, and math-science, 8. Courses meeting cluster requirements were offered in the New School and other departments. These two program elements were combined to make a unique educational program in the Center for Teaching and Learning.

Center for Teaching and Learning

The Elementary Education program of the Center for Teaching and Learning (CTL) continued what was known as cluster areas from the New School program. In 1972, these areas were: human relations, creative expression, communications and math-science. Courses which met GER could meet cluster requirements, but only five credits were able to be counted toward both requirements. The cluster requirements served, in the minds of the faculty, to expand the general education of teachers beyond the basic requirement of UND. Another requirement that was instituted was TEAM (Teacher Education through Applied Methods). TEAM was required of all juniors majoring in elementary education and included about half of the courses required to fulfill the cluster requirement.

The students majoring in elementary education/early childhood education were required to take the courses for a degree in elementary education plus 12 additional
courses for the early childhood major. However, none of these courses involved the GER. Students majoring in elementary education/special education were required to take the courses to satisfy a major in elementary education plus: Introduction to Psychology and either Educational Psychology or Developmental Psychology in the General Education Requirements and 36-37 credits in other prescribed courses, none of which met the GER.

The Elementary Education program continued as formulated in 1972 until 1986, when the University of North Dakota was invited to join the Holmes Group. About the same time, the Center for Teaching and Learning, as a member of the National Council for Accreditation of Teacher Education (NCATE) was scheduled for reaccreditation evaluation in 1991. Simultaneously, the Elementary program came up for review as part of the undergraduate program review cycle of the University.

As a part of the undergraduate program review, a survey was given to all students enrolled in an elementary education course during the fall semester of 1986. Only 193 of the approximately 400 returned the form prior to the cut-off date. Courses taken to satisfy the General Education Requirements of responding students graduating in the fall of 1985, the spring of 1986, and the summer of 1986 were analyzed. The results showed that:
In the area of social science, 95% of the students take psychology and 75% take sociology. Roughly 20-30% earn credit in each of the following areas: anthropology, economics, political science, and child development (Home Economics 252). Only 13% have had a geography course that meets the University's General Education Requirements for social sciences (28%, however, do take Physical Geography). The Arts and Humanities requirement is met in the following ways: 73% of the students earn credit in history, 56% in English, 53% in music, and 48% in visual arts. Roughly 30% take course work in each of the following: Humanities, Indian Studies, languages, and religious studies. Fine arts and theater courses are taken by 20%. In the area of Math, Science, and Technology, only 81% of the students take Math 277 (a required course). But 43% take "other math" which includes courses equivalent to our 277 offering (i.e., transfer students bring in the courses equivalent to Math 277). And 27% enroll in the math 377-477 courses. In the sciences, biology is taken by 62% of the students. In the earth science area, 27% take physical geography and 20% geology. Physical science credit is earned by 29% in chemistry and 12% in physics. The category "other science" represents courses taken by 33% of the students, mainly transfer students, and thus includes
the broad general education survey type courses not offered by UND (Elementary Education Department, 1987, p. 17-18).

This data, examined in the context of the reform developments described earlier, raised a number of questions for the elementary education faculty.

1. Do the GER and cluster requirements adequately address the general education needs of future elementary teachers, especially in light of the AACTE standards?

2. Does the current UND requirement in each area adequately address the content needs of future elementary teachers?

3. Should there be additional requirements in mathematics, geography, history, computers, physical science, . . . ?

In spite of the philosophy of choice that underlies the GER philosophy, the choices actually exercised by students were limited. Does this indicate belief in less choice on the part of advisors and/or students?

Should UND require or move toward an academic major or minor for elementary teachers, not just those in certain double majors such as mathematics? What are the implications of such a move for the early childhood and special education majors?
Reforms Enacted in 1988

As a result of the self-study, and with an eye toward the NCATE requirement of a formal admissions process, the faculty at the University were studying the requirements of future teachers. Among these were requirement of formal application for admission to teacher education with a minimum GPA of 2.5 and successful performance on a writing test. Other areas being studied were requiring success in entry level courses, limiting enrollment to 120 students, and the integration of courses between Liberal Arts and Elementary Education.

After a year of discussion, the following changes were enacted to start with the students graduating under the 1990-92 catalogue: (a) admission requirements were added (b) the General Education Requirements were expanded, the cluster areas were deleted and an area of concentration was added (c) sequence in programs was added and (d) certain courses formerly electives were required.

The main differences in the GER in the revised program were the addition of three credits in social sciences and three credits in the Arts and Humanities. Furthermore, courses in the Social Sciences were to be taken in three departments and to include Psychology 251 or Home Economic 252 (but not both) with nine additional credits from Anthropology, Economics, Geology, Political Science, Psychology (except 251), Sociology or Indian Studies while
those in the Arts and Humanities were to be divided as follows: nine credits from English, History or Humanities I and II (from two departments); three credits from selected visual and performance arts and three credits as outlined in the University GER. The Mathematics, Science and Technology area saw the addition of Mathematics 103, 104 or 105 to the list of requirements. The cluster areas were deleted, and an "area of concentration" comprised of 15 or more credits in "English, history, fine arts, social science (anthropology, political science, geography-social science, or economics), mathematics, science (non-CTL), a single foreign language, Indian Studies, Women's Studies, Psychology, Sociology, Special Education, Early Childhood Education, Physical Education, or Library Science" was added (170). A further stipulation was that, except in certain cases, these courses be above the 100 or introductory level.

Formerly TEAM was a required course to be completed by students as space in the courses was available. Now TEAM became a prerequisite for further study in the department.

The last change was the requirement of courses in classroom management and teaching exceptional students in the regular classroom.

These changes put UND in compliance with the recommendations of some of the major reform organizations.
A review of this chapter in light of information presented in chapter 2 follows.

Summary

The first private normal school for the education of teachers was opened in Concord, Vermont in 1823. This was followed in 1839 with the first public normal school. The Normal School at the University of North Dakota was established in 1883. This was during a period of time that saw the number of normal schools in America grow from 11 at the time of the Civil War to 114 in 1890. Because North Dakota was considered to be on the outer edge of the United States, one might expect development of such institutions at a later time. However, that was not the case. The courses to be completed by the future teacher in North Dakota were prescribed in a manner similar to programs developing on the East coast. Students were to study subjects thought to enable them to become informed future citizens of the nation: those taught in the public school.

In 1909 the concept of General Education Requirements was introduced into higher education in the United States. The advocates of choice in meeting liberal arts requirements were known as the progressives. The new approach did not last long, and the traditional proponents again introduced a fixed course of study related to the
major. This pattern prevailed until around the 1960's when a wide array of courses were again offered at many universities in response to the remarkable growth in higher education occasioned by the GI Bill.

In 1955, the University of North Dakota adopted the concept of General Education Requirements along with the concept of University College. The number of courses available numbered 60. By 1985, the choices had grown to around 358. This expansion of the curriculum reflected what was happening in the remainder of the nation.

The 1980's saw a flurry of activity in the area of teacher education beginning with the release of A Nation at Risk by the National Commission on Excellence in Education. The Carnegie Forum on Education and the Economy, the Holmes Group, Project 30 and the Association of American Colleges released recommendations on how to strengthen public education in America through teacher preparation. The first two organizations advised that teacher education commence after completion of a degree in Arts and Science, while the latter two advised that the current four-year programs be retained but that integrated studies be implemented. Accreditation and approval boards generated reform through recommendations for teacher education programs. These boards included the National Council for Accreditation of Teacher Education, the North
Dakota Department of Public Instruction and the American Association of Colleges for Teacher Education.

The 1980s also saw a flurry of activity in the area of teacher education at the University of North Dakota. The Center for Teaching and Learning (CTL), along with its Dean, Dr. Mary Harris, studied the requirements in effect for future elementary teachers. In 1988 the University became a member of the Holmes Group. In 1988 CTL tightened the requirements for students who desired to major in elementary education.
CHAPTER IV

SURVEY METHODOLOGY

The purpose of the empirical portion of this study was to expand case knowledge of the program at the University of North Dakota by finding out why the undergraduate students in elementary education (EE), elementary and early childhood education (EC), or elementary and special education (SE) chose certain courses in the liberal arts areas to satisfy the General Education Requirements for graduation from the University of North Dakota (UND) in 1988. This study also sought to find which courses students felt were advantageous to their education and would be good for a future teacher to have completed. The study also investigated student and faculty perceptions of reasons for the GER.

This chapter will explain the procedures used to collect and examine survey data. Topics discussed are: the subjects, development of the instrument, data collection, and analysis.
The Subjects

The names of the subjects were taken from the list of seniors majoring in elementary education (EE), elementary/early childhood education (EC), and elementary/special education (SE) at the University of North Dakota in the Spring of 1988. This list was provided by the Office of the Registrar and contained the names of 80 seniors in elementary education (EE), 21 seniors majoring in early childhood and elementary education (EC) and 52 seniors majoring in elementary and special education (SE). Since there were only 21 students majoring in early childhood/elementary education, the researcher chose to work with a sample of 20 subjects chosen from the list of students in each major area. Thus 20 subjects were selected from senior students graduating with a degree in each of the following areas: EE, EC, and SE. Since one person in the early childhood/elementary education area was male, one male was randomly selected from each of the other groups, and other subjects were randomly selected females. Further, each subject must have taken the larger portion of his/her General Education Requirements (GER) courses at the University of North Dakota: if a subject had transferred to the University of North Dakota, the transfer was accomplished no later than immediately after the freshman year. This sample of subjects represented 25% of the 80 seniors graduating with
a degree in elementary education, 95% of the 21 seniors graduating with a degree in elementary/early childhood education and 38% of the 52 seniors graduating with a degree in elementary/special education.

A self study by the Elementary Education Department in 1987 found that the students majoring in Elementary Education (including double majors) who would graduate from Fall 1986 to Spring 1990, were classified as follows: 10% male, 90% female; 79% from North Dakota, 20% from Minnesota (University of North Dakota, 1987, p. 39-40). The sample presented here was 5% male and 95% female, while 85% were from North Dakota, 11% from Minnesota and 3% from other states. Furthermore, 5% (3) of the subjects classified as being from North Dakota lived on Grand Forks Air Force Base. Additionally, two students were Native American and one student was black, making 5% minority students. This percentage was equal with the North Dakota population of 5% minorities in the 1980 census.

The names of the faculty members to be surveyed were obtained from the department chairpersons of the three departments and represented only those who advised undergraduate students on a regular basis.

**Development of the Instrument**

In the absence of previous studies of the GER, there were no instruments available for use in this study. A
set of eight questions was devised by the writer and the original committee chairperson. With subsequent revisions in the design of the study, these questions were not inclusive enough to obtain all the needed information. With the help of a member of the writer’s advisory committee the student questions were revised and rewritten into 16 questions to obtain only the specific information that was needed to answer the research questions. The questionnaire was then reviewed by the writer’s advisor, a member of the writer’s graduate committee, and the Dean of the Center for Teaching and Learning before it was implemented (Appendix A).

The faculty questionnaire was written by the writer and a member of the advisory committee (Appendix C).

**Data Collection**

The names of 20 seniors majoring in elementary education, 20 seniors majoring in early childhood education/elementary education and 20 seniors majoring in special education/elementary education were randomly chosen from the lists of those majoring with the said major as supplied by the Registrar’s office at the University of North Dakota.

Verification of attention to the rights of human subjects was received from the Institutional Review Board at the University. Each student gave oral permission for
their responses to be recorded and used in the dissertation. The student’s questions were asked and recorded by the writer who interviewed the 60 students over the telephone during the last two weeks of the spring semester of 1988. Each student was asked if the GER courses he/she completed were taken at UND. If the student had transferred to UND after their sophomore year, they were thanked for their willingness to help and their time, but that students who had spent at least three years, and therefore taken the majority of GER courses at UND, were being sought for the study. In this case, an additional student was selected from the list.

The faculty’s questions were asked and the answers were recorded by the writer who interviewed the 21 professors in person during the last two weeks of the spring semester of 1988. Written permission was received from each faculty member before the interview was conducted.

Analysis

The results of the interviews were compiled and analyzed in a number of ways. Information supplied by students was generally organized in tables by the three majors and the results compared. Means and percentages were used to summarize data in ways that enabled comparison between groups and generalization about the
similarities and differences of groups. Group size was not large enough to make rigorous statistical analysis. In question 2, the Chi Square test with eight degrees of freedom was used to determine if there was a significant difference between the reasons students in EE, EC and SE expressed as to why they took the courses used to fulfill the requirement in each area of the GER.

The reasons given by the students for taking courses were categorized into five distinct areas. These categories were: interest or enjoyment, (e.g., "I liked the subject in high school", or "I heard it was a fun course."); to learn a wide range of information, (e.g., "I never studied the subject before and wanted to learn more about it," or "to get information."); advised by an advisor or friend, (e.g., "my brother liked the course and said that I should take it also," or "I was told by my counselor that they were good courses."); it fit their schedule, (e.g., "I had decided to take whichever of the two courses fit my schedule," or "it was the only course that I could get into."); and to fill the requirement, (e.g., "I didn’t want to take any of the other courses," or "it was required for special education.").

Students were asked to rate the value of each course taken to meet the GER. A Likert scale was used. Students were asked to rate how important these courses were to the student’s education and was done to see if the students
felt certain courses were more valuable to their educational objective.

The information supplied by the faculty was summarized and compared with that supplied by the students to determine if the advice offered by the professors was followed by the students and to determine if the students and faculty agreed on the reason for the General Education Requirements.
CHAPTER V

RESULTS OF THE SURVEY

This chapter presents an analysis of the data gathered to answer research questions 1 through 9 posed in chapter 1. The answers to these questions depend on surveys of students from each of three majors or double majors [i.e. elementary education (EE), elementary/early childhood education (EC), and elementary/special education (SE)] and 21 professors of education serving as advisors to these students. The sections which follow present each of the research questions in the empirical portion of the study followed by an analysis of the data collected addressing that question.

Data Analysis

Research question 1. Why did students take the courses they took to satisfy each liberal arts area of the General Education Requirements?

The responses given by the 60 students in response to the question, "Why did you choose these particular courses?" were analyzed and categorized into five areas.
These were:

5. **Interest or enjoyment** (e.g., "I liked the subject in high school," or "I heard it was a fun course.");

4. To learn a wide range of **information**, (e.g., "I never studied the subject before and wanted to learn more about it," or, "To get information.");

3. **Advised** by an advisor or friend, (e.g., "My brother liked the course and said that I should take it also," or "I was told by my counselor that they were good courses.");

2. It fit their **schedule**, (e.g., "I had decided to take whichever of the two courses fit my schedule," or "It was the only course that I could get into."); and

1. To fill the **requirement**, (e.g., "I didn't want to take any of the other courses," or "It was required for special education.").

Table 1 provides a summary of the number of students in each major whose responses to the question, "Why did you choose these particular courses?" were categorized in each of the five areas listed above. The percent column (column 8) is the percentage of students in each major and in all three majors who gave reasons in each category based on the maximum number of times that reason could have been stated.

The following abbreviations are used throughout this chapter: EE, elementary education; EC, early
Table 1
Frequency of Students by Major Reporting
Why Courses Were Taken

<table>
<thead>
<tr>
<th>Reason</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Major</td>
<td>Comm</td>
<td>SS</td>
<td>A&amp;H</td>
<td>M&amp;S</td>
<td>Total</td>
<td>% of total</td>
<td></td>
</tr>
<tr>
<td>(5) Interest</td>
<td>EE</td>
<td>2</td>
<td>12</td>
<td>11</td>
<td>6</td>
<td>31</td>
<td>38.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC</td>
<td>6</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>31</td>
<td>38.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>4</td>
<td>6</td>
<td>10</td>
<td>5</td>
<td>25</td>
<td>31.30</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>12</td>
<td>28</td>
<td>31</td>
<td>16</td>
<td>87</td>
<td>36.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Information</td>
<td>EE</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>19</td>
<td>23.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>14</td>
<td>17.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>24</td>
<td>30.00</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>12</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>57</td>
<td>23.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Advised</td>
<td>EE</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3.80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>7.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>7.50</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>6.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Schedule</td>
<td>EE</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>2.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>6.30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.30</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>8</td>
<td>3.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Requirement</td>
<td>EE</td>
<td>12</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>25</td>
<td>31.30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>24</td>
<td>30.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>9</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>24</td>
<td>30.00</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>32</td>
<td>10</td>
<td>9</td>
<td>22</td>
<td>73</td>
<td>30.42</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
childhood/elementary education; SE, special/elementary education; Comm, communications; SS, social science; A & H, arts and humanities; M & S, mathematics, science and technology.

The most frequent answers given by students indicated that they enrolled in GER courses because they were interested in the courses. This response was given 36.25% of the time. "To obtain information" was the answer given 23.75% of the time, "advised that way" was the response given 6.25% of the time, while "the course fit my schedule" was the response given 3.33% of the time. "To fill the requirement" was the reason given 30.42% of the time.

The number of students who enrolled in a course because of interest (interest) or to obtain information (information) totaled 60% of the answers. This contrasts with students who reported that they enrolled in 30.42% of the courses to fill the requirement, 6.25% of the courses because they were advised to by their advisor or a friend, and 3.33% of the courses because they fit student schedules.

The area Arts and Humanities was taken by the highest number of students because of an interest in the subject. This area of study includes courses such as music and the arts, which lend themselves to leisure pursuits. It will be noted later that the number of students taking each
course in this area is much smaller due to the many courses available to satisfy this portion of the GER.

The highest number of students taking courses strictly to fill the requirement was in the area of communications (Comm.) where students were required to complete Composition 101 and had the choice of taking either Composition 102 or 209. Courses in Math, Science and Technology (M&S) were named second most often by students who took courses in order to fulfill a liberal arts requirement (see Table 1). Next to communications, this area had the fewest courses from which to choose. There was also a mathematics course which was required of all future teachers which could be used to satisfy the GER in 1988. It would seem that enrolling in courses merely to fulfill the GER is related to the assortment of choices within an academic area.

Research question 2. Did early childhood education (EC) or special education (SE) majors' reasons for choosing courses differ from those of the elementary education (EE) majors'?

The information to respond to this question is taken from column 5 of Table 1.

There was no significant difference between the reasons given for course selection given by students majoring in
EE, EC or SE, although there were differences in the numbers of students in each choice category by major.

About the same number of students majoring in each area (31 EE, 31 EC and 25 SE) took specific GER courses because they had an interest in the subject. While fewer students in the first two majors (19 EE and 14 EC) took courses to obtain information 24 students in SE took courses for this reason. Few students in any of the three majors said they took courses because they were advised that way (3 EE, 6 EC and 6 SE) or to fit their schedules (2 EE, 5 EC and 1 SE). Equal numbers of students from each area (25 EE, 24 EC and 24 SE) took courses to fit the requirement.

Thirty-one students majoring in both EE and EC took courses in a liberal arts area because of their interest in the subject while 24 EC majors and 25 EE majors took courses to fulfill the requirement. More students in EE (19) took courses to obtain a wide range of information than did students in EC (14). Fewer EC students took courses because they were advised to do so (6 EC and 3 EE) and because it fit their schedule (2 EE and 5 EC).

While EE majors took courses because of interest (31) more often than SE students (25), fewer EE students (19) took courses to gain a wide range of information (24 SE). Fewer EE students took courses because of adviser input (3) than did SE majors (6).
The numbers of students who took courses for each of the five categories of reasons was very similar for each group. The Chi Square test showed no significant difference. It is interesting that few students took courses to fit their schedules or solely because they were advised that way. Students claimed to be choosing courses primarily because of interest or to obtain knowledge.

Research question 3. What courses did these students take to satisfy the GER in the communications area? Which of these two courses (English 102 or 209) did they think was most beneficial to a future teacher?

Table 2 provides a summary of the number of students in each major and in all majors who took either English 102 or 209.

Composition 101 was the only course which was required for all University of North Dakota students to take. Each student had an option of taking either English 102, Composition II or English 209, Technical and Business Writing. Four of the students interviewed chose Technical and Business Writing, while 56 students chose Composition II.

Two students majoring in EE and two students majoring in SE took English 209 to fulfill the Communications requirement while no one interviewed majoring in EC took English 209.
Table 2

Number of Students by Major

Enrolling in English 102 and 209

<table>
<thead>
<tr>
<th>Course</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>18</td>
<td>20</td>
<td>18</td>
<td>56</td>
</tr>
<tr>
<td>209</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
Some students indicated that they thought English 209 was for students majoring in other areas or that they did not know there was a choice. There seemed to be a relationship between students who realized there was an alternative to English 102 and the number of students selecting that course.

When asked which course they felt would be most beneficial to a future teacher 15 (5, 6, and 4) of the 60 felt it would be better to take English 209 since 102 was a continuation of 101 or because 209 would help them write in the technical manner that a future employer would expect to be used.

Research question 4. What courses did these students take to satisfy the social science, arts and humanities and mathematics, science and technology requirement of the GER? How valuable did the students find these courses?

In answering this question each area of the GER will be discussed separately.

Social Science

Table 3 provides the number of courses in each department completed to meet the Social Science GER by students in each major. The students were first asked "Which courses did you take to satisfy this requirement of
<table>
<thead>
<tr>
<th>Department</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EE</td>
<td>EC</td>
<td>SE</td>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>7</td>
<td>2.6</td>
<td>4</td>
<td>3.0</td>
<td>4</td>
<td>4.0</td>
<td>15</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>1</td>
<td>5.0</td>
<td>1</td>
<td>1.0</td>
<td>10</td>
<td>3.9</td>
<td>12</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Disorders</td>
<td></td>
<td>5.0</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>6</td>
<td>3.5</td>
<td>1</td>
<td>1.0</td>
<td>1</td>
<td>1.0</td>
<td>8</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>3</td>
<td>4.0</td>
<td>1</td>
<td>3.0</td>
<td>2</td>
<td>4.0</td>
<td>6</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Home Economics</td>
<td>4</td>
<td>4.6</td>
<td>10</td>
<td>4.5</td>
<td>7</td>
<td>4.4</td>
<td>21</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Indian Studies</td>
<td>6</td>
<td>3.1</td>
<td>2</td>
<td>3.5</td>
<td>1</td>
<td>2.0</td>
<td>9</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>11</td>
<td>4.0</td>
<td>4</td>
<td>2.0</td>
<td>5</td>
<td>1.8</td>
<td>20</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>24</td>
<td>3.9</td>
<td>31</td>
<td>3.9</td>
<td>26</td>
<td>3.5</td>
<td>81</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Social Work</td>
<td>1</td>
<td>4.0</td>
<td></td>
<td></td>
<td>1</td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>10</td>
<td>4.1</td>
<td>12</td>
<td>3.5</td>
<td>10</td>
<td>4.2</td>
<td>32</td>
<td>3.9</td>
<td></td>
</tr>
</tbody>
</table>
Courses were then categorized by department (column 1) and students were grouped by major in columns 2, 4, and 6 of the table. Specific course titles and numbers are in Appendix D. The students were then asked "On a scale of 1 to 5 how valuable was this course? Why?" These ratings were averaged and the mean for courses in each department is listed in columns 3, 5, and 7 as the "Satisfaction Index". The total number of students taking a course is listed in column 8, while the total mean "Satisfaction Index" is listed in column 9. In the Social Science area of the GER each student takes a minimum of three courses. The 60 students in this study enrolled 81 times in Psychology courses, 32 times in Sociology courses, 21 times in Home Economics courses and 20 times in Political Science courses. Of these four popular departments Home Economics, which offers a course in child development, received a "Satisfaction Index" rating of 4.5. The other three departments rated a 3.9 for Sociology, a 3.8 for Psychology and a 3.1 for Political Science.

Departments in which fewer than 20 enrollments occurred with their satisfaction indices were as follows: Anthropology, 15 enrollments, 3.1 mean; Communication Disorders, 12 enrollments 3.8 mean; Indian Studies, 9 enrollments, 3.1 mean; Economics, 8 enrollments, 2.9 mean;
Geography, 6 enrollments, a 3.8 mean; and Social Work, 1 enrollment, 4.0 mean.

**Arts and Humanities**

The area Arts and Humanities is shown in Table 4. There are only four departments in which more than 20 courses were enrolled in by these students. These departments were: Music, 45 enrollments; History, 36 enrollments; English, 27 enrollments and Fine Arts, 24 enrollments. The "Satisfaction Index" for these departments ranged from a 3.5 for History and a 3.4 for Music to 3.0 for English and for Fine Arts. Several students indicated that they thought courses in these areas would help later in their teaching careers.

Departments in which fewer than 20 students completed courses and their mean satisfaction indices were:
Languages, 19 enrollments, 3.6 mean; Theatre Arts, 18 enrollments, 3.4 mean; Humanities, 14 enrollments, 2.8 mean; Philosophy, 12 enrollments, 3.5 mean; Religious Studies, 10 enrollments, 3.8 mean; Visual Arts, 10 enrollments, 3.2 mean; Indian Studies, 9 enrollments, 3.9 mean; Honors, 3 enrollments, 3.7 mean and Library Science and Audiovisual Instruction (LSAV), 1 enrollment, 5.0 mean.
Table 4

Department of Courses Completed to Satisfy the Arts and Humanities GER and the Satisfaction Index

<table>
<thead>
<tr>
<th>Department</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EE</td>
<td></td>
<td></td>
<td>EC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>#</td>
<td>Mean</td>
<td></td>
<td>#</td>
<td>Mean</td>
<td></td>
<td>#</td>
<td>Mean</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>7</td>
<td>3.3</td>
<td></td>
<td>7</td>
<td>2.7</td>
<td></td>
<td>10</td>
<td>2.9</td>
<td>24</td>
</tr>
<tr>
<td>History</td>
<td>17</td>
<td>3.6</td>
<td></td>
<td>7</td>
<td>3.3</td>
<td></td>
<td>12</td>
<td>3.4</td>
<td>36</td>
</tr>
<tr>
<td>Honors</td>
<td>1</td>
<td>3.0</td>
<td></td>
<td>1</td>
<td>3.0</td>
<td></td>
<td>1</td>
<td>5.0</td>
<td>3</td>
</tr>
<tr>
<td>Humanities</td>
<td>7</td>
<td>2.7</td>
<td></td>
<td>7</td>
<td>2.9</td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>Indian Studies</td>
<td>3</td>
<td>3.3</td>
<td></td>
<td>2</td>
<td>4.0</td>
<td></td>
<td>4</td>
<td>4.2</td>
<td>9</td>
</tr>
<tr>
<td>Languages</td>
<td>4</td>
<td>3.3</td>
<td></td>
<td>6</td>
<td>4.0</td>
<td></td>
<td>9</td>
<td>3.4</td>
<td>19</td>
</tr>
<tr>
<td>LSAV</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music</td>
<td>17</td>
<td>3.4</td>
<td></td>
<td>15</td>
<td>3.3</td>
<td></td>
<td>13</td>
<td>3.5</td>
<td>45</td>
</tr>
<tr>
<td>Philosophy</td>
<td>2</td>
<td>3.5</td>
<td></td>
<td>3</td>
<td>3.0</td>
<td></td>
<td>7</td>
<td>3.7</td>
<td>12</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>5</td>
<td>4.1</td>
<td></td>
<td>3</td>
<td>4.0</td>
<td></td>
<td>2</td>
<td>2.8</td>
<td>10</td>
</tr>
<tr>
<td>Theatre Arts</td>
<td>4</td>
<td>3.5</td>
<td></td>
<td>8</td>
<td>3.3</td>
<td></td>
<td>6</td>
<td>3.4</td>
<td>18</td>
</tr>
<tr>
<td>Visual Art</td>
<td>6</td>
<td>3.2</td>
<td></td>
<td>2</td>
<td>3.0</td>
<td></td>
<td>2</td>
<td>3.5</td>
<td>10</td>
</tr>
</tbody>
</table>
Mathematics, Science and Technology

Table 5 shows the area Mathematics, Science and Technology of the GER, where only three departments had over 20 enrollments by the students surveyed. These three departments were: Mathematics, (84 enrollments); Biology, (42 enrollments) and Computer Science, (36 enrollments). The "Satisfaction Index" in these three departments was varied, ranging from a 4.4 for Mathematics to a 2.7 for Computer Science.

The departments in which fewer than 20 enrollments occurred and the satisfaction index means were:
Chemistry, 16 enrollments, 3.4 mean; Geography, 16 enrollments, 3.7 mean; Physics, 9 enrollments, 3.3 mean; Geology, 5 enrollments, 4.1 mean, Industrial Technology, 5 enrollments, 4.1 mean; Anatomy, 2 enrollments, 4.5 mean; Physiology, 2 enrollments, 2.5 mean and Philosophy, 1 enrollments, 5.0 mean.

Research question 5. What courses did these students see as being most beneficial for a future teacher to take?

Table 6 provides a summary of the number of students in each major who indicated that certain courses from a department or any course in the department were beneficial in response to the question, "What courses in this area do
Table 5
Department of Courses Completed to Satisfy the Mathematics, Science and Technology GER and the Satisfaction Index

<table>
<thead>
<tr>
<th>Department</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy</td>
<td></td>
<td></td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>Biology</td>
<td>14</td>
<td>15</td>
<td>13</td>
<td>42</td>
</tr>
<tr>
<td>Chemistry</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Computer Science</td>
<td>10</td>
<td>12</td>
<td>14</td>
<td>36</td>
</tr>
<tr>
<td>Geography</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Geology</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Industrial Tech</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Mathematic</td>
<td>30</td>
<td>26</td>
<td>28</td>
<td>84</td>
</tr>
<tr>
<td>Philosophy</td>
<td></td>
<td></td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>Physics</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Physiology</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2.5</td>
</tr>
</tbody>
</table>
### Table 6
Courses that Students by Major Felt Beneficial to a Future Teacher

<table>
<thead>
<tr>
<th>Major</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>14</td>
<td>14</td>
<td>16</td>
<td>44</td>
</tr>
<tr>
<td>Psychology</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>39</td>
</tr>
<tr>
<td>Music</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>History</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Sociology</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>Biology</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Computer Science</td>
<td>3</td>
<td>9</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Languages</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>English</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Science</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Visual Arts</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Geography</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Indian Studies</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Theater Arts</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Communication Disorders</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Communications</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Home Economics</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Philosophy</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Political Science</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>All</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Geology</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Anthropology</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Industrial Technology</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Library Science &amp; AV</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Social Work</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
you think are most beneficial for a future teacher to take?"

Students indicated a belief that courses in areas such as mathematics and computers were more appropriately taken in the Center for Teaching and Learning where the emphasis was on the concept of teaching and the materials used in an elementary classroom than in the individual departments at the University.

Recommendations were requested for each GER area, but the students gave their answers by department. The departments are listed by the total number of students who recommended that area. While individual courses were not charted, they were recorded and are reported in Appendix D.

Forty-four students felt that courses in mathematics were essential for future teachers. Mathematics 277 led the responses. Mathematics 377 and 477 were also highly recommended by the few students who had taken those courses. These students said that the information learned in the courses were needed by a future teacher. It was interesting to note that Mathematic 277 was taken off the list of courses to satisfy the GER, but is still required for students majoring in EE.

Psychology received the next highest number of recommendations with 39 students stating that they felt it
was necessary for teachers to understand how people think and learn.

Third in the number of recommendations was music (32). Although many elementary schools have a music teacher, the students felt music was an avenue of relaxation and pleasure to the individual as well as an appreciation which could be conveyed to the classroom students.

Twenty-two of the students recommended history, largely for the purpose of learning about the mistakes of the past so that they are not repeated. Students also expressed the necessity to know history for use in the classroom.

Although courses in subjects taught by classroom teachers were highly recommended, students also tended to recommend courses which gave the future teacher the knowledge needed to understand the students and the teaching strategies needed by a teacher.

Two students felt that command of a foreign language, especially Spanish, was important, because of the influx of Spanish speaking students into the public schools, while three students expressed the opinion that every future teacher should be required to take public speaking in college. Another student felt just as strongly about Indian Studies. The main reason was that a classroom in North Dakota would contain Indian students.
Research question 6. What extra courses would these students have chosen from the general education requirements if they had the time?

Table 7 provides a summary of the number of students in each major whose responses to the question, "Would you like to have taken more courses in any of these areas? Which area?" were categorized by the department at the University.

Thirty percent of the students majoring in each area expressed an interest in taking more courses in the major division of Arts and Humanities, Social Studies, and in Mathematics, Science and Technology. Three students were vocal in that they felt they had taken enough courses outside the Center for Teaching and Learning and that the courses taught in the education department contained material that was more appropriate to their chosen profession.

Students who would like to have taken more courses in general education named 25 areas of interest. The areas these students preferred were: Mathematics (25); Psychology (20); History (14); and Languages (12). The main reason these students gave was perceived weakness of preparation in these areas. It seemed that if given the opportunity, most students would have enrolled in additional courses offered
Table 7
Courses Students Would Like to Have Taken

<table>
<thead>
<tr>
<th>Major</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>Psychology</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>History</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Languages</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Visual Arts</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Sociology</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Computer Science</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Music</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Geography</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Biology</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Political Science</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Anthropology</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Communications Disorders</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>English</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Geology</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Social Work</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Theater Arts</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Communications</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Economics</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Humanities</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Physics</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Anatomy</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Library Science &amp; Audio Visual</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
in areas of the GER. Three students expressed a desire to continue further study in one of these departments of the GER in graduate school.

Research question 7. What did these students see as the reason for the General Education Requirements?

The reasons these 60 students gave for the GER fell into five general categories. These categories were:

1. Bewilderment, (e.g. "I always asked myself this question...," or "I don't know...");

2. Choice of professions/courses, (e.g. "Taking courses in different areas helps you decide what you want to go into," or "to help you see if you want to go into a different area.");

3. Foundation in/exposure to different areas, (e.g. "To get a broad range of courses," or "to give the student a wide variety of experiences.");

4. Well-rounded person, (e.g. "Make you a more rounded person," or "to give you knowledge in all areas."): and

5. Subject knowledge/background, (e.g. "To get a well-rounded education in all areas," or "to give you a good solid background in all areas.").

Table 8 provides a summary of the number of students in each major and the number of professors whose responses to
Table 8
Reasons Given for the GER

<table>
<thead>
<tr>
<th>Reason</th>
<th>Prof</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bewilderment</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Choice of professions</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Foundation in/exposure to different areas</td>
<td>4</td>
<td>9</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Well-rounded person</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Subject knowledge</td>
<td>14</td>
<td>5</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>

(EE stands for elementary education major, EC for early childhood/elementary education major, SE for special/elementary education major and Prof for professor)
the question "What do you think is the purpose for general education requirements?" were categorized in each of the five areas above.

Twenty students (33%) considered the GER as knowledge/background. Foundation in/exposure to different areas was the reason expressed by 13 students (21%): 10 other students (17%) felt they were exposed to other areas to decide on a major. Ten students (17%) indicated bewilderment as to why there were GER. The reason stated least often was to make sure the student became a well-rounded person. This reason was stated just seven times (11%).

Research question 8. What do faculty in elementary, early childhood, and special education think the student should gain from their general education courses?

The same categories used in analyzing the student responses were used in analyzing the replies of the 21 professors. All of the professors felt there was a distinct reason for the GER, and no one gave a reason which would be classified as "bewilderment." The reasons two professors expressed were classified under "choice of professions/courses" and four other reasons were classified under foundation in/exposure to different areas. One of these professors stated that the GER gave
the student the content for teaching, while the Center for Teaching and Learning courses gave the student the method of teaching. Only one professor said the reason for the GER was to make the student a well-rounded person. Over half of the reasons stated by the professors fell into the category subject knowledge/background. The majority of both students and professors saw the purpose of the GER as getting a background in subject knowledge through this University requirement.

Research question 9. What courses do faculty in elementary, early childhood, and special education advise students to take in the General Education Requirement?

Five faculty members in the elementary education area said they normally did not advise students until the students had completed their GER courses. One person said he/she explained the options to a student and let the student make the choices but tried to get the student to think about trying a new area. Another asked about the student's interest and encouraged the student to try science courses they may not otherwise try and also areas in which the student is interested. Still other faculty members encouraged the student to take courses taught in the elementary school content areas but with a variety of approaches to inquiry. Specific courses which were
recommended were: Child Development, creative writing, computer science, history, cultural anthropology, Physics for Poets, upper level English literature, U. S. History, Government, math, Chemistry for Poets, Physics 177, geology or geography, Psychology 251, visual arts and music surveys.

One of the two professors in the EC area recommended that students take the integrated studies program available to freshmen. This program has not been in effect long enough to be reflected in the data. The second professor recommends that students take Communications 209. However none of the students surveyed had taken this course.

The faculty in SE recommended a variety of courses. Several looked into the student's interest and requirements to make sure they would be able to take courses they needed to fulfill their major. The next courses recommended were those which expanded the student's thinking ability and knowledge or courses other students had taken and enjoyed. Courses mentioned were: music, theatre arts, English 209, communications, communications disorders, History of Western Civilization, Philosophy and Ethics.

In summary, the faculty tries to look at the courses the student will enjoy that fulfills the GER, then at those which will help the student become a better teacher.
Summary

The responses that students gave to research questions 1 through 9 indicated a direct relationship between the interests they pursued and the courses they took to satisfy requirements wherever possible. Also, the concept for the General Education Requirements was understood more by the faculty than it was by the student.

While research questions 1 through 9 were analyzed in this chapter, chapter 5, questions 10 and 11 will be examined in chapter 6.
CHAPTER VI

RESULTS OF THE CASE STUDY

Introduction

This chapter returns to the historical material presented in chapter 3 and uses it, along with the results presented in chapter 5 to answer research questions 10 and 11 which were posed in chapter 1.

The purpose of the historical portion of this study, presented in chapter 3, was to investigate curricular patterns for general education requirements in elementary teacher education at the University of North Dakota with particular emphasis on current initiatives. The purpose of the empirical portion, presented in chapter 5, was to investigate why seniors majoring in elementary education at the University of North Dakota in 1988 selected the courses they did to satisfy the General Education Requirements (GER) and how their rationale for their general education corresponded to that of the faculty in teacher education at the beginning of the period of major reform in teacher education in the United States referred to above. The sections which follow present research
Research Question 10. How did the University of North Dakota's General Education Requirements for elementary education students compare to similar requirements nationally?

The Normal School of the University of North Dakota was established in 1883. During this period, the number of normal schools in America grew from 11 at the time of the Civil War to 114 in 1890. Because North Dakota was on the outer edge of the United States at that time, one would expect it to get such institutions later than the rest of the country. This was not the case. The South was not to complete the development of its higher education system until early in the next century.

Normal school courses to be completed by future teachers were prescribed and included courses in pedagogy. Students were to study those subjects thought necessary to become informed future citizens of the nation: those taught in the public school. Requirements at the University of North Dakota paralleled those in institutions in other areas of the country.

In 1932, when the lab school was closed, so was the elementary education program at UND. In 1955 the
University joined the movement to establish college general education requirements with the addition of University College, but it was not until 1958 that the state legislature approved the addition of a degree in elementary education and the program was reinstituted. In order to incorporate new technology, to respond to student interest and to accommodate more students by the 1980s, many schools, like UND, had between 500 and 1000 courses that students could complete in order to satisfy general education requirements.

Elementary teacher education at the University of North Dakota had, during the 1970's and 1980's, two things which differentiated it from other such programs: the cluster requirements and TEAM. The cluster requirements were designed to extend the general education of teachers by focusing attention on liberal arts topics. While other universities required teacher education students to complete successfully the general education courses required of all students, UND had the additional requirement of 32 hours of clusters, whose intent was general education. The requirement of TEAM, Teacher Education through Applied Methods, taken as a 16-hour block in the junior year, further strengthened the teacher education requirements.

It was interesting to find that the University of North Dakota accomplished certain milestones at the same time as
other American institutions of higher learning and that its general education requirements had many things in common with these institutions. However, an elementary teacher education major at UND required more general education courses than at many other institutions.

Research Question 11. What changes in the General Education Requirements for elementary education students at the University of North Dakota are indicated by student and faculty perception and by national reform agendas?

Student and Faculty Perceptions.

The empirical portion of the study found that the majority of students believed they chose courses on the basis of interest, not because of requirements nor on the basis of supposed relevance to teaching. Students' choices of courses were as varied as the number of courses available to fulfill the requirements; if few courses were listed under a particular area of the GER, the courses taken varied less.

The students surveyed recommended that future teachers take more courses in mathematics, psychology, music, history and 23 other areas. Their recommendations, and the courses which they selected as being of highest value to their education as future teachers, were the courses which had a direct impact on teaching and in which they
saw good teaching being modeled. The students contacted said that additional courses they would like to have taken were in approximately the same areas as those they recommended for future teachers. Therefore, these students would like to see courses in the following areas required for future elementary teachers: mathematics, psychology, music, history, sociology, biology, and computer science.

When the elementary education faculty members at the University of North Dakota advised students, they first recommended that students take courses in which they are interested and that fulfill the requirements. Next, they encouraged students to take courses with content contained in the elementary school but which present a variety of approaches to inquiry. Faculty members were not asked what changes they would make to the GER, but changes were made in 1988. These changes included more foundation courses before the submission of a written application to enter elementary education and the addition of a teachable minor. The University of North Dakota also became a member in the Holmes Group, which was one of the groups to work for improved education through the improvement in teacher education.
Reform Agenda.

In 1983, *A Nation at Risk* stated that "Future teachers should be required to meet high educational standards, to demonstrate an aptitude for teaching and to demonstrate competence in an academic discipline" (National Commission on Excellence in Education, p. 24). As a result of this and other factors, the Carnegie Foundation on Education and the Economy and the Holmes Group recommended that colleges require a bachelors degree in the arts and sciences as a prerequisite for the professional study of teaching.

Other groups to talk about this issue suggested a different route. The Association of American Colleges advocated that the present four-year structure remain, but that each college should study the content and overlap of courses that graduates took to earn a degree (Johnston, 1989). Project 30 set out to do just that; they will publish their findings after a three-year study has been accomplished (Murray and Fallon, 1989). While the above organizations sought change from within, the certification organizations brought about change through the refinement of standards. NCATE requires that education students have a solid grounding in general education, and the North Dakota Department of Public Instruction for the first time requires that all elementary education programs, whether NCATE-accredited or not, meet approximately this same
standard. AACTE, acting as a learned society for Elementary Education, advocates that elementary teachers have a strong background in subjects presented in the school curriculum. This necessitates a strong background in one or more academic majors or minors.

It was interesting to find that both the senior students at UND in 1988 and the faculty recommended that students successfully complete courses which contain material taught in the elementary classroom. Organizations on the National level also advanced this conclusion, but the method of achieving this objective was different. The Holmes Group and the Carnegie Forum on Education and the Economy advocated that a degree in arts and science be obtained before teacher education commenced, while the Association of American Colleges, and Project 30 proposed that the current four-year education be retained and fortified. The National Council for Accreditation of Teacher Education, the North Dakota Department of Public Instruction and the American Association of Colleges for Teacher Education realigned recommendations for certification and approval of teacher education programs. These requirements included a strong grounding in the subject matter of one or more disciplines and indicated a need to review the current programs at the University of North Dakota.
Overlap

The courses recommended by the students graduating with a degree in elementary, elementary/early childhood and elementary/special education were those in subject areas taught in the elementary school. They felt that these were areas inadequately covered in their educations to provide the information future teachers need to instruct all areas covered in an elementary classroom. Professors were not directly questioned on which courses they would like to see students successfully completing, but when they advised future elementary teachers the faculty first recommended courses which the student liked, followed by courses which would make the students better teachers by providing different methods of inquiry. During the following two years the department added the requirements that a future teacher formally apply for admission to the department with a minimum of a 2.5 average, and obtain a minor in a teachable area.

While students and professors in elementary education at the University were advocating more instruction in the fundamentals taught in the elementary school, the reform agenda being advanced by Project 30, the American Association of Colleges, NCATE, AACTE and the North Dakota Department of Public Instruction advocated that all future elementary teachers receive a more adequate preparation in
the Arts and Sciences. All three groups called for better preparation in the Arts and Sciences areas of all future elementary teachers.
CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

The first purpose of this study was to investigate curricular trends for general education in elementary teacher education during the period 1970-1990 both nationally and at the University of North Dakota. A second purpose was to investigate why seniors majoring in elementary education at the University of North Dakota in 1988 selected the courses they chose to satisfy the General Education Requirements (GER) and how their rationale for their general education course selection corresponded to that of the faculty in teacher education. The time frame of this study is important because it was conducted at the beginning of a period of major reform in teacher education in the United States.

This chapter presents the conclusions from the empirical research questions 1-9 which were discussed in chapter 4 followed by the conclusions from questions 10-11 which combined the information presented in chapters 3 and 5. The chapter then presents recommendations from the study.
Conclusions

Research Questions 1-9

The following statements summarize the findings of the empirical portion of the study as presented in chapter 4.

1. Elementary Education students at the University of North Dakota (UND) enrolled in General Education Requirements (GER) courses for several reasons. Most frequently given reasons for enrollment in specific courses were interest in the course (36%), to fulfill requirements (30%), and to gain information (24%). Less frequently given reasons were advice from another person (15%) and to fit the student's schedule (8%).

2. Among the areas of the UND General Education Requirements, Arts and Humanities courses were most likely to be taken because of student interest. Communications courses were most likely to be selected simply to fulfill the requirement. Mathematics, Science, and Technology courses were also selected by a number of students to fulfill requirements. There is a relationship between the number of courses available and student reports of reasons for selection. Students most frequently reported selecting courses to fulfill a requirement in areas where fewest course selections are available.

3. When asked their perception of the purpose of the GER, students responded with statements which fell into five basic categories: 1. Bewilderment, (e.g. "I always
asked myself this question. . .," or "I don’t know. . ."), 17%. 2. Choice of professions/courses, (e.g. "Taking courses in different areas helps you decide what you want to go into," or "to help you see if you want to go into a different area."), 17%. 3. Foundation in/exposure to different areas, (e.g. "To get a broad range of courses," or "to give the student a wide variety of experiences."), 21%. 4. Well-rounded person, (e.g. "Make you a more rounded person," or "to give you knowledge in all areas."), 11% and 5. Subject knowledge/background, (e.g. "To get a well-rounded education in all areas," or "to give you a good solid background in all areas."), 33%.

4. UND faculty who advise elementary education students gave a less varied set of perceptions of the purpose of the GER than did students. A majority of the faculty saw the purpose as to provide subject matter background or content (67%) and fewer saw the reason for the GER as "foundation in/exposure to different areas (19%)," choice of professions/courses" (9%), or "to make a well-rounded person (5%)."

5. Although there were no significant differences between the reason students in Elementary Education (EE) and Early Childhood Education (EC) or Special Education (SE) gave for taking GER courses, SE students reported taking courses to obtain the information more often than
either the EE or EC majors, while fewer SE majors took courses because of interest in the subject.

6. More students took English 102 than 209 because they did not realize there was a choice or because they did not know what English 209 contained. After having taken English 102, many students felt English 209 would be more beneficial to a future teacher.

7. Students rated courses of higher value when they saw a relevance to their future profession and perceived that good teaching was being observed.

8. The courses students felt were most beneficial were those which would have the most impact on the student’s future classroom.

9. Students (30%) reported that they would like to have taken additional courses in 25 areas. Mathematics, Psychology and History were mentioned most often by the students, who also stated these were the weakest area of their preparation.

Research Questions 10-11

The following statements summarize the findings of the questions which combined the historical and the empirical portions of the study.

10. The requirements for majors in elementary education at the University of North Dakota in the 1970’s
and 1980's exceeded the requirements set at other universities by the additional requirements of the cluster areas.

11. The recommendations of the students and professors surveyed paralleled the recommendations advanced by the reform organizations.

12. The University of North Dakota accomplished many milestones at the same time as other American institutions of higher learning and the GER had many things in common with these institutions.

Recommendations

The recommendations are presented in five substantive areas. These are: 1. shared purpose, 2. involvement of elementary faculty in curriculum development, 3. specific curriculum changes, 4. program review and evaluation and 5. further research.

Shared Purpose

There should be a common understanding among faculty and between faculty and students about the purpose of each element of the program. Steps that could be taken to enable faculty to come to a common understanding of the purposes of the GER within the elementary education program would be to have meetings wherein the purpose of the GER is debated and a common understanding is
implemented. Alternatively, the General Education Requirement committee could simply state to faculty and students the reason for the GER and let these people decide how they want to deal with the philosophy. In the past, GER requirements of the Center for Teaching and Learning have exceeded those of accrediting organizations. There should be a common understanding among faculty as to whether this emphasis on liberal education should be maintained through an extended program. With a shared purpose would also come involvement in curriculum development.

**Involvement of Elementary Faculty in Curriculum Development**

Two current reform efforts advocate a degree in Arts and Science before work in the area of teaching is undertaken. Other reform efforts looked more at the curriculum of four-year teacher education programs. While the latter approach requires a concerted effort on the part of faculty at institutions of higher learning, it would have a positive effect, not only on students in teacher education, but on every person who attends that institution. Program review takes extra money and time but is beneficial to all concerned if duplication, overlap, and teaching excellence were accomplished for offerings that meet the General Education Requirements.
It would be advantageous for work with other departments to continue, and for the University as a whole to look at some of the courses currently listed under the GER to see if each meets the philosophy for study under these requirements.

**Specific Curriculum Changes**

In the survey the students had two major areas where they felt changes needed to be made. Some of the students contacted indicated that teachers in their everyday work talk to groups every day; communication is not only written, but oral also. Therefore, under the broad GER category of communications, there should be courses in oral communication. Second, there was concern in the Mathematics, Science, and Technology area. The extent to which Elementary Education students took Communications and Mathematics, Science, and Technology courses simply to fulfill program requirements may indicate lack of interest or commitment to these important subject fields. More study is needed to determine the extent to which student attitude toward those subjects is related to lack of choice in this area of the curriculum, to mathematics or science anxiety, or to other factors. Also, since students tend to take only courses in which they are interested unless the course is required, if certain courses are deemed essential for a future teacher to have
taken, they will have to be required. Continual review and evaluation will have to be accomplished to monitor the courses which future teachers are required to complete.

**Program Review and Evaluation**

Although the education received by the students in 1988 may have been very good, continual monitoring of courses completed by future teachers needs to be maintained to insure the quality and relevance of each course. This will require further research. Other research was also implied as a result of this study.

**Further Research**

While analyzing the data, it was noted that the question asked of the students with regard to what was to be gained from the GER and the question asked of the faculty regarding the GER were not parallel. The questions should have been phrased differently. Also, the relevance of the English courses should have been ascertained. This was noted halfway through data collection, and asked, but not everyone responded to this question. A larger sample or a comparison of students majoring in another area at this University would have made this study more interesting.

A second area of concern is the sampling. Not only is the sample size very small, but the use of a male in each
major does not represent the true make-up of the sample population within the education department. A true proportion would have included more male students majoring in elementary education.

The study undertaken here is just a start. In order to maintain contact with courses the students are taking, and the effectiveness as well as the quality of these courses, each graduating student should receive a set of questions regarding the education that they have received at the University. Each student should be contacted throughout the first five years after graduation to see if he or she has changed his or her view of the education received. It would have been interesting to contact these students again after they had taught for one or two years to see how differently they would answer the questions. When they were in college they thought they knew what they needed to know when they were teaching, but perception may change when they are actually teaching.

This study dealt with seniors at the University of North Dakota majoring in EE, EC and SE in 1988. It would be interesting to be able to compare these students with those at similar institutions and at institutions without double majors, on the measures used and on style of teaching and knowledge.
APPENDIX A

STUDENT QUESTIONS
QUESTIONS TO BE ASKED

1. Are you a senior majoring in elementary (early childhood/special) education at the University of North Dakota? Yes No

2. You took _____ as your choice in the Composition area of the general education requirement. Why did you choose this particular course? (Counselor suggestion? Time offered? You feel it is a good class for a future teacher to take?)

3. What courses in this area do you think are most beneficial for a future teacher to take? Dual counselor suggestion? Time offered? You feel it is a dual course for a future teacher to take?

4. You took _____ as your choices in the Social Studies areas of the general education requirement. Why did you choose this particular course (s)?

QUESTIONS TO BE ASKED

123
5. On a scale of 1 to 5 — one being least — how valuable was this class? ____ Why? (Only in cases of a 1 or a 5). ________________________________________________________________

6. Would you like to have taken more classes in any of these areas? ____ Which area? ______________________________________________________________

7. What courses in this area do you think are most beneficial for a future teacher to take? ______________________________

8. You took ____ as your choices in the Arts & Humanities areas of the general education requirement. Why did you choose these particular courses? ______________________________

9. On a scale of 1 to 5 — one being least — how valuable was this class? ____ Why? (Only in cases of a 1 or a 5). ______________________________________________________________

10. Would you like to have taken more classes in any of these areas? ______________________________
Which area? ______________________________________________________________
11. What courses in this area do you think are most beneficial for a future teacher to take?

12. You took ____ as your choices in the Mathematics, Science a & Technology areas of the general education requirement. Why did you choose these particular courses?

13. On a scale of 1 to 5 - one being least - how valuable was this class?____ Why? (Only in cases of a 1 or a 5).

14. Would you like to have taken more classes in any of these areas?____ Which area? ____________________________

15. What courses in this area do you think are most beneficial for a future teacher to take? ______________________

16. What do you think is the purpose for general education requirements? ______________________
APPENDIX B

CONSENT FORM
CONSENT FORM
APRIL 23, 1988

I hereby give you my permission to use the oral information I am giving you regarding the general education requirements at the University of North Dakota.
Teacher/Professor Interview

1. When you advise students, are there any particular classes in the General Education Requirements that you recommend students take?

2. What do you expect the undergraduate to gain from the courses he/she takes under the General Education Requirements?
APPENDIX D

CLASS TABLES
Social Science

Table 9 provides the number of students, by major, who took each class offered to meet the Social Science GER. The students were first asked "Which classes did you take to satisfy this requirement of the GER," which are in columns 1, 3, and 5 of the table. The students were then asked "On a scale of 1 to 5 how valuable was this class? Why?" These ratings were averaged and the mean for each group is listed in columns 2, 4, and 6 as the Satisfaction Index. The total number of students taking each class under the Social Science GER is in column 7 and column 8 records the Satisfaction Index given each course. On the table, if a department is listed without a course number, it indicates that the student did not know the course number.

Classes completed by these students under the Social Science GER were: Anthropology (Anthro.) 170, Introduction to Archaeology and Physical Anthropology; Anthropology 171, Introduction to Cultural Anthropology; Communications Disorders (CDIS) 232, Survey of Communication Disorders; Economics (Econ.) 105, Elements of Economics; Economics 201, & 202, Principles of Economics I & II; Geography 151, Cultural Geography; Geography 152, Economic Geography; Home Economics (HE) 252, Child Development; Home Economics (HE) 335, Cultural Foods; Indian Studies 330, Contemporary Plains Indian Culture;
Political Science (Pol. Sci.) 101 & 102, American Government I & II; Psychology (Psych.) 101, Introduction to Psychology; Psychology 251, Developmental Psychology; Psychology 360, Introduction to Personality; Social Work (Social Wk.) 246, Human Behavior in the Social Environment I; Sociology 101, Introduction to Sociology; Sociology 102, Social Problems and Sociology 352, Aging.

EE is the abbreviation for seniors majoring in elementary education in the Spring of 1986, EC is the abbreviation for seniors majoring in elementary/early childhood education in the Spring of 1986 and SE is the abbreviation for seniors majoring in elementary/special education in the Spring of 1986.

Psychology 101 was taken by 53 (90%) students while 30 students (50%) took Sociology 101 (see Table 9). Psychology 251, Child Development, was completed by 24 students (40%). This class or Home Economics 252 (HE 252) was required of EC majors. The HE class, under the Social Science area of the GER, was taken by 19 students (32%) and Political Science 101 (PS 101) was completed by fourteen students (23%). Although Communication Disorders 232 (CDIS 232) was required of all SE majors, only 10 of the SE majors used this course to fulfill the GER. The remaining students took other courses to fulfill this requirement.
<table>
<thead>
<tr>
<th>Major Class</th>
<th>EE # of stud</th>
<th>mean</th>
<th># of stud</th>
<th>mean</th>
<th># of stud</th>
<th>mean</th>
<th># of stud</th>
<th>mean</th>
<th>Total # of stud</th>
<th>mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthro.</td>
<td>1</td>
<td>2.0</td>
<td>1</td>
<td>4.0</td>
<td>2</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>4</td>
<td>3.3</td>
<td>1</td>
<td>3.0</td>
<td>5</td>
<td>3.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>171</td>
<td>3</td>
<td>1.7</td>
<td>2</td>
<td>3.5</td>
<td>8</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDIS 232</td>
<td>1</td>
<td>5.0</td>
<td>2</td>
<td>1.0</td>
<td>10</td>
<td>3.9</td>
<td>12</td>
<td>3.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Econ.</td>
<td>1</td>
<td>5.0</td>
<td>1</td>
<td>1.0</td>
<td>2</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td>2</td>
<td>3.0</td>
<td></td>
<td></td>
<td>2</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>201</td>
<td>2</td>
<td>4.0</td>
<td>1</td>
<td>1.0</td>
<td>3</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>202</td>
<td>1</td>
<td>2.0</td>
<td></td>
<td></td>
<td>1</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>1</td>
<td>3.0</td>
<td>1</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>151</td>
<td>3</td>
<td>4.0</td>
<td>1</td>
<td>5.0</td>
<td>4</td>
<td>4.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td></td>
<td></td>
<td>1</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HE 252</td>
<td>4</td>
<td>4.6</td>
<td>8</td>
<td>4.9</td>
<td>7</td>
<td>4.4</td>
<td>19</td>
<td>4.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>335</td>
<td></td>
<td>2</td>
<td></td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian Studies</td>
<td>6</td>
<td>3.1</td>
<td>1</td>
<td>3.0</td>
<td>7</td>
<td>3.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>330</td>
<td></td>
<td>1</td>
<td></td>
<td>4.0</td>
<td>1</td>
<td>2.0</td>
<td>2</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pol.Sci.</td>
<td>3</td>
<td>4.0</td>
<td></td>
<td></td>
<td>1</td>
<td>4.0</td>
<td>4</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>7</td>
<td>3.9</td>
<td>4</td>
<td>2.0</td>
<td>3</td>
<td>1.0</td>
<td>14</td>
<td>2.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>1</td>
<td>5.0</td>
<td></td>
<td></td>
<td>1</td>
<td>2.0</td>
<td>2</td>
<td>3.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psych.</td>
<td>101</td>
<td>18</td>
<td>18</td>
<td>3.6</td>
<td>18</td>
<td>3.4</td>
<td>54</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>251</td>
<td>5</td>
<td>4.7</td>
<td>12</td>
<td>4.3</td>
<td>7</td>
<td>4.0</td>
<td>24</td>
<td>4.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>360</td>
<td>1</td>
<td>3.0</td>
<td>1</td>
<td>4.0</td>
<td>1</td>
<td>2.0</td>
<td>3</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Wk</td>
<td>246</td>
<td>1</td>
<td></td>
<td>4.0</td>
<td>1</td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>101</td>
<td>9</td>
<td>11</td>
<td>3.5</td>
<td>10</td>
<td>4.2</td>
<td>30</td>
<td>3.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>102</td>
<td></td>
<td>1</td>
<td></td>
<td>4.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>352</td>
<td></td>
<td>1</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Classes following the department but no class number and the average value, or mean, they assigned to that class indicate the student did not remember the course number.)
Table 10 provides the number of students, by major, who took each class offered to meet the Arts and Humanities GER. The students were first asked "Which classes did you take to satisfy this requirement of the GER", the number of students taking each class is in columns 1, 3, and 5. They were then asked "On a scale of 1 to 5 how valuable was this class?" The means are listed in columns 2, 4, and 6. The total number of students taking that class and the average value, or mean, they assigned to that class under the Arts and Humanities GER is given in columns 7 and 8.

The classes taken to satisfy the Arts and Humanities GER are: English 200, Topics in Language and Literature; English 211, Introduction to Fiction; English 213, Introduction to Drama; English 301, Survey of English Literature; English 304 and 305, Survey of American Literature; English 315, Shakespeare; English 330, Studies in English Fiction; Fine Arts 150, Introduction to Fine Arts; History 101, Western Civilization to 1500; History 102, Western Civilization since 1500; History 103, United States to 1877; History 104, United States since 1877; History 204, History of Canada; History 208, U. S. 1932 to Present; History 210, The United States: Military History; History 220, History of North Dakota; History 300, Topics in History; Honors 101, Introduction to Honors Studies; Humanities 101, Humanities I; Humanities 102,
Table 10
Number of Students by Major Taking Courses to Meet Arts and Humanities GER and Mean of Satisfaction Index

<table>
<thead>
<tr>
<th>Major Class</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of stud</td>
<td>mean</td>
<td># of stud</td>
<td>mean</td>
</tr>
<tr>
<td>English</td>
<td>1</td>
<td>3.0</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>200</td>
<td>1</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>211</td>
<td>5</td>
<td>3.0</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>213</td>
<td>2</td>
<td>3.5</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>217</td>
<td>2</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301</td>
<td>1</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>304</td>
<td>1</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>305</td>
<td>2</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>315</td>
<td>1</td>
<td>3.0</td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>330</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fine Arts</td>
<td>7</td>
<td>3.3</td>
<td>7</td>
<td>2.7</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>2</td>
<td>4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>3</td>
<td>3.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>4</td>
<td>3.5</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>103</td>
<td>3</td>
<td>3.0</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>104</td>
<td>2</td>
<td>3.5</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>204</td>
<td>1</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>208</td>
<td>1</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>210</td>
<td></td>
<td></td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>220</td>
<td>2</td>
<td>4.5</td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td>300</td>
<td>1</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honors</td>
<td>1</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>1</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td></td>
<td>1</td>
<td>5.0</td>
<td>1</td>
</tr>
<tr>
<td>Humanities</td>
<td>1</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>4</td>
<td>2.8</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>102</td>
<td>2</td>
<td>2.3</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>151</td>
<td></td>
<td>1</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Indian Studies</td>
<td>2</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>1</td>
<td>4.0</td>
<td>2</td>
<td>4.0</td>
</tr>
<tr>
<td>Languages</td>
<td>2</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>2</td>
<td>3.5</td>
<td>6</td>
<td>4.0</td>
</tr>
</tbody>
</table>
Table 10 (Continued)
Number of Students by Major Taking
Courses to Meet Arts and Humanities GER and
Mean of Satisfaction Index

<table>
<thead>
<tr>
<th>Major Class</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of stud</td>
<td>mean</td>
<td># of stud</td>
<td>mean</td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>13</td>
<td>3.3</td>
<td>9</td>
<td>3.2</td>
</tr>
<tr>
<td>108</td>
<td>1</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>2</td>
<td>4.0</td>
<td>2</td>
<td>3.0</td>
</tr>
<tr>
<td>237</td>
<td>1</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>271</td>
<td></td>
<td>4.0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LSAV</td>
<td></td>
<td></td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>Philosophy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>2</td>
<td>3.5</td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>111</td>
<td></td>
<td></td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>210</td>
<td>3</td>
<td>3.0</td>
<td>5</td>
<td>3.2</td>
</tr>
<tr>
<td>Religious</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studies</td>
<td>1</td>
<td>3.0</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>103</td>
<td>1</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>1</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>1</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>345</td>
<td>2</td>
<td>4.8</td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td>Theatre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts 121</td>
<td>2</td>
<td>2.5</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td>227</td>
<td>2</td>
<td>4.5</td>
<td>3</td>
<td>3.5</td>
</tr>
<tr>
<td>229</td>
<td>2</td>
<td>4.0</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>Visual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>1</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
<td></td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td>110</td>
<td>2</td>
<td>3.0</td>
<td>2</td>
<td>3.5</td>
</tr>
<tr>
<td>120</td>
<td>2</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>1</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>151</td>
<td></td>
<td>3.0</td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td>210</td>
<td></td>
<td>3.0</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>260</td>
<td></td>
<td>3.0</td>
<td>1</td>
<td>3.0</td>
</tr>
</tbody>
</table>

(Classes following the department but no class number indicate the student did not remember the course number.)
Thirty-one of the students interviewed took Music 100. Many students felt they needed a way to relax in their spare time and to be able to help students learn an appreciation for music. Only one student took a class in Library Science and Audio Visual Instruction. The data also showed that students took 36 classes in History.
Students expressed the necessity to have the information gathered from the class for use in their classroom.

Nine students took a class in Indian Studies. While one of these students felt it should be a requirement for future teachers to take a course in this area, another felt too many graduates would not be teaching in North Dakota and the course would have little relevance to them.

With the wide array of classes to fulfill this requirement, the number of students taking any one class was small. Some classes rated a 5 but typically these were taken by only one student. These classes included History 204, Honors 101, Library Science and Audio Visual, Music 105 and Visual Arts (see Table 10). The 31 students who completed Music 100 rated the class a 3.2, while the 24 students who completed Fine Arts 150 rated it a 3.0. It seems that students enrolled in classes which held an interest for them and that they felt would help them develop as a well-rounded person.

**Mathematics, Science and Technology**

Table 11 provides the number of students, by major, who took each class offered to meet the Mathematics, Science and Technology GER. Information presented on this table parallels tables 9 and 10.

The classes taken to satisfy the Mathematics, Science and Technology GER are: Anatomy, Anatomy for Paramedical
Table 11

Actual Classes Taken by Student Major for GER in Mathematics, Science & Technology and Mean Satisfaction Index

<table>
<thead>
<tr>
<th>Major Class</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of stud</td>
<td># of mean</td>
<td># of stud</td>
<td># of mean</td>
</tr>
<tr>
<td>Anatomy</td>
<td>2</td>
<td>4.5</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>Biology</td>
<td>2</td>
<td>4.5</td>
<td>3</td>
<td>3.4</td>
</tr>
<tr>
<td>Chemistry</td>
<td>2</td>
<td>3.0</td>
<td>2</td>
<td>3.8</td>
</tr>
<tr>
<td>Computer Science</td>
<td>2</td>
<td>4.0</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Geography</td>
<td>6</td>
<td>3.5</td>
<td>6</td>
<td>3.5</td>
</tr>
<tr>
<td>Geology</td>
<td>1</td>
<td>5.0</td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>Industrial Technology</td>
<td>1</td>
<td>5.0</td>
<td>2</td>
<td>4.0</td>
</tr>
<tr>
<td>Mathematics</td>
<td>18</td>
<td>4.8</td>
<td>16</td>
<td>4.3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>2</td>
<td>5.0</td>
<td>3</td>
<td>5.0</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1</td>
<td>5.0</td>
<td>1</td>
<td>5.0</td>
</tr>
</tbody>
</table>
Table 11 (Cont’d)

Actual Classes Taken by Student Major for GER in Mathematics, Science & Technology and Mean Satisfaction Index

<table>
<thead>
<tr>
<th>Major Class</th>
<th>EE</th>
<th>EC</th>
<th>SE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of stud</td>
<td>mean</td>
<td># of stud</td>
<td>mean</td>
</tr>
<tr>
<td>Philosophy</td>
<td>1</td>
<td>5.0</td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>Physics</td>
<td>1</td>
<td>3.0</td>
<td>2</td>
<td>4.0</td>
</tr>
<tr>
<td>101</td>
<td>1</td>
<td>3.0</td>
<td>1</td>
<td>4.0</td>
</tr>
<tr>
<td>102</td>
<td>1</td>
<td>5.0</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>200</td>
<td>1</td>
<td>2.0</td>
<td>1</td>
<td>2.0</td>
</tr>
<tr>
<td>Physiology</td>
<td>1</td>
<td>3.0</td>
<td>1</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Personnel: Biology 100, Principles of Biology; Biology 101, and 102, Introduction to Biology; Biology 235, Human Environment; Chemistry 100, Introductory Chemistry; Chemistry 103, Fundamentals of Our Chemical World; Chemistry 105, General Chemistry I; Computer Science 101, Introduction to Computers; Computer Science 160, Computer Programming I; Geography 121, Physical Geography; Geography 333, Meteorology; Geology 100, Earth Science: Geology and Man; Geology 101, General Geology—Physical; Industrial Technology 300, Technology, Society and the Individual; Mathematics 103, College Algebra; Math 104, Finite Mathematics; Math 105, Trigonometry; Math 277, Algebraic Structure of the Number System; Math 377, Geometry for Elementary Teachers; Math 477, Topics in Elementary School Mathematics; Philosophy, Symbolic Logic; Physics 101 and 102, Introductory College Physics; Physics 171, Natural Science—Physics; Physics 200, Physics for Poets and Physiology, Mechanics of Human Physiology.

The only class in these areas to rate below a 3 was Computer Science 101 with a 2.5. Students reported that they rated the class low because of what they considered poor teaching.

The class rated next lowest in these areas was Mathematics 120 which rated a 3.0 (only 1 student completed this class) while the highest rating was received by Mathematic 377 (15 students) and 477 (1
student) which rated a 5.0. The lowest rated classes in the Mathematics, Science and Technology area were: Geography 333 (1.0), Computer Science (2.5) and Chemistry 105 (2.6). It seems that students enrolled in classes where they could see a direct benefit to their future career, and tended to rate such classes higher. They also rated high those classes where they perceived good teaching was being observed.


Department of Public Instruction, (1989). North Dakota teacher education, standards state program approval. Bismarck, Department of Public Instruction.


National Council for Accreditation of Teacher Education, (1990, Jan.). *NCATE standards, procedures, and policies for the accreditation of professional education units. The accreditation of professional education units for the preparation of professional school personnel at basic and advanced levels.* Washington, DC: National Council for Accreditation of Teacher Education.

O'Kelly, B; Perrone, V. & Schubert, E. (1979, April). *Summary discussion paper on general education requirements.*
University of North Dakota. *Special education program evaluation*. Grand Forks.


REFERENCES

UND UNDERGRADUATE BULLETIN
153

UND UNDERGRADUATE BULLETINS


Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.
Bulletin of the University of North Dakota. General Series.  
1939-1940. Grand Forks, ND: University of North Dakota.

Bulletin of the University of North Dakota. General Series.  

Bulletin of the University of North Dakota. General Series.  

Bulletin of the University of North Dakota. General Series.  

Bulletin of the University of North Dakota. General Series.  

Bulletin of the University of North Dakota. General Series.  

Bulletin of the University of North Dakota. General Series.  

Bulletin of the University of North Dakota. General Series.  

Bulletin of the University of North Dakota. General Series.  
Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.

Bulletin of the University of North Dakota. General Series.


University of North Dakota Undergraduate Catalogue. 1978-80.
Springfield, IL: Phillips Brothers Printers.

University of North Dakota Undergraduate Catalogue. 1980-82.
Springfield, IL: Phillips Brothers Printers.


84-86 Undergraduate Bulletin: UND. Springfield, IL:
Phillips Brothers Printers.

University of North Dakota Undergraduate Catalogue. 86-88.
Springfield, IL: Phillips Brothers Printers.
