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A Survey of the Preparation and Assignment of Physical Education Teachers and Coaches in North Dakota

George O.P. Lee

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A SURVEY OF THE PREPARATION AND ASSIGNMENT OF
PHYSICAL EDUCATION TEACHERS AND COACHES IN NORTH DAKOTA

by

George O. P. Lee

B.S. in Physical Education, Minot State College 1964

A Thesis

Submitted to the Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the Degree of

Master of Science

Grand Forks, North Dakota

August
1967

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This thesis, submitted by George O. P. Lee in partial fulfillment of the requirements for the Degree of Master of Science in the University of North Dakota, is hereby approved by the Committee under whom the work has been done.

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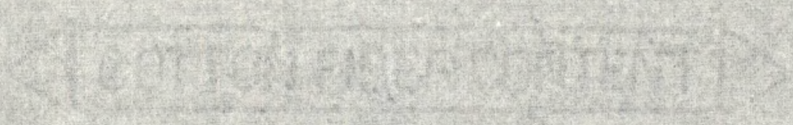
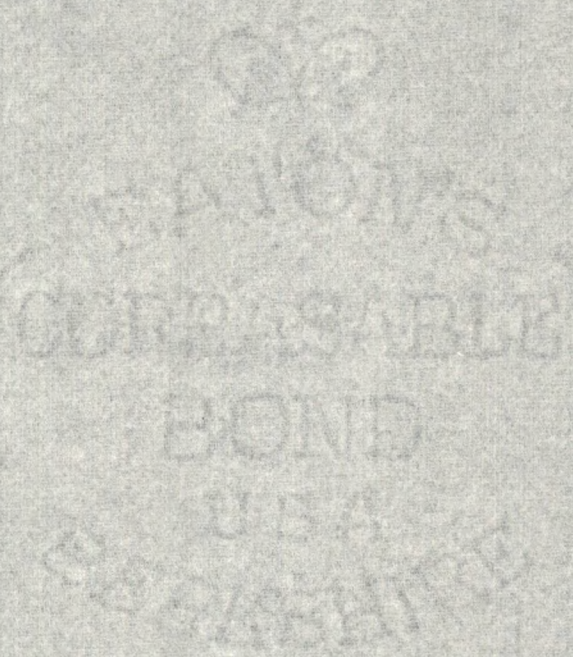
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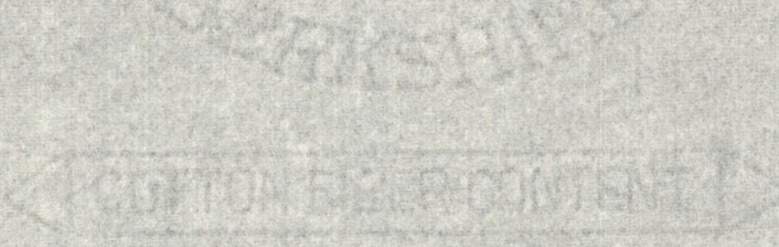


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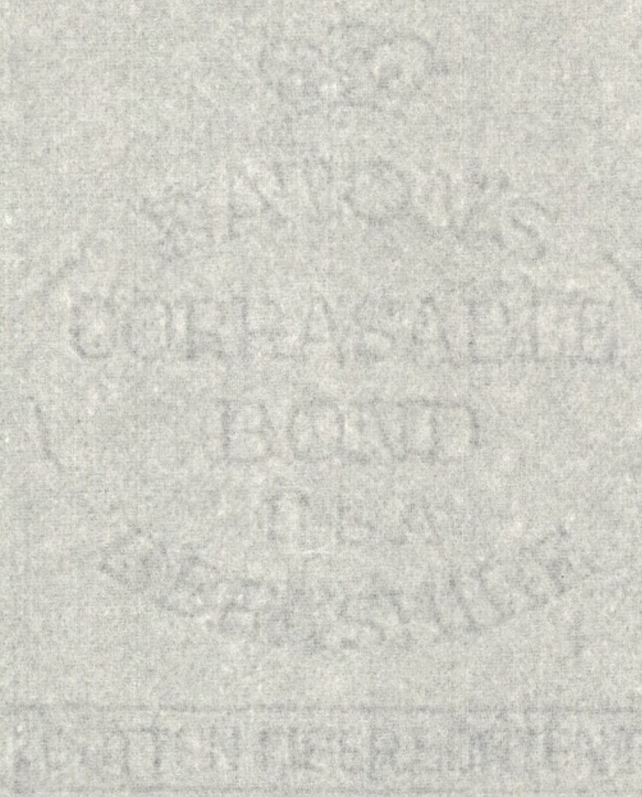
ABSTRACT

This study was designed to gather information pertaining to the preparation and assignment of physical education teachers and coaches in North Dakota. This study was structured to gain information concerning the number of semester hours taken in physical education and coaching courses on the college level. It also determined the present teaching loads of physical education teachers and coaches in North Dakota.

The survey technique was employed in this study. Questionnaires were mailed to physical education teachers and coaches in North Dakota. Seven hundred and thirty questionnaires were sent out and 550 were returned for a total return of 75.34 per cent.

The findings of this study show that nearly one fifth of the physical education teachers and/or coaches are not qualified to teach physical education in North Dakota according to the North Dakota state law. It was also found that the majority of those who have physical education majors and minors have over the minimum required number of hours for these respective majors and minors. The findings of this survey also show the preferred fields of graduate study chosen by the respondents. The suggestion that the state of North Dakota enforce

the law requiring a major or minor in physical education to teach this subject was the main recommendation coming from the findings of this study.



CHAPTER I

INTRODUCTION

Statement of the Problem

This study was designed to collect information pertaining to the preparation of physical education teachers and coaches in North Dakota. The primary purpose of this study was to determine qualifications of physical educators and coaches.

The specific purposes of this study were:

1. to determine how many physical education teachers have a major or minor in physical education.
2. to determine how many of these teachers have completed courses in anatomy, kinesiology and/or physiology.
3. to determine how many of these teachers possess a graduate degree.
4. to gather information pertaining to future graduate fields of study.
5. to gather facts concerning the teaching loads of physical education teachers, as well as their assignments in academic areas other than physical education.

6. to collect information regarding the preparation and teaching loads of those physical education teachers and coaches who are not qualified to teach physical education according to the State Department of Public Instruction.¹

Need for the Study

One of today's modern trends is the migration of people from rural to urban areas. This trend has been caused by the industrial processes of automation and mass production. People are moving to areas where there are very limited opportunities for sport, recreation and outdoor living. As Jesse Williams states, "Physical education should gear its program to meet human needs that grow out of increasing urbanization."² If the people of this country are to be kept physically fit, provisions must be made for facilities and adequate leadership in the field of physical education.

The people of North Dakota have realized the importance of physical education and consequently the legislature has passed a law requiring physical education in state supported schools. The law reads as follows:

Physical education to be taught in all schools.--Physical education shall be taught as a regular subject to all students in all departments of the public schools and in all educational

¹Letter from R. W. Bangs, Director of Certification, State Department of Public Instruction, Bismarck, North Dakota, October 17, 1966.

²Jesse Feiring Williams, The Principles of Physical Education (Philadelphia and London: W. B. Saunders Co., 1965), p. 107.

institutions supported wholly or in part by money from the state. All school boards and boards of education and boards of educational institutions receiving money from the state shall make provision for daily instruction in all the schools and institutions under their respective jurisdictions and shall adopt such methods as will adapt progressive physical exercises to the development, health, and discipline of the pupils in the various grades and classes of such schools and institutions.³

There has been very little research done on the academic background of physical education teachers and coaches. More information must be obtained concerning the preparation of these personnel. The practices of administrators in the assignment of physical education teachers and coaches must be determined. Recommendations must be made concerning deficiencies in the preparation and assignment of physical education teachers and coaches which might be corrected by action of the State Department of Public Instruction.

Delimitations of the Study

Although there is a need for a nationwide study of the preparation and assignment of physical educators and coaches, this study was confined to the state of North Dakota for numerous reasons. First of all, if a thorough study was to be undertaken, North Dakota provided a sufficient challenge in itself. Secondly, the writer has grown up in North Dakota and is interested in its growth and development. Also, this study is intended to supplement work presently being done by the North Dakota

³North Dakota Century Code (1960), Sec. 15-38-09.

Statewide Study of Education under the direction of Dr. Kent Alm of the University of North Dakota.

Limitations of the Study

The usual deficiencies of the questionnaire technique, such as the possibility of misinterpretation or omission of certain questions, may have affected the responses. There may have been a propensity for respondents to approximate the number of hours taken in physical education and coaching rather than list the exact number taken.

Despite these defects, the questionnaire technique represented the most logical means of conducting a study of this type. Involvement of time and financial aid would have made it impossible to interview all the respondents even though such an approach conceivably could have produced more valid and reliable data.

Survey of Related Literature

Since this study is basically concerned with the preparation and assignment of physical education teachers and coaches in North Dakota, it is of considerable interest to note trends in preparation and assignment in some of the states of the United States. Due to the small number of articles written in these areas, some of the following articles date back ten or more years. Nonetheless, these articles yield some of the significant trends in physical education and coaching.

The survey of related literature is divided into three areas. These

areas are the preparation of physical education teachers and coaches, recommendations for preparation in fields other than physical education, and the assignment of physical education teachers and coaches.

Preparation of Physical Education Teachers

In order to examine the qualifications of physical education teachers, one must also look at teacher certification requirements. Teacher certification is the process used by the state to determine which persons are eligible to accept positions as teachers in that state. On the subject of certification requirements for employment in physical education, Dr. Charles A. Bucher stated:

There is a recognized need for certification requirements as a means of maintaining and ensuring the quality of physical education teachers in the various states. They are necessary to ensure that children in the schools will have well-prepared and efficient teachers of physical education guiding their day-to-day activities. At the present time, teacher training institutions have prospective teachers who are looking forward to obtaining positions. The certification standards that have been established determine, in some measure, the type of preparation that is offered in the various states and thus, in the final analysis, these standards also determine, to some degree, whether or not teachers being prepared in physical education are qualified to guide the school activities of children.⁴

In a study done by Dexter and Morehouse it was found that, in 1953, the average physical education requirement for those states having certification requirements was twenty-one semester hours. In 1959,

⁴Charles A. Bucher, Foundations of Physical Education (St. Louis: The C. V. Mosby Co., 1960), p. 20.

this requirement had shown an increase of three semester hours. At this time only one state had a requirement for certification which was less than fifteen semester hours. In 1959, the number of states requiring fifteen to twenty-four semester hours was thirty-three, those requiring twenty-six to forty-eight semester hours was sixteen. Alaska was the only state with no requirement for certifying physical education teachers.

Between 1953 and 1959, a total of twenty-six states made changes in the minimum requirements for certification of physical education teachers, with fourteen states increasing the physical education requirement. Arizona was the only state reducing this requirement. There was not a trend toward nationwide uniformity indicated by these changes and no two states have the same requirements.⁵

In respect to minimum special requirements for certification of physical education teachers, there are no uniform qualifications. However, the minimum number of semester hours for a minor is now quite generally fifteen or more; thus there is less probability of the poorly prepared teacher being employed.⁶

North Dakota's institutions of higher education are among those requiring more than fifteen semester hours of training in physical

⁵James Dexter and Laurence E. Morehouse, "Certification Requirements of Physical Education Teachers Between 1953 and 1959," The Research Quarterly, XXXII (March, 1961), pp. 20-25.

⁶A. Gwendolyn Drew, "Certification of Coaches," Journal of Health, Physical Education, and Recreation, XXXVII (April, 1966), p. 80.

education for a minor. Shown below is a chart listing the colleges and universities which offer majors and minors in physical education in North Dakota. Also listed in this chart are the minimum requirements in semester hours of physical education for majors and minors from these schools.

TABLE 1

SEMESTER HOURS NEEDED FOR MAJORS AND MINORS IN PHYSICAL EDUCATION FROM NORTH DAKOTA COLLEGES AND UNIVERSITIES^a

College	Major	Minor
Dickinson State	32	21
Ellendale (branch of UND)	32	20
Jamestown	28	18
Mayville State	27	21
Minot State	35	21
North Dakota State University	24	18
University of North Dakota (plus 20 semester hours of requisites in other departments for both majors and minors)	34	20
Valley City State	27	19

^aQuarter hours have been changed to semester hours. All information was taken from the catalogues of the colleges and universities listed in the table.

While some states require graduation from an approved four-year teacher training course, others require that any teacher who holds a regular certificate can also teach any special field for which he is qualified. Some states have only a major certification requirement and others have major and minor listings. The certification requirements for North Dakota teachers in secondary education are listed in the North Dakota Century Code and are given below:

First grade professional certificate.--Diploma from university or agricultural college or equivalent institutions of other states. A first grade professional certificate shall be issued:

1. To a graduate of the school of education of the university of North Dakota or of the agricultural college, or of the four year course of a state teachers' college or normal school who holds the diploma granted to graduates of such course. Such certificate shall be valid for three years after the date of issue of the diploma.

2. To a graduate of any standard accredited college or university within or without the state who holds the diploma granted to graduates of such institutions evidencing at least sixteen semester hours of professional preparation for teaching. Proof of graduation from such institution and such other data as may be required must be filed in the office of the superintendent of public instruction. Such certificate shall be valid for three years after the date of issue.

A first grade professional certificate shall qualify the holder to teach in any of the public schools of the state.

In addition to these general requirements of all secondary teachers, "a teacher must be assigned only in their major and minor fields."⁸

In 1951, a thesis study done by James W. Gustafson on physical

⁷ North Dakota Century Code (1960), Sec. 15-36-05.

⁸ Bangs, October 17, 1966.

education in North Dakota revealed that about one-third of all physical education instructors in North Dakota had majors in physical education. The study also showed that about one-third had minors and that one-third had neither a major or minor in physical education. According to this study, approximately two-thirds of the teachers in physical education were qualified by training to teach in physical education. Of those who had minors in physical education, about seventy-one per cent had majors in social science, mathematics, biology, or history. This study also showed that sixty-four per cent of those teaching physical education had a bachelor of science degree, twenty-seven per cent had a bachelor of arts degree, and twenty-nine per cent had other degrees or no degree.⁹

Perhaps one of the most noteworthy findings of this study was the fact that one-third of the physical education instructors had neither a major nor minor in physical education. Hiring of untrained teachers means lowering the standards of the employing institution and means a subsequent struggle to raise the standards of the school. Physical education has fought a long battle to be recognized as a part of the academic curriculum. To hire untrained teachers would definitely jeopardize the progress physical educators have made. Teaching physical education has a tremendous potential for helping students. However, the

⁹James W. Gustafson, "Boys Physical Education Leadership, Facilities, and Equipment in the Secondary Schools of North Dakota" (unpublished Master's thesis, Department of Education, University of North Dakota, 1951), pp. 13-17.

opportunity to help also carries a parallel to obstruct; untrained personnel can do more harm than good. In many cases, no program may be better than a poor program. In 1950, the Society of State Directors of Health and Physical Education passed the following resolution: "Recognizing that the quality of professional personnel determines, to a great degree, the outcomes of programs of health, physical education, and recreation, it is strongly recommended that only qualified and properly certificated personnel be employed for the conduct of such programs."¹⁰

Several high caliber recommendations have come down from the National Conference on Professional Preparation in Health, Physical Education, and Recreation. For instance, a course in skills for teaching and coaching is strongly recommended for both physical education majors and minors. Both kinesiology and physiology are strongly recommended for majors and are recommended as electives for minors."¹¹

Recommendations for Broader Education of Physical Educators

There are many faults in the present physical education teacher education program which leave room for those critics who want to apply to the physical educator the slogan "man with the strong back and weak

¹⁰ Betty G. Hartman and Marion Alice Sanborn, Issues in Physical Education (Philadelphia: Lea and Febiger, 1964), p. 180.

¹¹ American Association of Health, Physical Education, and Recreation, A Report of a National Conference on Professional Preparation, January 8 to January 13, 1962.

mind" or "muscle bound."¹² The following are recommendations which could be applied in order to balance one sided technical training with a broad education:

1. Students who major in physical education should meet the same academic requirements as those who are preparing for other fields of study.
2. Physical education majors should have a double major.
3. Health and physical education should not comprise a major and a minor or a double major. Another academic field of study is needed here to strengthen the degree.

Coaching and Physical Education

The writer's purpose in this section was not to take a side on the issue of whether physical education teachers should coach (or vice versa) nor did the writer attempt to determine if there should be a dichotomy of the two fields. The purpose here was to present various viewpoints regarding this subject.

In a survey done on the preparation of athletic coaches in the state of Minnesota, it was found that four hundred twenty-eight coaches had majors in physical education, one hundred sixty held minors, and

¹²Werner Haas, "The Physical Educators Education," Journal of Health, Physical Education, and Recreation, XXX (April, 1959), p. 26.

one hundred seventy had no training in the field of physical education.¹³

It was recommended by the author that all persons coaching inter-scholastic athletics in Minnesota should have at least a minor in physical education.

At its regularly scheduled meeting November 14, 1956, the Minnesota State Board of Education unanimously adopted a regulation, requiring that all coaches of inter-scholastic football, basketball, baseball, hockey, wrestling, and track and field, shall possess as a minimum qualification a minor in physical education before they will be certified in Minnesota. This regulation will become effective during the school year 1959-60 to afford undergraduates who wish to coach an opportunity of meeting the requirement before graduation.¹⁴

The proposals in regard to the certification of coaches are varied. Many coaches feel that an individual coaching a sport in a secondary school should be certified in the sport which he coaches. Other personnel in athletic fields feel that every person coaching should have a physical education major. Still other people in this area feel that head coaches should be certified, while assistant coaches need not be. Many people feel that the element of danger should be the prerequisite that determines whether a coach needs certification or not. In this case, sports such as football, hockey, gymnastics, and soccer would need certified coaches, whereas sports such as golf, archery, bowling, and

¹³J. G. Neal, "Professional Preparation of Athletic Coaches in the Public Schools of Minnesota," The Research Quarterly, XXVIII (March, 1957), p. 176.

¹⁴Ibid., p. 178.

tennis would not. Many people feel that persons having physical education majors should be certified to coach all sports. In 1956, the American Association for Health, Physical Education and Recreation passed the following resolution: "The AAHPER endorses professional preparation in physical education as a requirement for certification of athletic coaches by various states, and encourages state associations to work toward the implementations of this standard."¹⁵

According to the report of the national conference of AAPHER, "In order to upgrade the athletic programs of our nation's schools, it is essential that all coaches and athletic trainers not only have actual experience in athletics but also have some specific professional education that qualifies them to care for and to coach interscholastic and intercollegiate athletic teams." In the recommended areas of preparation, both anatomy and physiology are listed as being essential.¹⁶

Assignment of Physical Education Teachers and Coaches

There has been little information written on the exact assignment of physical education teachers and coaches. The general consensus is that physical education teachers teach physical education and coach. Teaching physical education in many cases is a full time job in itself.

¹⁵Hartman and Sanborn, p. 195.

¹⁶American Association of Health, Physical Education, and Recreation, Report of National Conference, January 8 to January 13, 1962, pp. 70-71.

Coaches usually teach physical education or some other subject, but coaching also may be a full time job.

In 1951, James W. Gustafson,¹⁷ in his study of physical education in North Dakota found that, in schools of over two hundred fifty pupils, physical education teachers taught fifteen contact hours of physical education per week. These teachers spent thirteen hours a week supervising extra curricular activities and six and one-half hours a week teaching other subjects. At the time this study was done, fifteen per cent of the physical education teachers in North Dakota were superintendents, and eighteen per cent were principals.

Harold Sullivan,¹⁸ in his study done on coaches in Minnesota, found that physical education ranked first, history ranked second, health ranked third and social studies ranked fourth among subjects taught by coaches.

In a study done by Kenneth Hallgrimson,¹⁹ in 1964, it was found that 23 per cent of the track coaches in Class A schools were faculty members not in physical education. This study also showed that 41 per

¹⁷Gustafson, 1951, p. 16.

¹⁸Harold Sullivan, "Trends and Practices in Subjects Coaches Teach and Sports Coached Within the Last Ten Years in the State of Minnesota" (unpublished Master's thesis, Department of Education, University of North Dakota), pp. 33-42.

¹⁹Kenneth Hallgrimson, "A Study of the Track Programs in Class A Schools of North Dakota" (unpublished Master's thesis, Department of Education, University of North Dakota), p. 22.

cent of these coaches taught in the area of physical education. The next largest teaching area for track coaches was natural science in which 27 per cent of these personnel taught.

In 1965, George Perry conducted a survey of 14 golf coaches in Class A schools in North Dakota which revealed that 50 per cent of these coaches held neither a major nor a minor in physical education. Of this 50 per cent, over half of them had had no training in physical education.²⁰

One recommendation receiving considerable support in physical education today is the divorcing of coaches from the physical education classroom. Those favoring this recommendation feel that "the coach will not be as effective with the poorer students. As the coach, he has selected some students of high skill to play on the interscholastic teams. Because of this, the other students will have difficulty identifying with the selector."²¹ Perhaps this recommendation, though of considerable merit, is too idealistic to be implemented at the present time. Nevertheless, it should be kept in mind as the reader reviews the following information concerning the status of physical education in North Dakota in 1967.

²⁰George E. Perry, "The Administrative Aspects of High School Interscholastic Golf in North Dakota" (unpublished Master's thesis, Department of Education, University of North Dakota), p. 11.

²¹Hartman and Sanborn, p. 191.

CHAPTER II

METHODOLOGY

North Dakota was selected as the state to be surveyed since it was the writer's home state and therefore the state in which he is most interested. The writer graduated from Minot State College with a Bachelor of Science degree in physical education in 1964. He is presently working on his Master of Science degree in physical education and his expected date of graduation is August, 1967.

It was decided that a brief, well constructed questionnaire would be the most appropriate means of gathering the needed information. This questionnaire¹ was constructed and worded in such a way that it could be filled out in approximately five minutes. An introductory letter² and a stamped, self-addressed envelope were also included. These questionnaires were mailed to intended respondents on December 7, 1966. A second sending of the questionnaire was mailed to those who did not reply the first time, on January 13, 1967.

Of those 730 questionnaires sent on December 7, 386, or 52.9 per

¹Appendix A.

²Appendix A.

cent were returned. Of those 344 questionnaires sent on January 13, 164, or 47.6 per cent were returned. The total number of questionnaires received was 550, or 75.3 per cent of the original 730. The table in Appendix B shows the number of questionnaires sent, as well as the per cent returned.

A list of physical education teachers and coaches was obtained from the extension division of the University of North Dakota. An additional list of North Dakota coaches was also received from the North Dakota State High School Activities Association.

As the questionnaires were received, each respondent's name was excluded from the follow up mailing list. As replies to the follow up questionnaire were received, they were placed with those of the initial survey, thus completing the accumulation of data.

Data were then transferred from the questionnaire to scanner sheets, which were in turn key punched at the computer center in Twamley Hall on the campus of the University of North Dakota.

The data were then sent through a computer to tabulate the responses to every individual item on the questionnaire. The computer was also utilized to tabulate the responses of three specific groups of respondents. These groups included those respondents that: (1) held a major in physical education; (2) held a minor in physical education; (3) held neither a major nor a minor in physical education. These data are reported in both verbal and tabular form in Chapter III of this paper.

This questionnaire was sent to the home address of the coach or physical educator, if possible. If no home address was available, the questionnaire was sent to the school in which he taught.

CHAPTER III

ANALYSIS AND TREATMENT OF DATA

The data which were collected from the physical education teachers and coaches in North Dakota have been divided into two main sections, in accordance with the title of this thesis. These sections, preparation and assignment, are reported in both a verbal and a tabular form in the following pages.

The Preparation of Physical Education Teachers and Coaches in North Dakota

In an attempt to clarify the findings of this study, the data dealing with the preparation of physical educators and coaches have been divided into four subsections: (1) overall data, which are based on the responses of all 550 participants in the survey; (2) data received from all respondents who have majors in physical education; (3) data based on the replies of those participants who have minors in physical education; and (4) data based on the responses of those physical education teachers and coaches who are equipped with neither a major nor a minor in physical education. Each of these four subsections contains information on the degrees earned, the majors and/or minors held, semester

hours earned in physical education, coaching, physiology, kinesiology, and anatomy, and the preferred fields of study indicated by the specified respondents in each subsection. Special attention should be given to the information reported in the fourth of these subsections, since these respondents are not qualified to teach physical education in North Dakota.

It should also be noted that charts dealing with fields of study contain two categories which require some definition. The first of these categories, history, refers to the combined total of those indicating either world history or United States history. The second, social sciences, refers to all other areas falling under this broad category. The histories have been kept separate from social sciences due to the frequency of responses in this field of study.

Overall Data¹

Degrees earned by all respondents.--Of the 550 physical education teachers and coaches responding to the questionnaire, it was not surprising to note that 434 (78.91 per cent) have earned bachelor of science degrees. However, the fact that 62 respondents (11.29 per cent) hold master of science degrees is worthy of mention. The great majority of these degrees, 384 (69.86 per cent) have been earned

¹See Appendix B, on page 75, for complete charts of the data received from all respondents.

since 1960, while another 22 per cent were earned from 1950 to 1959. These figures would seem to indicate that the majority of the physical educators and coaches in North Dakota are not only adequately prepared, but also rather youthful. Another promising sign for the state of North Dakota is the increased interest in graduate work on the part of physical educators and coaches. Seventy-five per cent of all the graduate degrees earned by these North Dakota educators have been received in the past seven years. The major portion of both the undergraduate and graduate degrees have been received from North Dakota colleges and universities. Of the 550 undergraduate degrees earned by respondents in this survey, 444 of the degrees were earned in North Dakota with Minot State College leading with 102 degrees issued. In other words, 80 per cent of all undergraduate degrees were earned in North Dakota, while approximately 53 per cent of the graduate degrees were earned in North Dakota.

Majors earned by all respondents. --Of the 537 people listing first undergraduate majors, 304 (56.61 per cent) of the respondents, indicated physical education as their major field of study. Mathematics and business education ranked second and third as first undergraduate majors with 47 majoring in mathematics and 40 majoring in business education. Of the total respondents, 378 (70.39 per cent) did not list a second undergraduate major. Among those who did, physical

education was the most popular choice with 60 respondents indicating a second undergraduate major in this area. Elementary education ranked second among second undergraduate majors with 60 people choosing this field.

There were 128 respondents who indicated they had a first graduate major. Of these, 21 also had a second graduate major. Physical education ranked first with 53 (41.58 per cent) of the respondents holding majors in this area. Business education was second with 13 respondents majoring in this field. Of the 21 respondents who had a second graduate major, five majors were in physical education and five were in business education. These two areas combined totaled 47.64 per cent of the second graduate majors.

Minors earned by all respondents. --Ninety-five (23.02 per cent) of the 413 minors listed physical education as their first undergraduate minor. History ranked second with 46 people indicating it as a first undergraduate minor. Only 124 (22.54 per cent) of the total 550 respondents, listed a second undergraduate minor.

Elementary education ranked first among graduate minors with 19 (22.62 per cent) of the respondents, indicating this field. Physical education was second with 11 of the respondents listing it as a first graduate minor. Only 11 of the people with graduate degrees listed a second graduate minor.

Semester hours of preparation in specific areas.--In physical education 118 (21.48 per cent) of the respondents indicated that they had 26 to 30 semester hours. Seventy listed 31 to 35, and only 58 indicated they had more than 49 hours, while 81 had 10 semester hours or less.

One hundred eighty-nine (34.39 per cent) of the respondents, indicated six to ten hours in coaching, and 164 indicated one to five hours. One hundred sixty-two had no hours in coaching, and only 11 (2 per cent) had more than 15 semester hours in coaching.

In kinesiology, 66.92 per cent, or 368 people had one to three hours. One hundred fifty-seven had no hours at all, and only 25, or 4.55 per cent, had more than three hours.

Three hundred seventy-two, or 67.65 per cent of the respondents, had only one to three hours in anatomy, and only 70 people had more than three hours. One hundred eight people, or 19.64 per cent of the respondents, had no hours at all in anatomy.

Sixty-one people had more than three hours in physiology, while 51.11 per cent, or 281 respondents, had only one to three hours. Two hundred eight people had no background in physiology.

Only 31 of the 390 respondents took kinesiology as a requisite outside the major, while 359 people (92.05 per cent) had it included as part of the major. Of the respondents, 92.48 per cent took kinesiology in the physical education department, and only 7.52 per cent took

kinesiology in the science department.

In anatomy, 357 of the 423 respondents took this as a part of their major, and only 66 (15.61 per cent) took it as a requisite outside the major. However, 46.15 per cent of the respondents took anatomy in the science department, while 53.85 per cent took it in the physical education department.

Of the 330 respondents, 282 took physiology as a part of their major, and 48 took it as a requisite outside. Of the people responding, 62.47 per cent took physiology in the physical education department, and 37.53 per cent took it in the science department.

Preferred fields of advanced study.--An encouraging statistic was the fact that 215 (42.59 per cent) of the 505 replied indicated physical education as a preferred field of advanced study. Forty-nine indicated an interest in administration, 38 indicated an interest in mathematics, and 28 indicated an interest in business education. In all other areas, the numbers of interested respondents rapidly decreased.

Preparation of Physical Education Majors²

As shown in Table 2, a vast majority of the physical education majors in the state of North Dakota hold bachelor of science degrees. An encouraging fact was that the second most common degree was that

²Data based on 348 responses.

of a master of science, and only a very few physical education majors held a two year standard teaching certificate.

TABLE 2
DEGREES HELD BY PHYSICAL EDUCATION MAJORS

Degree	Number	Per cent
Two Year Standard	2	.58
Bachelor of Science	291	81.45
Bachelor of Arts	19	5.51
Master of Science	22	6.38
Master of Arts	11	3.19
Master of Education	9	2.61
Doctor of Education	1	.29

A relatively large number, 90, of the physical education majors teaching in North Dakota have 26 to 30 hours in physical education, as can be seen in Table 3. This would indicate that they also have several hours in coaching, which is encouraging. Only relatively few respondents had less than 20 semester hours in physical education, and a reasonable number of physical education majors had over 45 semester hours in physical education.

Table 4, on page 26, shows that a fairly large number, 123, of the physical education majors had only four to six hours in coaching,

TABLE 3

SEMESTER HOURS IN PHYSICAL EDUCATION
BY PHYSICAL EDUCATION MAJORS

Hours	Number	Per cent
Less than 20	19	5.71
20-25	51	15.30
26-30	90	27.03
31-35	64	19.28
36-40	56	16.81
41-45	19	5.71
Over 45	34	10.22

TABLE 4

SEMESTER HOURS OF PREPARATION IN COACHING
FOR PHYSICAL EDUCATION MAJORS

Hours	Number	Per cent
0	87	25.00
1-3	33	9.45
4-6	123	35.32
7-9	69	19.72
10-12	26	7.47
13-15	8	2.39
Over 15	2	.75

and a substantial number showed that they had no hours at all in coaching. Only a very few respondents had more than five hours.

Table 5 shows that over half of the physical education majors surveyed had no second major. Of the 39.55 per cent that did hold a second major, business education, social science, and industrial arts carried the highest number of responses.

TABLE 5
SECOND MAJORS OF PHYSICAL EDUCATION MAJORS^a

Major	Number	Per cent
Business Education	19	13.87
Social Science	18	13.13
Industrial Arts	16	11.68
Elementary Education	14	10.22
History	14	10.22
Mathematics	13	9.47
Biology	11	8.03
All Others	32	23.38

^aOf the Physical Education Majors, 211 did not have a second major.

Table 6, on page 28, reveals that 73 of the physical education majors had two minors. A substantial number of respondents had minors

in social science, but from there on the number of respondents minor-
ing in other fields declined sharply.

TABLE 6
MINORS OF PHYSICAL EDUCATION MAJORS^a

Field	Number	Per cent
Social Science	68	21.15
History	45	13.98
Business Education	41	12.74
Biology	31	9.63
Mathematics	28	8.68
Elementary Education	20	6.20
English	20	6.20
General Science	19	5.89
All Others	50	15.53

^aSeventy-three physical education majors indicated a double minor.

Table 7, on page 29, indicates that a very large number of respondents had only three hours in kinesiology, and a relatively small number held five or more hours. Unfortunately, 25, or 7.18 per cent, of the respondents had no hours at all in kinesiology.

A large percentage of physical education majors had three hours

TABLE 7

PHYSICAL EDUCATION MAJORS HOURS OF
PREPARATION IN KINESIOLOGY

Hours	Number	Per cent
0	25	7.18
1	33	9.49
2	74	21.22
3	199	57.25
4	10	2.85
5 or More	7	2.01

of anatomy, as can be seen in Table 8 on page 30. It is encouraging to note that 53 physical education majors that responded had four or more hours in anatomy, while only 12 had none at all.

From Table 9, on page 30, it can be seen that a relatively large number of physical education majors, 25.82 per cent, had no hours whatsoever in physiology. It is more encouraging to notice that 204 respondents to the questionnaire had three or more hours in physiology.

As is shown in Table 10 on page 31, over half of the physical education majors responding indicated physical education as a preferred field of advanced study. A strong interest was also shown in school administration, and a relatively substantial number of respondents showed an interest in the field of counseling and guidance.

TABLE 8

PHYSICAL EDUCATION MAJORS HOURS OF
PREPARATION IN ANATOMY

Hours	Number	Per cent
0	12	3.45
1	7	2.09
2	64	18.40
3	212	60.85
4	29	8.33
5 or More	24	6.88

TABLE 9

SEMESTER HOURS OF PREPARATION IN PHYSIOLOGY
BY PHYSICAL EDUCATION MAJORS

Hours	Number	Per cent
0	90	25.82
1	9	2.58
2	45	12.92
3	158	45.48
4	21	6.03
5 or More	25	7.17

TABLE 10

PREFERRED FIELDS OF ADVANCED STUDY
BY PHYSICAL EDUCATION MAJORS

Field	Number	Per cent
Physical Education	206	51.73
Administration	42	10.55
Counseling and Guidance	26	6.53
Distributive Education	21	5.27
Business Education	16	4.03
Social Science	16	4.03
Elementary Education	14	3.53
Biology	14	3.53
All Others	43	10.80

Preparation of Physical Education Minors³

A large percentage of the respondents with minors in physical education, 81.14 per cent, held bachelor of science degrees, as is noted in Table 11 on page 32. It is interesting to note that the percentage of physical education majors that hold bachelor of science degrees compares favorably with the percentage of the physical education minors holding the same degree. These figures may be found in Table 11 on page 32.

³Data based on 103 responses.

TABLE 11

DEGREES OF PHYSICAL EDUCATION MINORS^a

Degree	Number	Per cent
Two Year Standard	1	1.03
Bachelor of Science	80	81.64
Bachelor of Arts	7	7.10
Master of Science	4	4.09
Master of Arts	1	1.03
Master of Education	5	5.11

^aFive people did not respond.

Thirty-four of the physical education minors had 16 to 20 hours in physical education, as can be seen in Table 12 on page 33. However, it is encouraging that 24 had more than 26 hours, and that only one had less than ten hours. While the largest number of physical education minors listed from 16 to 20 hours of preparation in physical education, the mode for majors was between 26 and 30 hours. A further comparison of the preparation of majors and minors in physical education tends to reveal that a great many of the minors were quite well prepared in their minor fields.

Unfortunately, 22 of the physical education minors, as shown in Table 13 on page 33, had no hours of coaching, and only eight had ten

TABLE 12

SEMESTER HOURS OF PREPARATION IN PHYSICAL EDUCATION
FOR PHYSICAL EDUCATION MINORS^a

Hours	Number	Per cent
Less than 10	1	1.04
10-15	12	12.50
16-20	34	35.47
21-25	25	26.01
26-30	21	21.85
More than 30	3	3.13

^aSeven people did not respond to this question.

TABLE 13

SEMESTER HOURS OF PREPARATION IN COACHING
FOR PHYSICAL EDUCATION MINORS

Hours	Number	Per cent
0	22	21.38
1-3	20	19.42
4-6	43	41.70
7-9	10	9.74
10 or More	8	7.76

or more hours. However, 51.44 per cent had more than four hours in coaching. While approximately 65 per cent of the majors have four or more semester hours of preparation in coaching, nearly 61 per cent of the minors have comparable preparation. This would seem to indicate that a majority of the minors are equally as well prepared as majors to assume coaching responsibilities.

Table 14 reveals three areas ranked closely in the major fields for the physical education minors. They are mathematics, social science, and business education. The other fields decreased sharply in the number of respondents. Thirteen physical education minors had double minors.

TABLE 14
MAJORS OF PHYSICAL EDUCATION MINORS

Field	Number	Per cent
Mathematics	25	21.58
Social Science	24	20.69
Business Education	23	19.81
History	11	9.46
Industrial Arts	10	8.62
Biology	9	7.76
All Others	14	12.08

^aThirteen physical education minors had a double major.

Table 15 indicates that only 18 of the physical education minors had three or more hours in kinesiology, and no one indicated five semester hours or more. A majority of the respondents, 64 per cent, had no hours at all in kinesiology.

TABLE 15

SEMESTER HOURS OF PREPARATION IN KINESIOLOGY
BY PHYSICAL EDUCATION MINORS

Hours	Number	Per cent
0	65	64.08
1	8	7.78
2	11	10.68
3	16	15.51
4 or More	2	1.94

Table 16, as seen on page 36, shows that 46 of the physical education minors had three or more hours in anatomy. However, a substantial number, 39, indicated that they had no hours in anatomy, and less than one per cent had five or more hours.

Unfortunately, a majority of the physical education minors surveyed, 54.42 per cent, had no hours in physiology. Table 17, on page 36, also shows that a substantial number had three hours, and only three respondents indicated four or more hours in physiology.

TABLE 16

SEMESTER HOURS OF PREPARATION IN ANATOMY
BY PHYSICAL EDUCATION MINORS

Hours	Number	Per cent
0	39	37.87
1	2	1.94
2	16	15.54
3	39	37.87
4	6	5.81
5 or More	1	.97

TABLE 17

SEMESTER HOURS OF PREPARATION IN PHYSIOLOGY
BY PHYSICAL EDUCATION MINORS

Hours	Number	Per cent
0	56	54.42
1	3	2.91
2	9	8.74
3	32	31.02
4	2	1.94
5 or More	1	.97

As might be expected, the percentage of physical education minors having three or more semester hours of preparation in anatomy and physiology is only about half that for physical education majors. This difference in percentages is even more pronounced with respect to kinesiology.

An encouraging number of physical education minors preferred to do their advanced study in physical education. As indicated in Table 18, ranking second was mathematics, which was followed closely by school administration, business education, and science. It was interesting to note that, while 11 per cent of the physical education minors

TABLE 18

PREFERRED FIELDS OF ADVANCED STUDY
BY PHYSICAL EDUCATION MINORS

Field	Number	Per cent
Physical Education	28	24.36
Mathematics	13	11.30
Administration	12	10.42
Business Education	11	9.57
Science	10	8.69
Counseling and Guidance	7	6.08
History	6	5.22
All Others	28	24.36

preferred to do advanced study in mathematics, less than three per cent of the majors indicated this preference.

Preparation of Physical Education Teachers Having
Neither a Major nor a Minor in Physical Education

Table 19 reveals that over three-fourths of the physical education teachers with no major or minor in physical education indicated they had bachelor of science degrees. Only three respondents had two year standard teaching certificates, while ten had master's degrees.

TABLE 19

DEGREES HELD BY THOSE NOT HAVING A MAJOR OR MINOR
IN PHYSICAL EDUCATION^a

Degree	Number	Per cent
Two Year Standard	3	3.13
Bachelor of Science	73	76.05
Bachelor of Arts	10	10.42
Master of Science	6	6.25
Master of Arts	1	1.05
Master of Education	3	3.13

^aThree people did not respond to this question.

An alarmingly large number of physical education teachers in North Dakota have very few semester hours of preparation in physical

education. Only 25 had more than 15 semester hours of physical education work, as can be seen in Table 20.

TABLE 20

SEMESTER HOURS OF PREPARATION IN PHYSICAL EDUCATION
FOR THOSE PHYSICAL EDUCATION TEACHERS NOT
HOLDING MAJORS OR MINORS IN
PHYSICAL EDUCATION^a

Hours	Number	Per cent
Less than 10	53	56.57
10-15	18	18.18
16-20	6	6.06
21-25	5	5.05
26-30	7	7.07
More than 30	7	7.07

^aThese data are based on 98 responses.

An even larger number of respondents, 62.23 per cent, have no preparation in coaching. Only nine per cent of these people have had more than seven semester hours of coaching preparation in their background, as is shown in Table 21 on page 40.

Table 22 shows a widely diversified list of major fields of preparation for unqualified physical educators and/or coaches. Leading the list were mathematics, social sciences, sciences, and elementary

TABLE 21

SEMESTER HOURS OF PREPARATION IN COACHING FOR
PHYSICAL EDUCATION TEACHERS NOT HOLDING MAJORS
OR MINORS IN PHYSICAL EDUCATION

Hours	Number	Per cent
0	62	62.63
1-3	13	13.13
4-6	15	15.15
7-9	4	4.04
10 or More	5	5.05

TABLE 22

MAJORS HELD BY THOSE NOT HOLDING A MAJOR OR MINOR
IN PHYSICAL EDUCATION^a

Field	Number	Per cent
Mathematics	19	17.58
Social Sciences	18	16.68
Sciences	15	13.89
Elementary Education	14	12.98
Business Education	12	11.11
History	10	9.26
All Others	20	18.50

^a Nine people indicated a double major.

education. Combined, these made up a majority of the majors indicated by the respondents. Table 22 is on page 40.

Table 23 shows social science as the leader among the minors of people with neither a major or a minor in physical education. English ranks next with approximately half as many responses, followed closely by science and history.

TABLE 23

MINORS HELD BY PHYSICAL EDUCATION TEACHERS NOT HOLDING
A MAJOR OR MINOR IN PHYSICAL EDUCATION^a

Field	Number	Per cent
Social Science	26	34.21
English	13	17.11
Sciences	11	14.48
History	8	9.52
Mathematics	5	6.58
Elementary Education	5	6.58
All Others	8	9.52

^aForty had no minor, seventeen had a double minor.

A large number of non-physical education majors or minors had no hours at all in kinesiology. Table 24 shows that only 17 had three hours, and none of the respondents had more than three hours of kinesiology. Table 24 follows on page 42.

TABLE 24

SEMESTER HOURS OF PREPARATION IN KINESIOLOGY BY
NON PHYSICAL EDUCATION MAJORS AND MINORS

Hours	Number	Per cent
0	72	72.72
1	3	3.03
2	7	7.07
3	17	17.18

In anatomy, 22 of the non-physical education majors or minors had three hours, as can be seen in Table 25. Only three held five or more hours, and a majority of these respondents had no hours in anatomy at all. Table 25 follows on page 43.

Table 26, on page 43, indicates that only 16 of the non-physical education majors or minors responding had three hours of physiology and only 11 of these people had more than three. However, a large number of the respondents had no background in physiology.

While there was considerable difference in the number of majors having taken courses in kinesiology, physiology, and anatomy, as compared to those having neither a major nor a minor in physical education, there was little difference in preparation when non majors and/or minors were compared with physical education minors.

TABLE 25

SEMESTER HOURS OF PREPARATION IN ANATOMY BY
NON PHYSICAL EDUCATION MAJORS AND MINORS

Hours	Number	Per cent
0	60	60.61
1	0	0
2	10	10.10
3	22	22.22
4	4	4.04
5	3	3.03

TABLE 26

SEMESTER HOURS OF PREPARATION IN PHYSIOLOGY BY NON
PHYSICAL EDUCATION MAJORS AND/OR MINORS

Hours	Number	Per cent
0	63	63.65
1	0	0
2	9	9.09
3	16	16.15
4	7	7.07
5 or More	4	4.04

Table 27 shows that 19 of the non-physical education majors and/or minors indicated an interest in mathematics for graduate students, and 15 per cent showed an interest in physical education, which was considerably less interest than shown by the majors and minors. The interest dropped appreciably in fields ranking lower than mathematics and physical education on Table 27.

TABLE 27

PREFERRED FIELDS OF ADVANCED STUDY FOR THOSE NOT HOLDING
A MAJOR OR A MINOR IN PHYSICAL EDUCATION

Field	Number	Per cent
Mathematics	19	15.39
Physical Education	18	14.82
History	13	10.66
Administration	11	9.02
Biology	7	5.74
English	7	5.74
Social Science	7	5.74
All Others	40	32.89

Teaching Assignments of North Dakota's Physical
Education Teachers and Coaches

Overall Data⁴

The number of class hours taught per school day ranged from zero to seven. Twenty-four of the 550 respondents indicated they did not teach. The greatest percentage of respondents taught five hours a day. Of these, 106 taught six class hours a day, or more. Physical education was the only subject taught by 190 (34.54 per cent) of the teachers. In addition to physical education classes, 144 teachers (20.73 per cent) taught three other classes.

Of the total respondents, 357 (64.19 per cent) taught physical education and coached. Only 77 personnel taught physical education and did not coach. Those who coached and did not teach physical education numbered 120.

There were 405 of the total 550 respondents that indicated the level of physical education they taught. Two hundred seventy-one, or 61.90 per cent of these, taught secondary physical education.

Basketball rated as the sport most often coached in North Dakota. Of the total respondents, 299 (54.37 per cent) coached basketball. Football ranked second with 285 (51.82 per cent) of those surveyed, indicating that they coached this sport. There were also percentages

⁴See Appendix C for complete charts on overall assignment data.

of coaches in track and field, and baseball. Of those sports listed on the questionnaire, bowling, archery, and hockey had the fewest number of coaches.

Teaching Assignments for Physical Education Majors

Of the 348 physical education majors responding, business education was the field of study taught most often in addition to physical education, as can be seen in Table 28. Social sciences ranked second with 85 physical education majors teaching social science in addition to physical education.

TABLE 28

ADDITIONAL CLASSES ASSIGNED TO PHYSICAL EDUCATION
TEACHERS AND/OR COACHES WITH PHYSICAL EDUCATION MAJORS

Field	Number	Per cent
Business Education	124	22.25
Social Sciences	85	15.24
History	79	14.19
Mathematics	74	13.29
Sciences	69	12.39
Health	56	10.07
Driver Education	39	7.01
All Others	31	5.56

Table 29 reveals that physical education majors taught up to five other classes in addition to physical education. Of the 348 majors answering the questionnaire, 106 taught no other classes, 63 taught one, 75 taught two, 75 taught three, 21 taught four, and eight taught five classes in addition to physical education classes.

Two hundred forty-three, or 82.55 per cent of the physical education majors, indicated they taught physical education and coached. Of the physical education majors, 184 (66.30 per cent) taught secondary physical education, 74 taught both secondary and elementary physical education, and 20 taught only elementary physical education.

Of the 348 physical education majors responding, there were only 16 (4.60 per cent) who did not teach. As is indicated in Table 30,

TABLE 29

NUMBER OF CLASSES TAUGHT BY PHYSICAL EDUCATION MAJORS
IN ADDITION TO PHYSICAL EDUCATION

Classes	Teachers	Per cent
None	106	30.41
One	63	18.11
Two	75	21.57
Three	75	21.57
Four	21	6.04
Five	8	2.30

151 (43.40 per cent) taught five hours per school day. Just seven majors taught seven hours a day.

TABLE 30
HOURS TAUGHT PER DAY

Hours	Number	Per cent
0	16	4.60
1	13	3.74
2	6	1.73
3	27	7.75
4	70	20.10
5	151	43.40
6	58	16.66
7	7	2.02

Table 31, on page 49, shows that, among physical education majors who responded 200 coached football, 185 coached track and field, and 183 coached basketball. Of the majors, only two coached swimming, five coached hockey, and five coached bowling.

Teaching Assignments for Physical Education Minors

Of the 103 physical education minors responding, business education was the class which minors taught most frequently in addition to

TABLE 31

SPORTS COACHED BY PHYSICAL EDUCATION MAJORS

Sport	Coaches	Per cent
Football	200	57.45
Track and Field	185	53.15
Basketball	183	52.55
Baseball	75	21.48
Wrestling	31	8.91
Cross Country	26	7.47
Gymnastics	17	4.88
Softball	17	4.88
Golf	11	3.16
Tennis	7	2.02
Hockey	5	1.44
Bowling	5	1.44
Swimming	2	.57
Others	15	4.31

physical education, as is shown in Table 32 on page 50. Mathematics and science ranked second and third as classes which physical education minors taught in addition to physical education.

TABLE 32

CLASSES OTHER THAN PHYSICAL EDUCATION ASSIGNED TO
PHYSICAL EDUCATION TEACHERS AND/OR COACHES
WITH PHYSICAL EDUCATION MINORS

Field	Number	Per cent
Business Education	30	19.86
Mathematics	26	17.22
Science	24	15.90
Social Science	23	15.22
History	21	13.91
Industrial Arts	11	7.28
All Others	16	10.61

Table 33 on page 51 shows that, among the physical education minors, 36 had no teaching duties other than teaching physical education and coaching. Twenty-four minors taught one class, and 23 minors taught three classes in addition to teaching physical education and coaching.

Sixty-two, or 84.94 per cent of the physical education minors, taught physical education and coached. Of the physical education minors, 52 taught secondary physical education, 54 taught elementary physical education, and 14 taught both elementary and secondary physical education.

TABLE 33

NUMBER OF CLASSES TAUGHT BY PHYSICAL EDUCATION MINORS
IN ADDITION TO PHYSICAL EDUCATION AND/OR COACHING

Classes	Number	Per cent
None	36	34.98
One	24	23.26
Two	12	11.65
Three	23	22.33
Four	5	4.86
Five	3	2.92

Of the 103 physical education minors responding, 42 (40.80 per cent) taught five hours per day, as shown in Table 34 on page 52. Six physical education minors did not teach, and one taught seven hours per school day.

Basketball was the sport coached most often by physical education minors, as shown in Table 35, on page 53. Sixty-three minors indicated coaching duties in this sport. Track and field ranked second with 49 minors coaching this activity. Forty-six minors coached football. Hockey was the only sport listed that minors did not coach.

TABLE 34

NUMBER OF HOURS TAUGHT PER DAY

Hours	Number	Per cent
0	6	5.83
1	4	3.88
2	1	.97
3	12	11.62
4	21	20.40
5	42	40.80
6	16	15.53
7	1	.97

Teaching Assignments for Those not Having
Majors or Minors in Physical Education

Table 36 on page 54 shows that mathematics was the field which physical education teachers and/or coaches with no majors or minors in physical education taught most often in addition to physical education. Nineteen, or 18.44 per cent of these personnel, taught mathematics. Science ranked second with 14 teachers, and history ranked third with 13 teachers in additional classes taught by those having neither majors nor minors in physical education. This corresponded with the higher percentage of mathematics majors among members of this group.

TABLE 35

SPORTS COACHED BY PHYSICAL EDUCATION MINORS

Sport	Number	Per cent
Basketball	63	63.20
Track and Field	49	47.55
Football	46	44.66
Baseball	25	24.29
Softball	12	11.65
Wrestling	10	9.72
Gymnastics	7	6.80
Cross Country	6	5.83
Golf	3	2.92
Bowling	2	1.94
Swimming	2	1.94
Archery	1	.97
Tennis	1	.97
Others	3	2.92

Of those physical education teachers not holding majors or minors in physical education, 49 (49.50 per cent) have no teaching duties other than physical education and coaching. Fifteen of these people taught three classes, and 14 taught four classes in addition to physical

TABLE 36

CLASSES OTHER THAN PHYSICAL EDUCATION ASSIGNED TO
PHYSICAL EDUCATION TEACHERS AND/OR COACHES WITH
NO MAJOR OR MINOR IN PHYSICAL EDUCATION

Field	Number	Per cent
Mathematics	19	18.44
Sciences	14	13.59
History	13	12.62
Administration	11	10.68
Social Science	9	8.74
English	7	6.80
All Others	30	29.13

education and coaching duties. This is shown in Table 37 on page 55.

The fact that nearly half of these respondents teach only physical education is certainly worthy of mention.

Of those people teaching physical education in North Dakota who are not qualified to do so (must have a major or minor in area teaching), only two did not teach, as can be seen in Table 38 on page 55. Thirty-one (31.31 per cent) taught five classes per day. Nearly 90 per cent of these people taught more than three classes per day.

As seen in Table 39 on page 56, basketball ranked first with 53 (53.54 per cent) of those coaches not holding a major or minor in

TABLE 37

NUMBER OF CLASSES TAUGHT IN ADDITION TO
PHYSICAL EDUCATION OR COACHING BY TEACHERS
WITH NO PHYSICAL EDUCATION MAJOR OR MINOR

Classes	Teachers	Per cent
None	49	49.50
One	9	9.09
Two	9	9.09
Three	15	15.15
Four	14	14.14
Five	3	3.03

TABLE 38

NUMBER OF CLASSES TAUGHT PER DAY

Hours	Teachers	Per cent
0	2	2.02
1	3	3.03
2	3	3.03
3	4	4.04
4	31	31.31
5	32	32.33
6	20	20.20
7	4	4.04

physical education. Football ranked second with 39 of these unqualified personnel coaching this sport. There were no coaches in swimming, hockey, and bowling listed in the chart showing sports coached by those not holding a major or minor in physical education.

TABLE 39

SPORTS COACHED BY COACHES HAVING NEITHER A MAJOR
NOR A MINOR IN PHYSICAL EDUCATION

Sport	Coaches	Per cent
Basketball	53	53.54
Football	39	39.40
Track and Field	36	36.37
Baseball	21	21.21
Wrestling	13	13.13
Softball	7	7.07
Cross Country	6	6.06
Golf	3	3.03
Gymnastics	2	2.02
All Others	1	1.01

The summary of this chapter includes a few brief but important factors concerning physical education teachers and coaches.

The fact that 20 per cent of those surveyed had neither a major

nor a minor in physical education cannot be overlooked. Almost 50 per cent of these people were assigned only coaching and physical education classes. Of those people not having a major or minor in physical education, 53 had less than ten hours preparation in physical education classes, and 62 had no hours or preparation in coaching courses. (See Tables 20 and 21 on pages 39 and 40.)

CHAPTER IV

DISCUSSION

From this study it can be seen that most of the physical education teachers and coaches in North Dakota are quite well prepared in physical education with the majority of these personnel having 26 or more semester hours in physical education. However, approximately 15 per cent of the physical education teachers and coaches have 10 semester hours or less in physical education. Nearly 30 per cent of these people had no hours in coaching. This may tend to indicate a poor background in professional preparation for coaching on the part of many coaches in North Dakota.

It was gratifying to note that 90 per cent of the physical education majors had some preparation in kinesiology and anatomy and that three-fourths had some preparation in physiology. It was not so gratifying, however, to learn that only 35 per cent of the physical education minors had some preparation in kinesiology, 62 per cent had some preparation in anatomy, and 45 per cent had some preparation in physiology. Approximately two-thirds of the total respondents had some preparation in kinesiology and anatomy. Only one-half of the total respondents had preparation in physiology.

If the goal of physical educators is to improve the standards of their profession and to improve the teaching being done within their profession, then both physical education majors and minors should be required to take courses in anatomy, physiology, and kinesiology.

Of those people who had physical education minors, four-fifths had bachelor of science degrees. Over one-third of the physical education minors had between 16 and 20 semester hours of preparation in physical education. This would indicate relatively strong minors in physical education for those people. About 14 per cent of the physical education minors had 15 or less semester hours in physical education, which may indicate a weaker background in physical education. Over one-half of the physical education minors had four or more semester hours in coaching.

The most common combinations of majors and minors with physical education were social science, business education, and mathematics. One-fifth of the physical education majors have minors in social science. Nearly three-fourths of the physical education minors had majors in either business education, social science or mathematics.

If one of the goals of physical education is to separate physical education from coaching, then most surely a double major including physical education and some other academic area is the answer to many problems. People who have this combination have a variety of teaching possibilities. These individuals are teaching only physical education,

teaching in their second major, in both majors, or coaching and teaching in their major other than physical education. Those people who have a physical education major and a minor in another academic field are more likely to be the ones who coach and teach physical education because they have less hours of preparation in their minor field.

About one-half of the physical education majors indicated physical education as their choice for a field of advanced study. This tends to imply a trend away from physical education on the graduate level by undergraduate physical education majors. School administration and counseling and guidance ranked second and third as choices for advanced study by physical education majors. In comparing the physical education majors' choices of fields of advanced study with the physical education minors' fields of advanced study, it can be seen that about one-fourth of the physical education minors indicated physical education as their choice for advanced study. Physical education minors indicated mathematics and administration as second and third choices for preferred fields of advanced study.

It is the writer's opinion that, if only one-half of the physical education majors would continue studies in physical education at the graduate level, other fields of study must offer more security, or room for advancement. Perhaps, to the dismay of many, physical education on the graduate level requires a stiffer, more strenuous, more specialized program, and certainly more research than many other areas in the

graduate fields.

About 20 per cent of the physical education teachers surveyed did not have a major or minor in physical education. Of these personnel, over 55 per cent had 10 or less semester hours of preparation in physical education. Over three-fifths of these people had no hours in coaching. Among those people having neither a major nor a minor in physical education, mathematics, social science, and the sciences ranked first, second, and third, respectively, as their major field. Almost three-fourths of these personnel had no hours in kinesiology, three-fifths had no hours in anatomy, and over three-fifths had no preparation in physiology. Mathematics ranked first in preference as a field of advanced study for those who did not have a major or minor in physical education.

It is the writer's belief that it would be better not to offer physical education unless a qualified instructor (teacher having a major or minor in physical education) could be hired. The mistakes made by unqualified physical education instructors carry over to the entire physical education profession. No wonder the physical education field is looked down upon by so many. The unqualified physical education teachers hold positions which could be filled by many qualified physical education teachers who are waiting for teaching openings. If all unqualified physical education teachers were dropped and teachers with majors or minors in physical education were hired, the prestige of the

physical education profession would be raised. There would be a definite demand for qualified physical education teachers.

Superintendents and principals of many schools in North Dakota tend to hire classroom teachers and assign these teachers physical education or coaching duties. If the state of North Dakota is to have a law stating that a teacher is to teach only in his major or minor areas (see related literature, Chapter I), then it should be enforced regardless of the circumstances. When this law is enforced to the maximum, the physical education profession in North Dakota can be improved and there will be many openings for qualified physical educators.

Over one-fifth of the physical education majors teach business education courses in addition to physical education classes. Just less than one-fifth of the physical education minors teach business education courses in addition to physical education classes. About one-third of the physical education majors teach three classes in addition to physical education classes. It is understandable that two-fifths, or about 40 per cent, of the physical education minors teach three classes in addition to physical education. About three-fifths of the physical education majors and minors teach four or five class hours per day.

About one-fifth of those who had neither a major nor a minor in physical education teach mathematics in addition to physical education and/or coaching. Almost 30 per cent of these people teach four or five

class periods per day. It is not gratifying to notice that 50 per cent of those who did not have a major or minor in physical education had teaching assignments in physical education and coaching only.

Of the physical education majors, 57 per cent were football coaches, 53 per cent coached track and field, and 53 per cent coached basketball. This compares with 44 per cent of the physical education minors coaching football, 48 per cent coaching track and field, and 61 per cent of the minors coaching basketball. It is interesting to observe that the greatest percentage of physical education majors coach football, while the greatest percentage of the physical education minors coach basketball.

Of those people who had neither a major or a minor in physical education, 39 per cent coached football, 36 per cent coached track and field, and 53 per cent coached basketball. The reason for a large percentage of those not holding a major or minor in physical education coaching basketball may be due to the fact that smaller towns are not able to, or do not, get qualified personnel.

The major emphasis of this paper is in the area of physical education. An increasing problem related to the field of physical education is the qualifications of coaches. There are no state laws requiring special courses for coaches, or for that matter, any courses at all. It is the feeling of the writer and many other physical educators and

coaches that coaches should be required to have at least a physical education minor or a composite of a set minimum number of hours in coaching and physical education courses in order to be certified.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary and Conclusions

The purpose of this study was to obtain information regarding the preparation and assignment of physical education teachers and coaches in North Dakota. The study was also designed to find the percentage of the physical education teachers who are not qualified to teach physical education.

Information received from the physical education teachers and coaches in the survey indicated that 81.45 per cent of the physical education majors currently teaching physical education had bachelor of science degrees. The survey also showed that approximately 80 per cent of the physical education majors had 26 or more semester hours in physical education. Of the physical education majors, 51.73 per cent indicated physical education as their preferred field for advanced study.

From the responses of physical education minors, it was found that 81.64 per cent had bachelor of science degrees. Approximately 86 per cent of these minors had 16 or more semester hours in physical education. Of these people, 24.36 per cent indicated physical

education as their choice for advanced study.

Of those people currently teaching physical education without a major or minor in physical education, 76.05 per cent had bachelor of science degrees. Among those teachers, 56.57 per cent had less than ten hours in physical education. Of those people not holding a major or minor in physical education, 14.82 per cent chose physical education as their preferred field of advanced study.

A majority, 78.91 per cent of the total 550 physical education teachers and coaches surveyed, possessed bachelor of science degrees. Of this total, approximately 70 per cent had 16 or more hours in physical education. Of these, 42.59 per cent indicated physical education as their intended field of advanced study.

Business education was the subject taught most often in addition to physical education by physical education majors. Over 20 per cent of the physical education majors teach physical education and business education. Of the physical education majors, 30 per cent taught only physical education classes. Of the majors, 57.45 per cent indicated they coached football, making this the most frequently coached sport for all majors.

Business education was also the subject taught most often in addition to physical education by physical education minors. One-fifth of the minors taught physical education and business education. Approximately 35 per cent of the physical education minors taught

physical education and/or coached. Basketball ranked first among physical education minors, with 61.20 per cent of the minors coaching basketball.

Mathematics was the subject taught most often in addition to physical education by those not holding a major or minor in physical education. Almost 20 per cent of these personnel taught physical education and mathematics. Nearly 50 per cent of these unqualified physical education teachers taught only physical education. Basketball ranked first with 53.34 per cent of those unqualified to teach physical education indicating coaching experience in this sport.

Of the total 550 respondents, about one-third taught only physical education classes. Basketball was the sport coached most often by all respondents, since 54.37 per cent indicated they coached basketball.

Of the total 550 respondents, 348 were physical education majors, 103 were physical education minors, and 99 had neither a major nor a minor in physical education.

North Dakota has youthful personnel teaching physical education. Of those people surveyed, 70 per cent received their undergraduate degrees between 1960 and 1966. Nearly three-fourths of the teachers possessing graduate degrees had received their graduate degrees in the past six years. These figures offer proof of the fact that physical education is becoming an ever more popular field of study. Of the total 550 respondents, more than 40 per cent indicated they would major in

physical education if they had the opportunity to attend graduate school. This evidence shows the growing importance of physical education on the graduate level.

Nearly 20 per cent of those physical education teachers surveyed are unqualified to teach physical education. Of those people not holding a major or minor in physical education, almost 50 per cent teach only physical education. A majority of the unqualified physical educators and coaches in North Dakota possessed majors in either mathematics, the social sciences, the sciences, or elementary education.

Business education was the class most commonly taught in addition to physical education by physical education majors and minors. Those respondents holding neither a major or minor in physical education were most commonly assigned mathematics, the sciences, history, or administration.

Majors and minors in physical education appear to be equally well qualified to coach, if preparation in coaching courses is a criterion for qualification of coaches.

Recommendations

The following recommendations are proposed as a result of the information assembled in this study.

1. The State Department of Education should place restrictions on those personnel teaching physical education without a major or

minor in physical education. These people should teach only in those areas in which they have majors and minors.

2. A survey should be made of all physical education departments in North Dakota colleges and universities. Some schools require less hours than others for physical education majors and minors. The physical education departments should have equally high standards for graduation.

3. Physiology, kinesiology and anatomy should be taught by personnel with degrees in science, and should be required for all physical education majors.

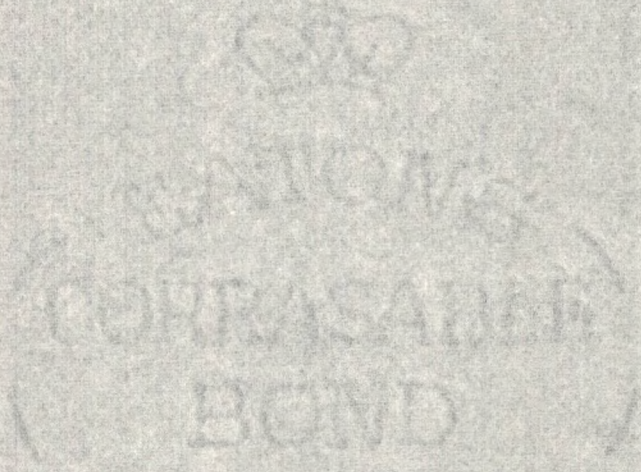
4. School administrators should study the pros and cons of the dual role of teaching physical education and coaching.

5. No more than three class preparations should be made by teachers per day. A teacher should not have to teach in more than three different areas.

6. Requirements for teaching no more than five hours a day should be made by the State Department of Education.

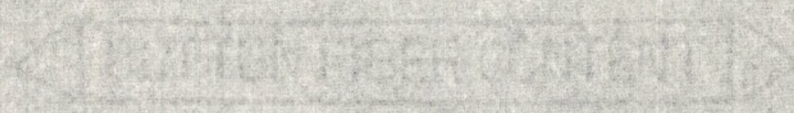
7. The requirement that physical education teachers with a two year standard certificate return to school for a four year degree should be more rigidly enforced.

8. School district reorganization should be considered as a possible solution to the malpractice of assigning unqualified personnel as teachers of physical education.



APPENDIX A

LETTERS AND QUESTIONNAIRE



November 14, 1966

Dear Coach and Physical Educator:

I am conducting a survey of all physical educators and coaches in the state of North Dakota. This survey regards the academic background of these personnel. Comparisons will also be made on size of schools and teaching loads. I will survey all of those individuals employed in these positions throughout the state of North Dakota.

This study is under the direction of Dr. Clyde Morris, College of Education, and Mr. Walter Koenig, Director of Graduate studies, Men's Physical Education. The data that I collect will be used to complete the thesis for my Master's Degree.

Enclosed find a self-addressed, stamped envelope for your convenience. Your attention and cooperation will be greatly appreciated. Please return this questionnaire by December 17. All information will be held in strictest confidence.

If you would like a summary of the completed results, please so indicate.

Sincerely yours,

George Lee

January 10, 1967

Dear Coach and Physical Educator:

Before Christmas you received a questionnaire from me regarding academic background of physical educators and coaches. Since no return has been received from you, I am enclosing a second copy of the questionnaire. In order for this study to be worthwhile, it is essential that I get a good cross-section of replies as well as a goodly percentage of returns.

Knowing that you must be busy at this time of the year, I constructed this questionnaire so that your answer will only require a minimum of your time.

Enclosed find a self-addressed, stamped envelope for your convenience. Your attention and cooperation will be greatly appreciated. Please return this questionnaire by January 20. All information will be held in the strictest confidence.

If you would like a summary of the completed results, please so indicate.

Sincerely yours,

George Lee

1. Name _____ School _____

2. From what college or university did you graduate?

Undergraduate _____ Year _____

Graduate _____ Year _____

3. Do you have a 2 year standard _____ B.S. _____ B.A. _____
M.S. _____ M.A. _____ M.Ed. _____ Ph.D. _____ D.Ed. _____?

4. How many quarter or semester hours did you take in physical education exclusive of coaching? Quarter hours _____

Semester hours _____.

5. How many hours in coaching? Quarter hours _____

Semester hours _____.

6. How many hours of the following?

Kinesiology: Quarter hours _____ Semester hours _____. Was the course a prerequisite _____ or part of the major _____? Check one.

Anatomy: Quarter hours _____ Semester hours _____. Was the course a prerequisite _____ or part of the major _____? Check one.

Physiology: Quarter hours _____ Semester hours _____. Was the course a prerequisite _____ or part of the major _____? Check one.

7. Were these courses taken in the Physical Education Department, or in the Science Department?

Physical Education Science

Anatomy (undergraduate) _____

Kinesiology (undergraduate) _____

Physiology (undergraduate) _____

8. In what field(s) did you major?

Undergraduate 1. _____ Graduate 1. _____

Undergraduate 2. _____ Graduate 2. _____

9. In what field(s) did you minor?

Undergraduate 1. _____ Graduate 1. _____

Undergraduate 2. _____ Graduate 2. _____

10. If you are a physical education instructor, do you also coach?

yes _____ no _____.

11. If you teach physical education, do you teach any other classes?
(include health). If so please list:

12. If you coach, do you also teach physical education? yes ___ no ___.

13. How many class hours do you teach a day? _____ a week? _____.

14. Do you teach elementary physical education? _____ secondary
physical education? _____ or both? _____.

15. If you had the opportunity for advanced study, in which field would
you concentrate? _____.

16. What sports do you coach?

1. football _____
2. baseball _____
3. basketball _____
4. track and field _____
5. tennis _____
6. cross country _____
7. swimming _____
8. wrestling _____
9. hockey _____
10. golf _____
11. archery _____
12. gymnastics _____
13. softball _____
14. bowling _____
15. other _____ (please name)

COTTON FIBER CONTENT

APPENDIX B

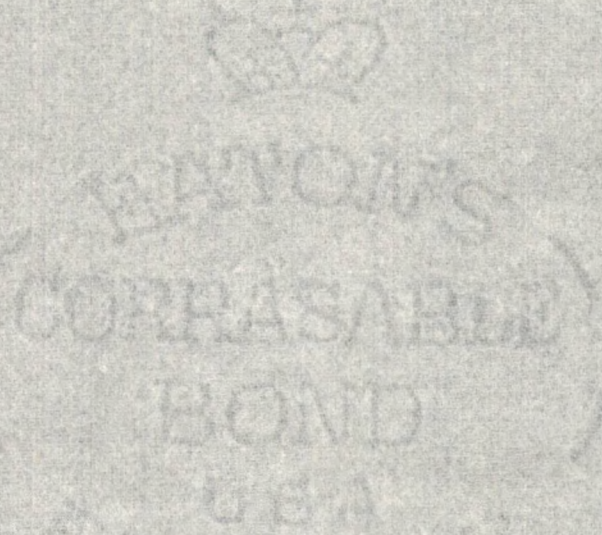
PREPARATION OF ALL RESPONDENTS

WOMEN'S
CORRASABLE
BOARD
MESA

QUESTIONNAIRE RETURN

	<u>Questionnaires Sent</u>	<u>Questionnaires Received</u>	<u>Per cent</u>
First Mailing	730	386	52.9
Second Mailing	344	164	47.6

The total number of respondents was 550 which was 75.3 per cent of the original 730 sent.



KINDS OF DEGREES

Degree	Number	Per cent
Bachelor of Science	434	78.91
Bachelor of Arts	36	6.55
Master of Science	32	5.82
Master of Education	17	3.10
Master of Arts	13	2.37
Two Year Standard	6	1.10
Doctor of Education	1	.19
Ph.D.	0	.00
No Degree Listed	11	2.00

YEARS UNDERGRADUATE DEGREES WERE RECEIVED

Year	Number	Per cent
1929-1949	22	4.06
1950-1959	123	22.41
1960-1966	384	69.86
No Response	21	3.67

YEARS GRADUATE DEGREES WERE RECEIVED^a

Year	Number	Per cent
1930-1949	2	2.21
1950-1960	19	22.81
1961-1967	62	74.98

^aEight people did not indicate year degree was received.

STATES FROM WHICH UNDERGRADUATE DEGREES WERE RECEIVED

North Dakota Colleges	Number	Per cent
Minot State College	102	18.55
Valley City State College	100	18.19
Mayville State College	70	12.73
Dickinson State College	60	10.91
Jamestown College	37	6.73
North Dakota State University	26	4.73
Ellendale (UND Branch)	25	4.55
University of North Dakota	<u>24</u>	<u>4.37</u>
Total	444	80.76
<u>Other States Represented</u>		
Minnesota	64	11.64
South Dakota	12	2.19
Montana	4	.73
Idaho	<u>3</u>	<u>.55</u>
Total	83	15.11
Others	10	1.76
No Response	13	2.37

STATES FROM WHICH GRADUATE DEGREES WERE RECEIVED

North Dakota Colleges	Number ^a	Per cent
North Dakota State University	13	14.30
University of North Dakota	<u>35</u>	<u>38.50</u>
Total	48	52.80
<u>Other States Represented</u>		
Minnesota	13	14.30
Colorado	8	8.80
South Dakota	6	6.60
California	3	3.30
Montana	3	3.30
Wyoming	<u>3</u>	<u>3.30</u>
Total	36	39.60
Others	7	7.70

^a91 graduate degrees indicated.

FIRST UNDERGRADUATE MAJOR

Major	Number	Per cent
Physical Education	304	55.29
Mathematics	47	8.56
Business Education	40	7.29
Social Science	32	5.84
Biology	20	3.64
History	19	3.47
Industrial Arts	19	3.47
Elementary Education	13	2.37
English	9	1.65
Social Studies	8	1.46
General Science	6	1.10
Health and Driver Education	4	.73
Chemistry	3	.55
Earth Science	2	.37
Music	1	.19
No Major Listed	23	4.19

SECOND UNDERGRADUATE MAJOR

Major	Number	Per cent
No Second Major Listed	378	68.73
Physical Education	60	10.92
Elementary Education	18	3.28
History	17	3.10
Business Education	14	2.56
Administration	11	2.00
Mathematics	10	1.83
Social Science	10	1.83
General Science	7	1.28
Biology	6	1.10
Social Studies	6	1.10
English	4	.73
Industrial Arts	4	.73
Chemistry	2	.37
Foreign Language	1	.19
Earth Science	1	.19
Counseling and Guidance	1	.19

FIRST GRADUATE MAJOR

Major	Number ^a	Per cent
Physical Education	53	41.58
Business Education	13	10.18
Administration	9	7.04
Psychology	8	6.25
Mathematics	8	6.25
Social Science	7	5.47
Biology	6	4.69
Elementary Education	5	3.91
General Science	4	3.13
English	4	3.13
Counseling and Guidance	2	1.57
Other Majors	9	7.04

^aBased on 128 replies.

SECOND GRADUATE MAJOR

Major	Number ^a	Per cent
Business Education	5	23.82
Physical Education	5	23.82
Administration	3	14.29
Elementary Education	2	9.53
Health and Drivers Education	2	9.53
Biology	2	9.53
American History	1	4.77
Psychology	1	4.77

^aBased on 21 replies.

FIRST UNDERGRADUATE MINOR

Major	Number	Per cent
Physical Education	95	23.02
History	46	11.15
Business Education	38	9.33
Mathematics	33	8.01
Biology	32	7.75
Social Science	26	6.30
English	21	5.11
General Science	19	4.61
Psychology	12	2.91
Social Studies	12	2.91
Geography	11	2.67
Elementary Education	10	2.43
Industrial Arts	9	2.21
Health and Drivers Education	8	1.95
Sociology	7	1.70
Chemistry	5	1.22
Foreign Language	4	.98
Music	4	.98
Economics	4	.98
Library Science	3	.73

FIRST UNDERGRADUATE MINOR--Continued

Major	Number	Per cent
Physics	2	.49
Art	2	.49
American Government	2	.49
Other Fields	8	1.95

(Based on 413 responses.)

(124 or 22.54% of the total 550 listed a second undergraduate minor.)

FIRST GRADUATE MINOR

Minor	Number	Per cent
Elementary Education	19	22.62
Physical Education	11	13.11
Biology	7	8.34
Geography	7	8.34
Administration	6	7.15
Business Education	6	7.15
Industrial Arts	3	3.58
Social Science	3	3.58
History	3	3.58
Health and Driver Education	3	3.58
Distributive Education	2	2.39
English	2	2.39
Foreign Language	2	2.39
Sociology	2	2.39
Psychology	2	2.39
Counseling and Guidance	2	2.39
Art	1	1.20
Mathematics	1	1.20
General Science	1	1.20
American Government	1	1.20

(11 of the people with graduate degrees listed a second graduate minor.)

SEMESTER HOURS TAKEN IN PHYSICAL EDUCATION COURSES

Hours	Number	Per cent
0	37	6.73
1-5	22	4.02
6-10	24	4.39
11-15	28	5.12
16-20	66	12.02
21-25	67	12.21
26-30	118	21.48
31-35	70	12.75
36-40	60	10.93
41-45	21	3.85
46-50	13	2.38
51-55	8	1.48
56-60	4	.65
61 and above	12	2.17

SEMESTER HOURS TAKEN IN COACHING COURSES

Hours	Number	Per cent
0	162	29.46
1-5	164	29.84
6-10	189	34.39
11-15	24	4.38
16 and above	11	2.00

NUMBER OF SEMESTER HOURS TAKEN IN KINESIOLOGY

Hours	Number	Per cent
0	157	28.55
1-3	368	66.92
4-6	18	3.29
7 and over	7	1.28

NUMBER OF SEMESTER HOURS TAKEN IN ANATOMY

Hours	Number	Per cent
0	106	19.64
1-3	372	67.65
4-6	63	11.48
7 and over	7	1.28

NUMBER OF SEMESTER HOURS TAKEN IN PHYSIOLOGY

Hours	Number	Per cent
0	208	37.82
1-3	281	51.11
4-6	53	9.65
7 and over	8	1.46

KINESIOLOGY - PREREQUISITE OR PART OF MAJOR

Category	Number	Per cent	Department Taken In	Per cent
Prerequisite	31	7.95	Physical Education	92.48
Part of Major	359	92.05	Science	7.52

(Based on 390 responses.)

ANATOMY - PREREQUISITE OR PART OF MAJOR

Category	Number	Per cent	Department Taken In	Per cent
Prerequisite	66	15.61	Physical Education	53.85
Part of Major	357	84.39	Science	46.15

(Based on 423 responses.)

PHYSIOLOGY - PREREQUISITE OR PART OF MAJOR

Category	Number	Per cent	Department Taken In	Per cent
Prerequisite	48	14.55	Physical Education	62.47
Part of Major	282	85.45	Science	37.53

(Based on 330 responses.)

PREFERRED FIELDS OF ADVANCED STUDY

	Number ^a	Per cent
1. Physical Education	215	42.59
2. Administration	49	9.71
3. Mathematics	38	7.44
4. Business Education	28	5.56
5. Counseling and Guidance	24	4.78
6. History	24	4.78
7. Biology	23	4.56
8. Elementary Education	20	3.97
9. Industrial Arts	13	2.59
10. General Science	11	2.18
11. English	10	1.99
12. Psychology	7	1.39
13. Social Science	7	1.39
14. Health and Driver Education	6	1.19
15. Social Studies	5	1.00
16. Recreation	4	.73
17. Chemistry	3	.55
18. American Government	3	.55
19. Geology	2	.37
20. Language Arts	2	.37
21. Other Fields	10	1.82

^aBased on 505 replies.

APPENDIX C

ASSIGNMENT OF ALL RESPONDENTS

TEACHING HOURS PER DAY

Hours	Teachers	Per cent
0	24	4.37
1	20	3.64
2	10	1.82
3	43	7.82
4	122	22.19
5	225	40.91
6	94	17.10
7 and over	12	2.19

CLASSES TAUGHT IN ADDITION TO PHYSICAL EDUCATION

Classes	Teachers	Per cent
None	190	34.54
One	96	17.50
Two	96	17.50
Three	114	20.73
Four	38	6.90
Five	16	2.90

PHYSICAL EDUCATION AND ATHLETIC ASSIGNMENTS

Assignment	Number of People	Per cent
Teach Physical Education and Coach	353	64.19
Teach Physical Education	77	14.00
Coach	120	21.81

LEVELS OF PHYSICAL EDUCATION TAUGHT

Level	Number of People	Per cent
Elementary	34	8.40
Secondary	271	66.90
Elementary and Secondary	100	24.70

SPORTS COACHED

Sport	Did Coach	Per cent	Did Not Coach	Per cent
Basketball	299	54.37	251	45.63
Football	285	51.82	265	48.18
Track and Field	270	49.10	280	50.90
Baseball	121	22.00	429	78.00
Wrestling	54	9.82	496	90.18
Cross Country	38	6.90	512	93.10
Softball	36	6.55	514	93.45
Gymnastics	26	4.73	524	95.27
Golf	17	3.10	533	96.90
Tennis	10	1.82	540	98.18
Bowling	7	1.28	543	98.72
Archery	5	.90	545	99.10
Hockey	5	.90	545	99.10
Swimming	4	.73	546	99.27
Others	19	3.45	531	96.55

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