The Health Training Given Prospective Teachers in Mid-Western Colleges and Universities

Homer M. Engelhorn

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THE HEALTH TRAINING
GIVEN PROSPECTIVE TEACHERS IN
MID-WESTERN COLLEGES AND UNIVERSITIES

A Thesis
Submitted to the Graduate Faculty
of the
University of North Dakota

by
Homer M. Engelhorn

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

July, 1952
This thesis, offered by Homer M. Engelhorn in partial fulfillment of the requirements for the degree of Master of Science in Education in the University of North Dakota, is hereby approved by the committee of instruction under whom the work has been done.

* 

[Signatures]

Dean of the Graduate Division
ACKNOWLEDGMENTS

The writer gratefully acknowledges his indebtedness to Mr. Leonard R. Marti, Director of Physical Education at the University of North Dakota, for his advice, encouragement, and guidance in the preparation of this thesis.

The writer is further indebted to the many colleges and universities in the Mid-west who expended their time and effort to answer the questionnaire on which the thesis is based. Without their cooperation the work could not have been completed.
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CHAPTER I
INTRODUCTION

Health teaching today aims at more than mastery of facts. It is concerned with the improvement of human living. So conceived, much that is called education is in reality health education and that which is termed health instruction becomes important in every school.

In order that teachers may know and recognize the signs of health they must first have the proper training in the three phases of health education—health instruction, health service and healthful environment. Real success in promotion of healthful living depends on the cooperation of every teacher regardless of whether they are teachers of science, mathematics, or physical education.

The rapid developing school health programs in all parts of the country have thrown a spotlight on the average teachers and administrators lack of training in health education and have brought about demands for the health education teacher who really teaches and who is capable of organizing and coordinating the over-all education in the public schools.

The importance of health knowledge, habits and attitudes

to every college student cannot be overemphasized. A. O. DeWeese\(^3\) states:

"Colleges and universities that participate in the training of public school teachers have a specific obligation to meet. It has become an accepted practice throughout America to assign to the teachers the duties formerly assigned to the licensed nurse. In addition to this the educational procedures and instruction in health have become some of the most important of the classroom teacher's duties. For a number of years, health led the published quoted objectives of public school education. In most schools it has now become a reality rather than a theory."

Every college and university should provide a health program which would include health education, physical education, health services and those services that will promote healthful living. These services should give each student a preparation for his individual and community responsibilities in later life.

Teacher education, in relation to school health, needs to be considered from several levels, as follows:\(^1\)

1. The minimum preparation in health education needed by all college students. The report of the Third National Conference on Health in Colleges recommends that a two-thirds credit course in personal and community health be required of all students.

2. The preparation needed by all prospective teachers. It is recognized that teachers regardless of whether they are to be elementary school teachers or secondary school teachers in non-health fields, need to have

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7. a certain minimum understanding of the general, over-all school health program—health education, health services and healthful environment. Such preparation is in addition to that in personal and community health.

3. The Health Teacher.
4. The preparation in health education of teachers in allied fields.
5. The Health Specialist.

**Purposes of the Study**

Briefly stated the purposes of this study are:

1. To determine the number of semester hours of specific health courses required of teacher trainees including physical education majors and minors, health education majors and minors, home economic majors, natural science majors and others.

2. To determine if colleges and universities provide adequate pre-service and in-service training to teacher trainees.

3. To appraise health instruction by determining methods, aids used, and course content.

4. To determine if colleges and universities promote correlated health instruction by utilization of all facilities, services and personnel.
5. To determine if colleges and universities make use of local environmental conditions to develop an attitude of community-school relationship in their students.

Source of Materials

The data for this study was obtained from the following sources:

1. Questionnaires were sent to 121 colleges and universities in the Mid-west. A letter of transmittal accompanied each questionnaire explaining briefly the content of the enclosed questionnaire. Of the questionnaires sent out, 59 returns were received representing a return of 49.6 per cent.

2. Periodicals covering the field of health.

3. Books and pamphlets related to the factors covered by the research.

Limitations

There are several shortcomings in the use of the questionnaire method of research, especially misinterpretation and incompleteness.

It is a tendency of the respondents to answer parts carelessly, emphasize the right practices in contrast to the dominant practices and omit altogether questions which may

5. See Appendix A
6. See Appendix B
be important in establishing a definite conclusion.

Despite its shortcomings, the questionnaire method represents the most logical means to follow in securing information for this type of study. It would not be feasible, because of time and money, to make the necessary interview at each college and university.

**Review of Similar Studies**

The Planning Committee of the Third National Conference on Health in Colleges surveyed 348 public and privately controlled colleges to obtain data on the present status of college health practices. The results of 300 of these schools were tabulated in the categories of administration of the health program, health service, health education and environmental sanitation.

The study disclosed the following findings:

1. Of the 300 schools investigated, 33 per cent offered a course in Community Hygiene, 48 per cent offered a course in Hygiene, 39 per cent offered a course in Personal Hygiene and 20 per cent offered a course in Nutrition.

2. Of the 300 colleges investigated for required courses in Health Education, 19.8 per cent required a course in Community Hygiene, 62.5 per cent required Hygiene, 44.7 per cent

---

required Personal Hygiene and 17.9 per cent required a course in Nutrition.

3. That for every 1000 pupils, these colleges average 1.2 full-time doctors, 1.5 part-time doctors and 1.9 nurses.

4. In the classification of follow-up work done after the health examination, 79 per cent provided consultation service and out of 245 schools reporting, 62 per cent referred the remedial defects to private physicians.

5. In the report of 287 colleges, 96 per cent reported requiring examinations of all new students.

6. Of 138 colleges, 46 per cent required examinations in the second, third and fourth years.

7. Seventy-nine per cent of the 236 colleges reporting made special examinations of students competing in athletics a requirement.

8. Of 25 colleges reporting, eight per cent required faculty examinations for employment.

9. Of 163 colleges reporting, 54 per cent had a student infirmary.

10. That out of 226 colleges reporting, 68.1 per cent gave the administrative responsibility
of classroom courses in health education for the general student body to the Department of Physical Education, 6.6 per cent to the Department of Education, 4.4 per cent to the Department of Biology, 4.8 per cent to the College Nurse, 8.9 per cent to the Medical Officers, which included College Physicians and Dean of Medical School and 10.2 per cent to the College Administrative Officer.
CHAPTER II

HEALTH INSTRUCTION

Students who are now training in colleges and universities will soon be the leading citizens in our communities and their leadership in health will do much to promote a healthier society.

In order that our society will reap the benefits of these students it is necessary for colleges and universities to provide and equip them with the knowledge, skills, attitudes and techniques essential in developing healthful living.

Trained leadership is necessary for efficient operation of a school or community health education program.

"Colleges and universities engaged in teacher preparation need extensive programs of health education for the welfare of the students themselves in addition to professional courses for later use by these persons. Instruction in personal and community hygiene and in effective health counseling not only helps the prospective teacher and administrator to maintain his own health, but also instills in him appreciation and understanding of health education as a valuable attribute of the modern school program."

In order that all elementary and secondary school teachers may teach effectively and contribute to a well integrated curriculum, they must first have adequate prepa-

---

1. Oliver E. Byrd, Health Instruction Yearbook, p.212
The Committee on Health Education for Prospective Teachers, Third National Conference on Health in Colleges, arrived at the following basic conclusions concerning the training of all prospective teachers in health education:

1. In the preparation of teachers, emphasis must be placed on the health needs of those who the teacher will serve. These needs of the child relate to nutrition, the care and use of the body, prevention of disease, accident prevention, and adjustment to the social and psychological environment.

2. This preparation must include both pre-service and in-service health education and such programs should be adaptable.

3. Adequate preparation of teachers in health education must include the dissemination of health information, development of philosophy of health conservation, and training in methods to improve the health of children.

4. Preparation of teachers to do a good job in health education must be supplemented by the support of school administrators, school boards, parents and the public.

Turner recommends that formal instruction should be provided in the subject matter and methods of health education sufficient to give students an appreciation of the nature and importance of health problems, a usable body of subject matter in health, a realization that good hygienic practice is based on scientific principles derived largely from other subjects, particularly the basic sciences, infor-

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nation as to the sources, organization and methods of presenting the subject matter and materials of health education, and such instruction as will aid them in detecting departures from the normal health in children and elicit their participation in effecting correction of the same.

A program of instruction should include instruction in personal and community health, the various phases and problems of school health, and experience in school health and health education as part of student teaching and pupil case studies. 6

Courses in personal and community health should be required for all prospective teachers. These courses are directed primarily towards helping the teacher maintain and improve her own health and augment her understanding and appreciation of personal and community hygiene. Supplementary courses should be offered that will inculcate the attitudes, knowledge and skills required in carrying out responsibilities in a modern school health program. 7

The Committee 8 on Health Education for all College Students and the North Dakota State Conference 9 on Professional Preparation of Teachers in Health, Physical Education and

6. Ibid., p. 355.
8. Third National Conference on Health in Colleges, op. cit. p. 43.
Recreation recommends that a three or four hour course in general health be required of all college students.

The success of health instruction will depend on the extent to which there are produced scientific attitudes and habits in students and if real advances are to be achieved, they will come about by means of personnel well trained to teach health and be establishing close co-ordination among various phases of health.

Since it is virtually impossible to have a good health program without properly trained teachers in this field, it is important what examination is made of the amount of specific health courses required by colleges and universities.

From Table I on page 12 it may be seen that the average number of semester hours of required health is below the recommended three to four hours with the exception of schools in C group.

There are schools in A and B groups that meet the recommendations for the two and three year degrees and although the range of semester hours in all the schools is from zero to fifteen, the over-all average is below the recommended number of hours. Since the average of all the schools is 2.2 semester hours might indicate that the majority of these colleges and universities do not require three or more semester hours of health for all prospective teachers.
<table>
<thead>
<tr>
<th>Degree</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0-51/3</td>
<td>0-5</td>
<td>0-15</td>
<td>0-4</td>
<td>0-15</td>
</tr>
<tr>
<td>4 year</td>
<td>Average</td>
<td>1.8</td>
<td>1.9</td>
<td>3.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Range</td>
<td>0-4</td>
<td>3.0</td>
<td>None</td>
<td>None</td>
<td>0-4</td>
</tr>
<tr>
<td>3 year</td>
<td>Average</td>
<td>2</td>
<td>3</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Range</td>
<td>0-4</td>
<td>0-5</td>
<td>4.3</td>
<td>2.0</td>
<td>0-5</td>
</tr>
<tr>
<td>2 year</td>
<td>Average</td>
<td>1.7</td>
<td>2.8</td>
<td>4.0</td>
<td>2</td>
</tr>
<tr>
<td>Range</td>
<td>2.0</td>
<td>2.0</td>
<td>None</td>
<td>2.0</td>
<td>2</td>
</tr>
<tr>
<td>1 year</td>
<td>Average</td>
<td>2</td>
<td>2</td>
<td>None</td>
<td>2</td>
</tr>
</tbody>
</table>

*Only one school reporting*

Table II on page 13 reports the average and range in the number of semester hours of specific health courses required of major and minors in various teaching fields for the four year degree. This includes such fields as physical education, health, home economics, natural science and others.

---

a. For the sake of convenience, school enrollment will be represented throughout this report by the following letters:
<table>
<thead>
<tr>
<th>Fields</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phy. Ed. Majors</td>
<td>Range</td>
<td>0-10</td>
<td>0-9</td>
<td>0-11</td>
<td>2-15</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>4.7</td>
<td>4.5</td>
<td>6.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Phy. Ed. Minors</td>
<td>Range</td>
<td>0-8</td>
<td>0-6</td>
<td>0-9</td>
<td>0-6</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>3.8</td>
<td>2.8</td>
<td>4.3</td>
<td>2.6</td>
</tr>
<tr>
<td>Health Ed. Majors</td>
<td>Range</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>1-13</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>None</td>
<td>None</td>
<td>8.3</td>
<td>None</td>
</tr>
<tr>
<td>Health Ed. Minors</td>
<td>Range</td>
<td>20#</td>
<td>None</td>
<td>None</td>
<td>4-25</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>20</td>
<td>None</td>
<td>13.8</td>
<td>6.3</td>
</tr>
<tr>
<td>Home Ec. Majors</td>
<td>Range</td>
<td>0-1½</td>
<td>0-5</td>
<td>0-7</td>
<td>0-12</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>1.1½</td>
<td>1.2</td>
<td>1.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Natural Science</td>
<td>Range</td>
<td>0-10</td>
<td>0-9</td>
<td>0-4</td>
<td>0-5</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>2.6</td>
<td>1.9</td>
<td>1.63</td>
<td>1.3</td>
</tr>
<tr>
<td>Ele. Ed.</td>
<td>Range</td>
<td>None</td>
<td>0-6</td>
<td>6.0#</td>
<td>2-4</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>None</td>
<td>3.4</td>
<td>6.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Recreation</td>
<td>Range</td>
<td>None</td>
<td>3.0#</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It can be shown from Table II that the larger schools, those in Groups C and D require more specific health courses in their program for physical education majors. The averages for home economic majors and natural science majors do not come up to the recommended amount of health for all college
students, and only in Group C do we find a program which offers a major in health education. However, since the range in semester hours for this group runs from four to thirteen hours, it might indicate that these requirements are for physical education majors, since many schools combine the departments of health and physical education.

The school in group A which reported requiring twenty semester hours of health for health education minors appears to meet the requirements while schools in group C are close to the minimum amount with an average of 13.8 semester hours. The D group average of 6.3 semester hours is well below what the requirements for health education minors should be.

This table also shows that those schools offering majors in elementary education and recreation meet the suggested semester hours.

Environmental Surveys

Every college will find it advantageous to have information on the scope and types of existing public health resources in or near the college community that may be useful in solving the problems of environmental sanitation.10

Visits to establishments performing work have gained favor with students and teachers in recent years. Surveys and visits to local environmental conditions serve in educating pupils in what the community is doing that coincides with the work of the school and of educating the persons visited in the work of the school as a community enterprise.\textsuperscript{11}

In order to get ideal preparation for teaching in any field we must include broad general education with increasingly intensive specialization in that field. In addition to specific courses for teachers, technical information and training are required, such as the study of public health activities, sanitation, housing, and others.

Directors of health should provide frequent and irregular sanitary surveys that should cover such items as general environment, housing conditions, eating places, food, water, and milk supply, and sewage and garbage disposal.\textsuperscript{12}

Table III on page sixteen shows the percentage of colleges and universities using various environmental conditions as a training device in their health courses.

\textsuperscript{11} Clifford L. Brownell, \textit{op. cit.}, p. 261
\textsuperscript{12} William L. Hughes, \textit{Administration of Health and Physical Education in Colleges}, p. 32.
### Table III

**Environmental Conditions Surveyed**

<table>
<thead>
<tr>
<th>Surveys</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Conditions</td>
<td>23.8</td>
<td>23.5</td>
<td>00.9</td>
<td>11.1</td>
<td>14.8</td>
</tr>
<tr>
<td>Sewage Disposal Plants</td>
<td>14.3</td>
<td>52.9</td>
<td>45.4</td>
<td>22.2</td>
<td>33.7</td>
</tr>
<tr>
<td>Garbage Disposal Plants</td>
<td>4.7</td>
<td>29.4</td>
<td>00.9</td>
<td>11.1</td>
<td>11.5</td>
</tr>
<tr>
<td>Water Purification Plants</td>
<td>28.5</td>
<td>58.8</td>
<td>45.4</td>
<td>22.2</td>
<td>39.0</td>
</tr>
<tr>
<td>Milk Production</td>
<td>26.5</td>
<td>58.8</td>
<td>54.5</td>
<td>22.2</td>
<td>41.0</td>
</tr>
<tr>
<td>Eating Places</td>
<td>19.0</td>
<td>47.0</td>
<td>28.2</td>
<td>00.0</td>
<td>23.6</td>
</tr>
<tr>
<td>Food Handling</td>
<td>23.8</td>
<td>52.9</td>
<td>36.3</td>
<td>00.0</td>
<td>28.2</td>
</tr>
<tr>
<td>Public Health Depts.</td>
<td>4.7</td>
<td>41.2</td>
<td>28.2</td>
<td>33.3</td>
<td>26.9</td>
</tr>
<tr>
<td>Comm. Disease Control</td>
<td>19.0</td>
<td>35.2</td>
<td>28.2</td>
<td>33.3</td>
<td>28.9</td>
</tr>
<tr>
<td>None</td>
<td>61.9</td>
<td>29.4</td>
<td>28.2</td>
<td>55.6</td>
<td>43.8</td>
</tr>
</tbody>
</table>

Table III reveals that 43.8 per cent of all the colleges make no visits of environmental conditions to supplement the regular course work. Water purification plants and milk production plants were visited most often by schools in Groups A, B, and C, while visits of Public Health Departments and surveys of communicable disease control were used the most as part of the course training in schools of Group D.
Over half of the schools in Groups A and D made no visits or surveys while over one-fourth of the schools in Groups B and C made no use of local environmental conditions as a training device for teacher trainees.

The schools in Group D made no surveys or visits to eating places or of food handling, and only 11.1 per cent of these schools used surveys of housing conditions and garbage disposal plants as a part of course training.

Only 4.7 per cent of the schools in Group A visited garbage disposal plants and Public Health Departments as part of their training. This might be due to the fact that these schools are small and are located in small towns which do not have them. Therefore these schools do not have an opportunity to make such visitations or surveys.

**Developing Appreciation of Community Health Needs**

There are certain needs that are associated with the health and welfare of the community as a whole. These needs are environmental sanitation, general measures for disease prevention and control, adult health, community safety, and facilities for health and medical care.13

Each teacher entering a community must realize and appreciate the needs of that community in order to bring about cooperation between school and community agencies in combating health problems.

School health programs cannot develop in isolation from individuals and groups in the community.\textsuperscript{14}

Hughes\textsuperscript{15} states that it is important that the college seeks to develop within the individual an appreciation of the health needs of the community. He should learn the nature and purpose of voluntary and official health agencies, be able to determine what constitutes adequate budget, equipment, and personnel for an efficient local department of health, and develop right attitudes within the student to the end that he shall cooperate with health agencies as an individual and support as a citizen the promotion of an ideal community health program.

\begin{center}
\textbf{TABLE IV}
\end{center}

\textit{DEVELOPMENT OF COMMUNITY HEALTH NEEDS}

\begin{center}
\begin{tabular}{lcccc}
\hline
Degree of Development & A & B & C & Total  \\
\hline
Considerable & 42.9 & 44.4 & 36.4 & 77.8 & 50.4  \\
Slight & 47.6 & 38.9 & 45.5 & 22.2 & 36.5  \\
None & 9.5 & 16.7 & 18.1 & 00.0 & 11.1  \\
\hline
\end{tabular}
\end{center}

Table IV shows that the larger schools seek individual development of appreciation of community health needs more so than the smaller ones.

\\textsuperscript{14} Dolbert Obertseiffer, School Health Education, p. 369
\textsuperscript{15} William L. Hughes, \textit{op. cit.}, p. 130
Of the nine schools in Group D reporting, seven reported developing these appreciations considerably while two reported slight development.

Nine and five tenths per cent of the schools in Group A indicated that they felt that the college developed within the individual no appreciation of his community health needs while 16.7 per cent of Group B and 18.1 per cent of Group C also indicated no development.

Table IV also shows that 50.4 per cent of all colleges and universities in this survey sought considerable development of community health needs in the individual, 38.5 per cent show slight development and 11.1 per cent indicated none.

**Supplemental Group Instruction**

In order that all teachers may meet their responsibilities in the school health service program, it is necessary that they understand such things as guidance and follow-up when health defects are found, procedures to be followed in emergency illness and accident, nature and extent of periodic health examinations, and identification of health interests and needs of children and youth.

"Group instruction should be supplemented by individual instruction as occasion arises in health examinations, follow-up conferences, athletic training and competition and physical education activities."16

The survey shows that schools in Groups A, B, and C place considerable emphasis to supplementing group instruction with individual practice in physical education activities. The colleges and universities in Group A seemed to place more emphasis on these types of supplemental instruction than the other schools, especially on athletic training.

Fifty-four and three tenths per cent of all the schools made considerable use of physical education activities as a supplementary training device for teacher trainees and 52 per cent used athletic training as a device to give practical experience to students. Only 19.4 per cent made considerable use of student health records and 22.6 per cent used follow-up conferences considerably. Many of these activities were not used at all to supplement instruction in health classes by these colleges and universities. Fifty-six and seven tenths per cent made no use of follow-up conferences, 46.1 per cent did not make use of student health records, and 38.3 per cent failed to make use of the health examination.

Table V on page twenty-two shows further evidence of this being true.

Qualifications of College Health Instructors

Health instruction should be the responsibility of the Department of Health and Physical Education and should be taught as a separate course rather than part of physical education.
It should be taught preferably by members of the staff in health and physical education who are especially trained to teach hygiene. Their training should include such things as anatomy, physiology, hygiene, bacteriology, psychology, mental hygiene and methods of teaching. 17

So far as practical, the administrative and basic professional leadership of the General Health Program should be medical, however, regardless of who is administratively responsible for it, there is a real need for complete coordination and integration of the program as a whole.

Table VI on page 23 shows the major and minor fields of instructors handling health courses in colleges and universities. It may be seen from the table that 68.6 per cent of all the health instructors have majors in physical education with 22.7 per cent having minors in health education.

Twenty-three or 22.7 per cent of these instructors have minors in physical education and out of 154 instructors in these colleges, only two were trained in nursing and two in medicine. Also handling course instruction in health were instructors whose majors were in such allied fields as biology, zoology, natural science, physiology, recreation, and elementary education.

It was also found that of the 154 instructors handling health courses in these colleges and universities, 133 or 86.3 per cent had training in health education teaching methods.

17. William L. Hughes, op. cit., p. 131
<table>
<thead>
<tr>
<th>Type of Instruction</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Examination:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Considerable</td>
<td>38.0</td>
<td>36.6</td>
<td>36.4</td>
<td>44.4</td>
<td>35.1</td>
</tr>
<tr>
<td>Slight</td>
<td>33.3</td>
<td>16.6</td>
<td>45.5</td>
<td>11.1</td>
<td>26.6</td>
</tr>
<tr>
<td>None</td>
<td>29.7</td>
<td>46.8</td>
<td>19.1</td>
<td>44.5</td>
<td>38.3</td>
</tr>
<tr>
<td>Follow-up Conferences:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Considerable</td>
<td>38.0</td>
<td>22.2</td>
<td>19.1</td>
<td>11.1</td>
<td>22.6</td>
</tr>
<tr>
<td>Slight</td>
<td>24.0</td>
<td>16.6</td>
<td>9.0</td>
<td>33.3</td>
<td>20.7</td>
</tr>
<tr>
<td>None</td>
<td>38.0</td>
<td>61.2</td>
<td>71.9</td>
<td>55.6</td>
<td>56.7</td>
</tr>
<tr>
<td>Athletic Training:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Considerable</td>
<td>71.4</td>
<td>46.8</td>
<td>55.5</td>
<td>33.3</td>
<td>52.0</td>
</tr>
<tr>
<td>Slight</td>
<td>9.5</td>
<td>16.6</td>
<td>00.0</td>
<td>44.4</td>
<td>17.6</td>
</tr>
<tr>
<td>None</td>
<td>19.1</td>
<td>37.6</td>
<td>44.5</td>
<td>22.3</td>
<td>30.4</td>
</tr>
<tr>
<td>Phy. Ed. Activities:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Considerable</td>
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<td>61.2</td>
<td>55.5</td>
<td>33.3</td>
<td>54.4</td>
</tr>
<tr>
<td>Slight</td>
<td>14.3</td>
<td>11.1</td>
<td>9.0</td>
<td>33.3</td>
<td>16.9</td>
</tr>
<tr>
<td>None</td>
<td>19.1</td>
<td>17.7</td>
<td>35.5</td>
<td>33.3</td>
<td>28.7</td>
</tr>
<tr>
<td>Student Health Records:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Considerable</td>
<td>24.0</td>
<td>22.2</td>
<td>9.0</td>
<td>22.3</td>
<td>19.4</td>
</tr>
<tr>
<td>Slight</td>
<td>38.0</td>
<td>11.1</td>
<td>55.5</td>
<td>33.3</td>
<td>34.5</td>
</tr>
<tr>
<td>None</td>
<td>38.0</td>
<td>66.7</td>
<td>35.5</td>
<td>44.4</td>
<td>46.1</td>
</tr>
<tr>
<td>Fields of Training</td>
<td>Number</td>
<td>Per Cent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------</td>
<td>--------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Education Majors</td>
<td>106</td>
<td>68.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Education Minors</td>
<td>35</td>
<td>22.7</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Physical Education Minors</td>
<td>23</td>
<td>14.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Education Majors</td>
<td>17</td>
<td>11.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Economic Majors</td>
<td>3</td>
<td>1.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurses</td>
<td>2</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biology Majors</td>
<td>2</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoology Majors</td>
<td>2</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicine</td>
<td>2</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Science Majors</td>
<td>1</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation Majors</td>
<td>1</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physiology Majors</td>
<td>1</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary Education Majors</td>
<td>1</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary

Chapter II shows the following results:

1. Only schools in Group C averaged the recommended amount of three or four semester hours of required health. The average of all the other schools fell below the recommended amount.

2. The amount of health required ranges from zero to fifteen semester hours and although some schools in each group met the recommended three or four hours of health, the general average of all the schools was below it.

3. Although results were inconclusive, one school in Group C reporting on the two year degree required four hours of health, one school in Group A four hours, and one school in Group B five hours.

4. Schools whose enrollment is 1000 and over, require, on the average, more health for physical education majors.

5. Only schools in Group C showed any program for majors in Health Education. However, since the range of semester hours was only four to thirteen might indicate that this was meant for physical education majors as many schools combine Departments of Health and Physical Education.

6. In allied fields, the average for required health courses fell far below the recommended three to four hours.
7. Schools in groups B and C made more use of environmental surveys as a training device than schools in A and D groups.

8. Of these training devices, water purification plants and milk production were used the most by schools in Groups A, B, and C, while the large schools used visits to Public Health Departments and surveys of Communicable Disease Control the most.

9. Forty-three and eight tenths per cent of all colleges and universities make no use of environmental conditions as part of their health courses.

10. Seventy-seven and eight tenths per cent of the schools in Group D try to develop individual appreciation of community health needs considerably. Of the other schools, 42.9 per cent of group A, 44.4 per cent of Group B, and 36.4 per cent of Group C feel they develop an appreciation of these needs considerably.

11. Schools in Groups A, B, and C supplemented instruction considerably with individual practice and training in athletic training and physical education activities. Over 33 per cent of all schools use the health examination to supplement group instruction.

12. Sixty-eight and eight tenths per cent of all instructors teaching health courses in Mid-west colleges and universities have majors in physical education and 14.9 per cent have minors in physical education.
13. Twenty-two and seven tenths per cent of the instructors handling health courses have majors in health education while only 1.3 per cent have their degrees in medicine.

14. Eighty-six and three tenths per cent of all instructors teaching health in colleges and universities in the Mid-west have training in health education teaching methods.

15. Included as health instructors in these colleges and universities were persons with majors in such allied fields as home economics, biology, zoology, natural science, recreation, physiology, and elementary education.

16. Out of 154 instructors in these colleges and universities, only two were nurses and two were medical doctors.
CHAPTER III

HEALTH SERVICES

"Health services are those school procedures which are established to appraise the health status of pupils and school personnel, council pupils, parents and other persons involved concerning appraisal findings, help plan for the health and care of the handicapped, help control and prevent disease and provide emergency care for the sick and injured."¹

These services represent the combined efforts of physicians, dentists, nurses, teachers, psychologists, parents and others to determine health status, to prevent disease and obtain means of correcting remedial defects among students and school personnel.

The scope of activities in the health services program includes such things as periodic health examinations, observation and inspection for signs of defects and disease, immunization and vaccination, follow-up procedures, and first aid and care of emergency sickness.

"Not withstanding the fact that the chief function of health service lies outside the strictly "educational" activities of the school, these services provide rich opportunities for education which deserve full recognition and utilization."²

All colleges and institutions preparing teachers should organize adequate health service programs in which provision should be made for periodic medical examinations,

² Clifford Lee Brownell, Principles of Health Education, p. 15.
effective health counseling and suitable facilities and personnel for infirmary care.\textsuperscript{3} 

\textbf{The Health Council}

A health council or committee should be established at each institution to provide the leadership and direction necessary for a successful health program.

The council or committee should have the following functions:\textsuperscript{4}

1. To formulate sound school health policies.
2. To determine the amount of aid or benefits that shall be available to students.
3. To make known to the students the benefits that are available so that the students may make use of their opportunities.
4. To act on all claims presented by students for benefits from the Health Fund.
5. To work with community groups to assure the availability of necessary professional health services for the students.
6. To make recommendations to the Administrative Council or to the President on all matters relating to the health of the students.

The Third National Conference of Health in Colleges recommends that college health councils are desirable and should include representation from as many as a dozen departments. A council should be appointed by the president and make its recommendations to him. In addition there should be a health coordinator who should implement recommendations of the health council and integrate health elements

\textsuperscript{3} National Committee on School Health Policies, "Suggested School Health Policies, Part III," "The Journal of Health and Physical Education, VII:3 (March 1946) p. 146

\textsuperscript{4} N. Dak. State Conference on Professional Preparation of Teachers in Health, Physical Education and Recreation, Unpublished Pamphlet, p. 7
of all college courses.5

The North Dakota State Conference on Professional Preparation of Teachers in Health, Physical Education, and Recreation recommends that the committee be composed of equal representation of students and instructors and the school nurse.6

Table VII on this page shows the number and per cent of schools having directors of health education and also those having councils or committees.

TABLE VII

NUMBER OF SCHOOLS HAVING HEALTH DIRECTORS AND COUNCILS

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Number having Directors</th>
<th>Per Cent</th>
<th>Number having Councils</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8</td>
<td>38.0</td>
<td>7</td>
<td>33.3</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td>27.7</td>
<td>5</td>
<td>27.7</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
<td>36.3</td>
<td>4</td>
<td>36.3</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>44.4</td>
<td>4</td>
<td>44.4</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>35.6</td>
<td>20</td>
<td>33.9</td>
</tr>
</tbody>
</table>

It was found that twenty-one or 35.6 per cent of the schools had a director of health education. Forty-four and four tenths per cent of the schools in Group D had directors while only 27.7 per cent of the schools in B Group had a director.

5. Third National Conference on Health in Colleges, A Health Program for Colleges, p. 23.
The percentage of schools having advisory committees or councils on health are also shown in Table VII, page 29. By consulting this table, it may be seen that the only change is in Group A, which shows only seven schools having a health committee, while eight of these schools have directors.

In the survey of the personnel represented on these twenty councils, it was discovered that they were classified under forty-four different titles. These titles have been put into ten groups as follows.

1. College Presidents.
2. Nurses.
3. Deans—included deans of men, women, faculty, pharmacy, and home economics.
4. Directors—included directors of men’s physical education, women’s physical education, health education, dormitories, personnel, laboratory school, and athletics.
6. Instructors—included instructors in health, women’s physical education, men’s physical education, elementary education, childhood education, recreation, home economics, bacteriology, physiology, mathematics, and science.
8. Students.
9. Administrative Personnel—included business manager, maintenance manager, superintendent of buildings and grounds, registrar and president’s assistant.
10. Others—included medical school physicians, member of the City Health Department and Dietician.

Of the twenty schools having health councils it was found that these councils included in their personnel three college presidents, twenty-three nurses, twenty-one school physicians, twenty-seven deans, nineteen directors, forty-two instructors, eleven students, five administrative personnel, and four others.

Infirmary Care

The need for facilities to provide competent medical treatment and infirmary care should be carefully determined by each college. Where local facilities are inadequate, it is the direct obligation of the college to provide bed care for ill students.

It is recommended by Hughes that the number of beds needed per 1000 students will vary from seven to fourteen.7

TABLE VIII

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Schools having Infirmaries</th>
<th>Per Cent</th>
<th>Range</th>
<th>Beds</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>11</td>
<td>52.4</td>
<td>2-6</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>11</td>
<td>61.1</td>
<td>2-42</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>5</td>
<td>45.5</td>
<td>4-13</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>100.0</td>
<td>10-150</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>61.0</td>
<td>2-150</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Sixty-one percent of all the schools surveyed have infirmaries for hospitalizing students. This means that thirty-nine per cent do not have any infirmary on the campus. However, this may mean that some of these schools use the community hospital for students. All schools in Group D have infirmaries and the number of beds in each infirmary ranges from 10-150 with an average of fifty-five. This indicates that these colleges have adequate infirmary facilities. Also shown on Table VIII on page 31, is that less than half of the schools in Group C have infirmaries for student care.

Physicians and Nurses

Variations in local conditions, availability of physicians, proximity of medical schools, adequacy of equipment, clerical help and institutional policy make it impossible to specify a definite ratio of physicians to students in our colleges and universities, however, it seems incredible that there are colleges anywhere unable to employ a full-time physician. 8

It was suggested at the Third National Conference on Health in Colleges 9 that it would be advisable to provide a physician for each 500-1000 students.

The National Committee on School Health Policies 10

8. Ibid, p. 17.
9. Third National Conference on Health in Colleges, op. cit., p. 34.
10. National Committee on School Health Policies, op. cit., p. 146
recommended that every institution preparing teachers should have the services of a physician and a nurse, one who should be full-time.

Table IX on this page shows that schools in Groups A and B do not employ physicians full-time, but as an average have one or two part-time physicians on call five days per week. Only in Group D is it found that physicians are on duty and average eight hours a day, six days a week. Schools in Group C average one full-time doctor and also have part-time doctors, however, these physicians are only on duty an average of two hours a day, four days a week.

**TABLE IX**

<table>
<thead>
<tr>
<th>Enroll-ment</th>
<th>--Average--</th>
<th>Hours per day</th>
<th>Days per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-time</td>
<td>Part-time</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>0</td>
<td>1</td>
<td>On Call 5</td>
</tr>
<tr>
<td>B</td>
<td>0</td>
<td>2</td>
<td>2 5</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>1.6</td>
<td>2 4</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>7</td>
<td>8 6</td>
</tr>
<tr>
<td>Total</td>
<td>1.5</td>
<td>2.9</td>
<td>4 5</td>
</tr>
</tbody>
</table>

Table X on page thirty-four shows the average number of nurses on duty in the health service full-time and part-time, and the number of hours per day they are on duty plus the average days per week.

By observing this table it may be seen that schools in Group A average less than one full-time and part-time nurse.
per school while the larger schools seem to have an adequate number. However, it is noted that schools in Groups A and B have their nurses on duty more hours per day and days per week than the schools in Groups C and D.

**TABLE X**

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Full-time</th>
<th>Part-time</th>
<th>Average Hours per Day</th>
<th>Days per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>.4</td>
<td>.3</td>
<td>11.3</td>
<td>6</td>
</tr>
<tr>
<td>B</td>
<td>1.0</td>
<td>1.0</td>
<td>11.3</td>
<td>6</td>
</tr>
<tr>
<td>C</td>
<td>1.3</td>
<td>2.2</td>
<td>7.0</td>
<td>5</td>
</tr>
<tr>
<td>D</td>
<td>7.4</td>
<td>1.0</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>2.5</td>
<td>.8</td>
<td>9.4</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Health Fees**

The Committee reporting on Health Services for the Third National Conference on Health in Colleges found that it was necessary to have sums that ranged from fifteen dollars to thirty dollars per student in order to provide an acceptable health program of infirmary care.\(^{11}\)

The committee did not believe, however, that it was necessary for the student to be charged these sums in form of health fees.\(^ {12}\)

Since the student health fee is the most common source

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11. Third National Conference on Health in Colleges, *op. cit.*, p. 38
12. Ibid., p. 38
of revenue, a limit must be placed upon the services rendered in return for the health fee and this limit must be made known to the students.

"There is one advantage of charging a student fee. It not only relieves the student of the feeling that he is receiving charity service, but it is likely to arouse interest in health activities."  

**TABLE XI**

**RANGE AND AVERAGE HEALTH FEE**

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$0-$6.00</td>
<td>$2.25</td>
</tr>
<tr>
<td>B</td>
<td>$0-$4.50</td>
<td>$1.35</td>
</tr>
<tr>
<td>C</td>
<td>$0-$4.00</td>
<td>$1.60</td>
</tr>
<tr>
<td>D</td>
<td>$0-$15.00</td>
<td>$4.10</td>
</tr>
<tr>
<td>Total</td>
<td>$0-$15.00</td>
<td>$2.25</td>
</tr>
</tbody>
</table>

The average fee charged by these schools as shown in Table XI was $2.25 per semester. The general average of the schools in groups A and D is more than the average in groups B and C.

**Health Examinations**

"Every prospective teacher should have the experience of an adequate health examination with follow-up services for the correction of remedical defects and assistance in improving his regimen for more effective living."  

---

All students should have a complete medical examination from which the college physician can determine health status and the admission examination should be followed preferably with yearly examination.15

Complete health examinations, not merely as protective measures, but as constructive education procedures, are greatly needed. The examination should be part of the routine for matriculation which should not be considered completed until the examination has been taken and passed. "The entrance examination is not only important to the immediate health of the student and the protection of the college community, but is also an important part of the student's experience in college."16

Table XII shows the number and per cent of colleges requiring an entrance examination of all students.

**TABLE XII**

**ENTRANCE EXAMINATIONS**

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Number of Schools</th>
<th>Number Requiring Examinations</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>21</td>
<td>14</td>
<td>66.7</td>
</tr>
<tr>
<td>B</td>
<td>18</td>
<td>13</td>
<td>72.2</td>
</tr>
<tr>
<td>C</td>
<td>11</td>
<td>9</td>
<td>81.8</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>47</td>
<td>79.6</td>
</tr>
</tbody>
</table>

All schools in Group D require an entrance examination of all students while only 66.7 per cent of the schools in Group A have this requirement. Forty-seven or 79.6 per cent of the fifty-nine colleges surveyed report that an entrance examination is required of all students.

Table XIII indicates that twenty-four or 40.7 per cent of all the colleges and universities in the Mid-west make periodic examinations a requirement for all students. It can be seen from examining Tables XII on page 36 and Table XIII on this page, that there is a sharp decline in the per cent of schools requiring periodic health examinations compared to the entrance examination.

**TABLE XIII**

PERIODIC HEALTH EXAMINATIONS

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Number of Schools</th>
<th>Number Requiring Examinations</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>21</td>
<td>6</td>
<td>28.6</td>
</tr>
<tr>
<td>B</td>
<td>18</td>
<td>10</td>
<td>55.5</td>
</tr>
<tr>
<td>C</td>
<td>11</td>
<td>5</td>
<td>45.4</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>3</td>
<td>33.3</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>24</td>
<td>40.7</td>
</tr>
</tbody>
</table>

One of the recommendations given by the North Dakota State Conference on Professional Preparation of Teachers was that all seniors should have an examination before graduation.¹⁷

TABLE XIV

THE SENIOR EXAMINATION

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Number of Schools</th>
<th>Number Requiring Senior Exams</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>21</td>
<td>6</td>
<td>28.6</td>
</tr>
<tr>
<td>B</td>
<td>18</td>
<td>6</td>
<td>33.3</td>
</tr>
<tr>
<td>C</td>
<td>11</td>
<td>8</td>
<td>72.7</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>2</td>
<td>22.2</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>22</td>
<td>37.7</td>
</tr>
</tbody>
</table>

Table XIV indicates that only 37.7 per cent of all schools surveyed require a senior examination before graduation. It may also be noted that eight or 72.7 per cent of the schools in Group C make this examination a requirement while one-third or less of the schools in the other groups give a senior examination.

Staff Examinations

The Committee for Health Examinations for Faculty and Employees recommends that a pre-employment examination of faculty be as complete as health service facilities will permit and that this examination be repeated at regular intervals, preferably annually. These examinations should be performed by physicians responsible to the college which in most cases would be the college physician rather than private.

physicians and that the expense of these examinations should be met from the general college fund. The examinee should not be expected to pay for the required examination.

Table XV on this page shows the per cent of colleges and universities in the Mid-west that require staff examinations.

**TABLE XV**

**REQUIRED STAFF EXAMINATIONS**

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Number of Schools</th>
<th>Schools requiring Staff Examinations</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>21</td>
<td>3</td>
<td>14.3</td>
</tr>
<tr>
<td>B</td>
<td>18</td>
<td>3</td>
<td>16.6</td>
</tr>
<tr>
<td>C</td>
<td>11</td>
<td>2</td>
<td>18.1</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>2</td>
<td>22.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>59</strong></td>
<td><strong>10</strong></td>
<td><strong>16.9</strong></td>
</tr>
</tbody>
</table>

Only ten or 16.9 per cent of all colleges and universities in the Mid-west make the physical examination a requirement of their faculty. Of the ten schools requiring these examinations, five made it an annual requirement, four gave it upon entrance, and one made it a requirement for all their faculty members to have an examination sometime within three years before they reach the age of forty.

Five of the ten schools carried out these examinations in the Health Service of the school and five expected staff members to have the examination given by their private physician. The examination was paid for by the school in six of
the cases while four of the schools required staff members to meet this expense themselves.

Special Examinations

Students who are engaged in organized and competitive sports should be required to take a special examination to determine the physical qualifications of each candidate.

The following recommendation on special examinations is given by Hughes:19

"All students who desire to participate in athletics should be required to pass a health examination satisfactorily before going into active training.

TABLE XVI

ATHLETICS REQUIRING SPECIAL EXAMINATIONS

<table>
<thead>
<tr>
<th>Name of Sport</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Football</td>
<td>71.4</td>
<td>83.3</td>
<td>81.3</td>
<td>77.7</td>
<td>77.9</td>
</tr>
<tr>
<td>Basketball</td>
<td>76.2</td>
<td>83.3</td>
<td>72.7</td>
<td>100.0</td>
<td>81.3</td>
</tr>
<tr>
<td>Swimming</td>
<td>9.5</td>
<td>50.0</td>
<td>45.4</td>
<td>66.6</td>
<td>37.3</td>
</tr>
<tr>
<td>Baseball</td>
<td>26.6</td>
<td>33.3</td>
<td>63.6</td>
<td>66.6</td>
<td>42.4</td>
</tr>
<tr>
<td>Boxing</td>
<td>4.8</td>
<td>5.5</td>
<td>9.0</td>
<td>22.2</td>
<td>8.5</td>
</tr>
<tr>
<td>Wrestling</td>
<td>4.8</td>
<td>22.2</td>
<td>36.3</td>
<td>44.4</td>
<td>22.2</td>
</tr>
<tr>
<td>Track</td>
<td>66.6</td>
<td>66.6</td>
<td>72.7</td>
<td>88.8</td>
<td>71.2</td>
</tr>
<tr>
<td>Golf</td>
<td>9.5</td>
<td>27.7</td>
<td>18.1</td>
<td>22.2</td>
<td>18.5</td>
</tr>
<tr>
<td>Tennis</td>
<td>4.3</td>
<td>38.9</td>
<td>18.1</td>
<td>33.3</td>
<td>25.4</td>
</tr>
<tr>
<td>Tumbling</td>
<td>9.5</td>
<td>5.5</td>
<td>18.1</td>
<td>33.3</td>
<td>13.7</td>
</tr>
<tr>
<td>Hockey</td>
<td>0.0</td>
<td>5.5</td>
<td>0.0</td>
<td>0.0</td>
<td>1.7</td>
</tr>
<tr>
<td>None</td>
<td>23.8</td>
<td>5.5</td>
<td>18.1</td>
<td>0.0</td>
<td>13.7</td>
</tr>
</tbody>
</table>

From Table XVI on page 40, it can be seen that most of the colleges require special examinations for participants in the intercollegiate sports of football, basketball, and track. However, since no indication was made on the questionnaire as to how many of these intercollegiate sports were part of the school's program, these figures may not be accurate.

As indicated on this table, it may be shown that 23.8 per cent of the schools in Group A, 5.5 per cent of Group B, and 18.1 per cent of Group C required no examination whatsoever for students participating in competitive sports.

Physical Examinations as a Training Device

"Teachers, nurses, clerks and even students should be assigned to help whenever possible with the health examinations. There is no use paying medical talent to record a vision figure on a record form. Every facility should be provided to allow the physicians to perform their medical functions and to avoid every delay in their work by doing something which a non-medically trained person can do as well."20

Every prospective teacher can make use of the health examination as a training device to improve his health knowledge. Experience in the health examination should include learning how to record and properly interpret observation, and the giving of "health tests" such as

20. Delbert Obertewifer, School Health Education, p. 206
weighing and measuring, tests for vision and hearing, general screening and the determination of attitudes and interests in health matters.21

Twenty-two per cent of all the colleges and universities in the Mid-west use the health examination as a training device for teacher trainees as shown in Table XVII on this page.

TABLE XVII
USING THE HEALTH EXAMINATION AS A TRAINING DEVICE

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Number of Schools</th>
<th>Number Using Examination</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>21</td>
<td>4</td>
<td>19.0</td>
</tr>
<tr>
<td>B</td>
<td>18</td>
<td>5</td>
<td>27.7</td>
</tr>
<tr>
<td>C</td>
<td>11</td>
<td>2</td>
<td>18.2</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>2</td>
<td>22.2</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>13</td>
<td>22.2</td>
</tr>
</tbody>
</table>

In order to determine to what extent the various parts of the physical examination were done by the students, the colleges and universities were asked to check the parts of the examination actually performed by the students as part of their health training.

The survey showed that of the twelve schools using students to perform parts of the physical examination,

21. Mable E. Rugen, op. cit., p. 543
eleven used them to take height and weight, ten used students to make measurements, eight gave the students the opportunity to give the eyes' test, six had them do posture tests, five used them in the collection of urine specimens, four used them on the foot examination, and three schools permitted the student to give the ear test and take heart rates.

Follow-up Services

There is a need for uniform and standard health records. A complete up-to-date health record should be kept of each student throughout his college life and be made accessible only to the proper officials. Persons other than these officials should be denied access to them except on written permission of the student or his legal guardian.

TABLE XVIII

SCHOOL HEALTH RECORDS

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Number Keeping Records</th>
<th>Per Cent</th>
<th>Available to Counselor</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>18</td>
<td>85.7</td>
<td>17</td>
<td>80.9</td>
</tr>
<tr>
<td>B</td>
<td>16</td>
<td>88.8</td>
<td>13</td>
<td>72.2</td>
</tr>
<tr>
<td>C</td>
<td>11</td>
<td>110.0</td>
<td>8</td>
<td>72.7</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>100.0</td>
<td>4</td>
<td>44.4</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>91.5</td>
<td>42</td>
<td>71.2</td>
</tr>
</tbody>
</table>

The table above shows that 100 per cent of the schools in Groups C and D keep health records, but only 72.7 per cent
of the schools in Group C and 44.4 per cent in Group D make
the records available to the counselor. Ninety-one and five
tenths per cent of all the schools keep health records of
students and forty-two or 71.2 per cent of the 59 colleges
have these health records available to the counselor for
his use in solving the students’ health problems.

It was found from this survey that the nurse was placed
in charge of the follow-up program in twenty-six of the
schools. Various other departments were given charge of this
program including the school physician in five of the schools,
Director of Health Education in two schools, and the Physical
Education teacher, local physician, health instructor, health
committee, athletic director, health department and screening
committee in one school.

The question was asked whether the school followed
through each case until it had final disposition. Results
of this question are shown on Table XIX on page 45. This
table shows that 64.4 per cent of all the colleges and uni­
versities follow through each case thoroughly until it is
disposed.

The largest percentage of schools indicating complete
follow-up service falls in Groups C. and D. This may be
because the larger schools have the necessary facilities
and personnel to handle each case more effectively than
the smaller schools, especially those in Group A.
In the performance of the follow-up work done by these colleges and universities, this survey showed that thirty-one of the schools listed the school physician in charge and thirty-one listed the family physician in charge. Also listed were nurses in seventeen schools and specialists in three. This indicates that in many schools this work is done by one or a combination of several of these people.

Summary

Chapter three gives the following results:

1. Thirty-five and six tenths per cent of all the colleges and universities in the Mid-west have a health director, and 33.9 per cent of these schools also have a council or committee on health.

2. The health councils of the schools surveyed listed forty-four different name classifications as personnel.
3. Sixty-one per cent of all the colleges surveyed had infirmary care for students with an average of twenty beds per infirmary.

4. Less than one-half of the schools in Group C have infirmary care for students.

5. Schools in Groups A and B do not employ a full-time physician.

6. Only in the schools which have an enrollment of 2000 or over, is a physician on duty eight hours a day, six days a week.

7. Schools in Group A group do not average one full-time or part-time nurse, while colleges in Group D have an average of seven full-time nurses on duty.

8. Nurses on duty in Groups A and B average more hours per day and days per week than nurses in the schools of groups C and D.

9. The average student health fee for these colleges and universities is $2.35 per semester.

10. Seventy-nine and six tenths per cent of all colleges and universities in the Mid-west require an entrance examination of students. All of the schools in Group D make this examination a requirement while only 66.7 per cent of the schools in Group A have required entrance examinations.

11. Forty and seven tenths per cent of all these colleges require periodic examinations of their students and 37.7 per cent require a senior examination.
12. Physical examinations are required of staff members in 16.9 per cent of these schools.

13. Thirteen and seven tenths per cent of these colleges do not require special examinations for student competing in sports.

14. A special examination before participation in basketball is required in 81.3 per cent of these schools while 77.9 per cent of the schools require special examinations for football and 71.2 per cent require it for track.

15. Twenty-two per cent of the colleges use student participation in various phases of the health examination. Of the twelve schools giving students this experience, eleven use them to record height and weight, ten to record measurements and eight give the students the opportunity to give eye tests.

16. Ninety-one and five tenths per cent of all these schools keep health records of students. All of the schools in Groups D and C keep records, however, 71.2 per cent of the schools in Group D and 44.4 per cent in Group C make these records available to the counselor.

17. The nurse was placed in charge of the follow-up program in twenty-six of the schools. Others performing the follow-up work were school physicians, director of health service, director of health education, physical education teacher, local physicians, health instructors, health committee, athletic director, health department, and screening committee.
18. Sixty-four and four tenths per cent of all the schools follow-up each case until it is disposed. The largest percentage of schools indicating complete follow-up service were from Groups C and D.

19. Follow-up service was done by the school physician and family physician in thirty-one of the schools. Others listed doing follow-up work were the nurses by seventeen schools and specialists in three schools.
CHAPTER IV
COURSE CONTENT

Health Education in colleges should include many areas in addition to the basic courses in health in order to have well-trained leaders in the field. It is necessary for our young men and women preparing for teaching to develop scientific attitudes and habits in order to overcome such obstacles as ignorance, prejudice, tradition, indifference and unreasonable health practices in a school.

The following list shows major health instruction courses suggested by the Third National Conference on Health in Colleges that are appropriate to special groups of students.¹

1. Mental Hygiene—for teachers, physical education majors, health education majors and home economic majors.

2. First aid—physical education majors and health education majors.


5. Home Nursing—elementary teachers, and home economic majors.

6. Human Physiology—physical education, health education majors.

¹ Third National Conference on Health in Colleges, A Health Program for Colleges, p. 45-46
7. Community Health—physical education, health education, and home economic majors.


For the purposes of this study, all courses listed by the colleges and universities are grouped into six categories. These are: (1) Community Health, (2) Personal Health, (3) First Aid and Safety, (4) Hygiene and Sanitation, (5) Nutrition, and (6) Health Education.

Tabulation was made in these groups in order to determine the following:

1. Department teaching the course.
2. Year the course was taught.
3. Number of semester hours credit.
4. Required or elective course.
5. Coeducation or separate sex courses.
7. Teaching aids used.

It must be noted here that many of the schools answering did not fill in this page of questionnaire properly, so tabulations were made and results interpreted only on the courses listed.
Community Health

Under the heading of community health, this survey revealed that there were fourteen courses given by these schools listed under eight different titles.

The general content of these courses included the following phases in community health:

1. Fundamental principles of community health problems.
2. Survey of community health problems.
3. Community sanitation.
4. Problems in community health programs.
5. Discussion of community disease controls as it relates to the community.

Personal Health

Personal hygiene should include the topics of mental hygiene, physical activities, meaning of health, professional health service, prevention of disease, sex and reproduction, skin and hair, mouth, eyes, ears, and elimination.  

From this survey it was found that twenty-five courses were offered in these schools under nine different titles.

The general content of the course included these phases of personal health:

1. Mental hygiene.
2. Emotional and physical health.

2. William L. Hughes, Administration of Health and Physical Education in Colleges, p. 126
5. Parenthood.
7. General health knowledge.
10. Personal adjustment.
11. Major personal health problems.
12. Infection and immunity.

**Hygiene and Sanitation**

Sixteen courses listed under the two titles, hygiene and sanitation are offered by these colleges.

General content of the course is as follows:

1. Discussion of anatomy and physiology.
2. Lighting.
3. Immunity.
4. General hygiene of the body.
5. General public health.
6. Community sanitation.

**First Aid and Safety**

Twenty-one courses were offered by these colleges and universities in first aid and safety. Courses were listed under six different titles and included such health phases as:
1. Prevention and care of athletic injuries.
2. First aid methods.
3. Prevention and reduction of accidents.
5. Application of first aid principles.
6. Practice in first aid methods.
7. Curriculum problems in safety education.
8. Red Cross first aid.

**Nutrition**

Nutrition was listed under five different titles and the general content of the course included:

1. Principles of diet.
2. Study of diet for health.
3. Feeding of the family.

**Health Education**

Fifty-four courses in health education were listed by these colleges and universities under twenty-three different titles. Included in this group are those courses that pertain to the methods of teaching health and those of anatomy and physiology.

The contents include:

1. Health methods.
2. Supervising health.
4. Organization and administration.
5. Methods and materials.
6. Practice teaching.
7. Curriculum planning.
8. Course content for grade levels.

**Departments Teaching Health**

It has been found that departments in charge of health programs are generally called "Departments of Physical Education" or "Departments of Health." Great amounts of informational hygiene also may be found in several other departments which deal with health instruction such as bacteriology, biology, physiology, and others.

Health instruction should be given by members of the staff in health and physical education. Such instructors may be physicians, health educators, physical educators, or others.3

The teaching of health should be the responsibility of the department having the personnel who possess the qualifications and leadership necessary in bringing about a coordinated health program.

Since most physical educators have training in health, the department of physical education is usually given the responsibility of administering the school health program.

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3. William L. Hughes, *op. cit.*, p. 120
Table XXII shows the per cent of courses taught in various departments. From this table it may be seen that ten different departments handle health courses and 70.1 per cent of that instruction is given in the physical education department. This table also indicates that the 60 per cent of all the nutrition courses are handled by the home economic department, 25 per cent of the hygiene courses are taught in the biology department, and 14.3 per cent of the community health instruction is done in the department of nursing.

**TABLE XXII**

**PER CENT OF DEPARTMENTS TEACHING**

<table>
<thead>
<tr>
<th>Department</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phy. Ed.</td>
<td>71.5</td>
<td>68.0</td>
<td>50.0</td>
<td>85.6</td>
<td>20.0</td>
<td>79.3</td>
<td>70.1</td>
</tr>
<tr>
<td>Health</td>
<td>00.0</td>
<td>08.0</td>
<td>06.2</td>
<td>04.8</td>
<td>00.0</td>
<td>03.4</td>
<td>04.1</td>
</tr>
<tr>
<td>Nursing</td>
<td>14.3</td>
<td>04.0</td>
<td>00.0</td>
<td>00.0</td>
<td>10.0</td>
<td>00.0</td>
<td>02.8</td>
</tr>
<tr>
<td>Biology</td>
<td>07.1</td>
<td>08.0</td>
<td>25.0</td>
<td>00.0</td>
<td>00.0</td>
<td>00.0</td>
<td>04.9</td>
</tr>
<tr>
<td>Home Ec.</td>
<td>00.0</td>
<td>04.0</td>
<td>06.2</td>
<td>00.0</td>
<td>60.0</td>
<td>00.0</td>
<td>05.5</td>
</tr>
<tr>
<td>Physiology</td>
<td>07.1</td>
<td>00.0</td>
<td>00.0</td>
<td>00.0</td>
<td>00.0</td>
<td>00.0</td>
<td>00.7</td>
</tr>
<tr>
<td>Education</td>
<td>00.0</td>
<td>08.0</td>
<td>00.0</td>
<td>04.8</td>
<td>00.0</td>
<td>07.0</td>
<td>04.9</td>
</tr>
<tr>
<td>Science</td>
<td>00.0</td>
<td>00.0</td>
<td>06.2</td>
<td>04.8</td>
<td>00.0</td>
<td>03.4</td>
<td>03.5</td>
</tr>
<tr>
<td>Medicine</td>
<td>00.0</td>
<td>00.0</td>
<td>06.2</td>
<td>00.0</td>
<td>00.0</td>
<td>05.2</td>
<td>02.8</td>
</tr>
<tr>
<td>Bacteriology</td>
<td>00.0</td>
<td>00.0</td>
<td>00.0</td>
<td>00.0</td>
<td>00.0</td>
<td>01.7</td>
<td>00.7</td>
</tr>
</tbody>
</table>

a. For the convenience of this chapter, the following reference is made: A—Community Health; B—Personal Health; C—Hygiene and Sanitation; D—First Aid and Safety; E—Nutrition; and F—Health Education.
Health Course Credit

Table XXIII shows the range and average number of semester hours of the health courses taught in Mid-western colleges and universities. The range in semester hours of all health material is from $2/3$ to $6$ semester hours with an average of $2.4$. All courses except those in first aid and safety average two or more semester hours.

**TABLE XXIII**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Range</th>
<th>Semester Hours</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Health</td>
<td>1-6</td>
<td></td>
<td>2.6</td>
</tr>
<tr>
<td>Personal Health</td>
<td>1-3</td>
<td></td>
<td>2.1</td>
</tr>
<tr>
<td>Hygiene and Sanitation</td>
<td>1-4</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>First Aid and Safety</td>
<td>2/3-3</td>
<td></td>
<td>1.9</td>
</tr>
<tr>
<td>Nutrition</td>
<td>11/3-3</td>
<td></td>
<td>2.6</td>
</tr>
<tr>
<td>Health Education</td>
<td>1-5</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>2/3-6</td>
<td></td>
<td>2.4</td>
</tr>
</tbody>
</table>

Year Health Courses Are Taught

Table XXIV on page 57 shows that 31.9 per cent of all health courses are taught during the freshman year, 27.7 per cent during the sophomore year, 23.7 during the junior year, and 16.7 per cent in the senior year. Most health education courses are junior and senior year subjects, while 64 per cent of the personal health courses are freshman subjects and 50 per cent of all nutrition courses are offered to the sophomores. Generally, except for the health education
courses, most of these courses are offered to freshman and sophomores.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Freshman</th>
<th>Per Cent</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Health</td>
<td>28.6</td>
<td>35.7</td>
<td>21.4</td>
<td>14.3</td>
<td></td>
</tr>
<tr>
<td>Personal Health</td>
<td>64.0</td>
<td>12.0</td>
<td>16.0</td>
<td>08.0</td>
<td></td>
</tr>
<tr>
<td>Hygiene and Sanitation</td>
<td>37.5</td>
<td>43.8</td>
<td>18.7</td>
<td>00.0</td>
<td></td>
</tr>
<tr>
<td>First Aid and Safety</td>
<td>38.1</td>
<td>38.1</td>
<td>14.3</td>
<td>09.5</td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td>30.0</td>
<td>50.0</td>
<td>10.0</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>Health Education</td>
<td>15.5</td>
<td>20.7</td>
<td>34.5</td>
<td>29.3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>31.9</td>
<td>27.7</td>
<td>23.7</td>
<td>16.7</td>
<td></td>
</tr>
</tbody>
</table>

**Required and Coeducational Health Courses**

Of all the health education courses listed in this survey, only 35.4 per cent are required of teacher trainees. Fifty-six per cent of the personal health courses and 56.3 per cent of all hygiene and sanitation courses are required while only 14 per cent of the community health courses and ten per cent of the nutrition courses are listed as a prospective teacher requirement.
TABLE XXV

REQUIRED AND COEDUCATIONAL HEALTH COURSES

<table>
<thead>
<tr>
<th>Courses</th>
<th>Number of Courses</th>
<th>Number Required</th>
<th>Per Cent</th>
<th>Number Coed</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>14</td>
<td>2</td>
<td>14.4</td>
<td>9</td>
<td>64.3</td>
</tr>
<tr>
<td>B</td>
<td>25</td>
<td>14</td>
<td>56.0</td>
<td>18</td>
<td>72.0</td>
</tr>
<tr>
<td>C</td>
<td>16</td>
<td>9</td>
<td>56.3</td>
<td>13</td>
<td>81.3</td>
</tr>
<tr>
<td>D</td>
<td>21</td>
<td>9</td>
<td>42.8</td>
<td>14</td>
<td>66.6</td>
</tr>
<tr>
<td>E</td>
<td>10</td>
<td>1</td>
<td>10.0</td>
<td>7</td>
<td>70.0</td>
</tr>
<tr>
<td>F</td>
<td>58</td>
<td>16</td>
<td>27.6</td>
<td>40</td>
<td>66.9</td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>51</td>
<td>35.4</td>
<td>101</td>
<td>70.1</td>
</tr>
</tbody>
</table>

Indication is also made on Table XXV that 101 or 70.1 per cent of the 144 courses in health are coeducational. Eighty-one and three tenths per cent of the hygiene and sanitation courses, 72 per cent of the personal hygiene course, and 70 per cent of the nutrition courses were listed as being coeducational.

Methods of Teaching

The lecture-discussion method of teaching should be used extensively, if possible, and should be supplemented by other methods of presentation.

Table XXVI on page 59 indicates the kinds of teaching methods used by colleges and universities in the Mid-west and the per cent each is used in the instruction of health courses.

4. William L. Hughes, op. cit., p. 131-132
### Table XXVI

#### Teaching Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Number of Courses Using the Method</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture-discussion</td>
<td>133</td>
<td>92.3</td>
</tr>
<tr>
<td>Lecture-demonstration</td>
<td>91</td>
<td>63.2</td>
</tr>
<tr>
<td>Question-answer</td>
<td>76</td>
<td>52.8</td>
</tr>
<tr>
<td>Formal Lecture</td>
<td>62</td>
<td>43.0</td>
</tr>
<tr>
<td>Projects</td>
<td>57</td>
<td>39.6</td>
</tr>
<tr>
<td>Term Papers</td>
<td>51</td>
<td>35.4</td>
</tr>
<tr>
<td>Surveys</td>
<td>34</td>
<td>23.6</td>
</tr>
<tr>
<td>Research</td>
<td>31</td>
<td>21.5</td>
</tr>
<tr>
<td>Personal Conference</td>
<td>29</td>
<td>20.1</td>
</tr>
</tbody>
</table>

Table XXVI shows that the most popular method of teaching used is the lecture-discussion which was used in 92.3 per cent of the 144 courses listed. This is followed by the lecture-demonstration and question-answer methods of teaching. Methods used the least in these courses were surveys, research, and personal conferences.

**Teaching Aids**

The Third National Conference on Health in Colleges\(^5\) states that effort should be made to stimulate the production and use of new health films and other visual aids in the field of health.

---

5. Third National Conference on Health in Colleges, op. cit., p. 47.
Even the most experienced instructor needs a variety of materials which properly belong to that wider category of techniques known as teaching aids.

Health instruction should be augmented by special health talks, fireside talks, health films, attractive posters, and free authoritative pamphlets.

**TABLE XXVII
TEACHING AIDS**

<table>
<thead>
<tr>
<th>Kinds of Teaching Aids</th>
<th>Number used in Courses</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Films</td>
<td>116</td>
<td>80.5</td>
</tr>
<tr>
<td>Posters</td>
<td>89</td>
<td>61.1</td>
</tr>
<tr>
<td>Free Authoritative Pamphlets</td>
<td>99</td>
<td>69.5</td>
</tr>
<tr>
<td>Material from Voluntary Health Agencies</td>
<td>88</td>
<td>61.1</td>
</tr>
<tr>
<td>Film-strips</td>
<td>72</td>
<td>50.0</td>
</tr>
<tr>
<td>Talks by Health Specialists</td>
<td>80</td>
<td>55.5</td>
</tr>
</tbody>
</table>

Table XXVII indicates that films are most widely used by Mid-western colleges and universities as an aid to the regular course method. This survey indicates that films were used in 116 or 80.5 per cent of the 1,444 courses listed by these colleges and universities. Free authoritative pamphlets were used in 69.5 per cent of the courses while posters and material from voluntary health agencies supplemented 61.1 per cent of the instruction. Used the least as an aid to course teaching were film-strips and Health specialist talks.
Summary

1. A total of 144 health courses were listed by the colleges and universities surveyed. Fourteen of these were community health, twenty-five personal health, sixteen hygiene and sanitation, twenty-one first aid and safety, ten nutrition, and fifty-four health education.

2. Ten departments were reported teaching health courses and 70.1 per cent of these were taught in the department of physical education. Fifty per cent of the nutrition courses are taught in the home economic department, and 25 per cent of all hygiene and sanitation courses are given in the biology department. Only 4.1 per cent of the courses were taught in health departments which may indicate that few schools have a separate department for health.

3. The average amount of credit for health courses is 2.4 semester hours.

4. Thirty-one and nine tenths per cent of all health courses are taught during the freshman year, 27.7 per cent during the sophomore year, 23.7 as junior subjects, and 16.7 per cent during the senior year.

5. Of the 144 courses listed, 35.4 per cent were required of teacher trainees.

6. Seventy and one tenth per cent of all the health courses are co-educational.
7. The most widely used method of teaching was the lecture-discussion method which was used in 92.3 per cent of the courses. This was followed by the lecture-demonstration method which was used in 63.2 per cent of the courses, and the question-answer method. Used the least in teaching course material were surveys, research, and personal conferences.

8. Films were the most popular teaching aids, being used in 80.5 per cent of the courses given by these colleges and universities. Other aids used extensively were free authoritative pamphlets, posters, and material from voluntary health agencies. The least used were filmstrips being used in 50 per cent of the 144 courses listed.
CHAPTER V
SUMMARIES AND CONCLUSIONS

The study revealed some very interesting and significant facts.

1. The average number of semester hours of health required of all teacher trainees for the four year degree averaged below the three to four hours recommended by the Third National Conference on Health in Colleges.

   It is encouraging to note that physical education majors average more than five hours of health and that health education minors averaged over thirteen hours.

2. Almost forty-five per cent of all the schools do not make use of surveys and visits to local environmental conditions as part of the health course. Over forty per cent of these colleges and universities do not use health examinations, follow-up conferences, athletic training or physical education activities as a supplemental training device for health students.

3. Sixty-eight per cent of all the instructors teaching health in these schools have majors in physical education and over eighty-five per cent have had training in health education methods.

4. Two-thirds of the schools surveyed do not have a health council.

   In order to establish good leadership and formulate
sound health policies within the school it is necessary to organize a health council. This survey revealed that a majority of the schools do not have either a director or a council.

5. Thirty-five per cent of all the schools surveyed do not have an infirmary for student care.

It is a direct obligation of the school to provide infirmary care for the students and also provide a full-time physician and an adequate staff of nurses. This survey reveals that all of the schools having an enrollment under one thousand do not have a full-time physician on the campus and that schools under five hundred do not average one full-time nurse per school. Only in schools over two thousand are there full-time doctors on duty at least eight hours a day, six days a week.

6. Over 20 per cent of those colleges and universities do not require an entrance examination of students and only forty per cent require periodic health examinations. The senior examination is required in 37.7 per cent of the schools.

7. It has been recommended that the faculty be required to take physical examinations, preferably annually. This report shows that only 16.9 per cent of all the colleges and universities reporting require the staff to take a physical examination.
8. Special examinations are required by over 70 per cent of the schools for football, basketball and track. Twenty-three and eight tenths per cent of all the schools do not require any special examinations for competition in interscholastic sports.

9. Student health records are kept in 91.5 per cent of the schools, however, only 71.2 per cent of the schools make these records available to the counselor.

In order to have a good follow-up program it is necessary that the records of each student are placed in the hands of the person performing the follow-up work. In nearly half of the schools the nurse was put in charge of this work.

Sixty-four and four tenths per cent of the schools followed through each case until complete disposition was made.

10. Seventy per cent of all the course material in health given by these colleges was taught in the Department of Physical Education. The average number of hours of each course was 2.4 semester hours, and of all the health courses, 31.9 per cent were taught in the freshman year, 27.7 per cent in the sophomore year, 23.7 per cent during the junior year, and 16.7 per cent during the senior year. Thirty-five and four tenths per cent of all courses were required and 70.1 per cent were co-educational.
XI. The lecture-discussion was the most used teaching method in presenting course material, being used in 92.3 per cent of the courses. Other methods used quite commonly were the lecture-demonstration, question-answer, and the formal lecture.

12. The most widely used training aid by these Midwestern colleges and universities were films. Over eighty per cent of all the courses were supplemented by the use of films. Other popular aids used were free authoritative pamphlets in 69.5 per cent of the courses and posters, and material from voluntary health agencies in 61.1 per cent of the courses.

13. The survey shows a general lack of health training for prospective teachers. Since health is one of the major objectives of education it is recommended that more attention be given to this phase of education in order to develop individual attitudes, techniques, and leadership that are necessary in the development of a coordinated school health program.
BIBLIOGRAPHY

Books


Periodicals


Unpublished Materials

APPENDIX
Dear Sir:

I am doing a survey for the University of North Dakota under the direction of Mr. L. R. Marti of the Physical Education Department to find the amount of health training given teacher trainees in colleges and universities in the Mid-west.

I would appreciate your answering this questionnaire and returning it to me.

All information received will be kept in strict confidence by the person working on this survey.

You may be unable to answer some of these questions but please complete what you can. Further comments on any part of this questionnaire will be greatly appreciated.

Yours very truly,

Homer M. Engelhorn
APPENDIX B

HEALTH TRAINING GIVEN PROSPECTIVE TEACHERS
IN COLLEGES OF THE CENTRAL DISTRICT

1. What is your total school enrollment? What is the total number taking teacher training?

2. List the number of semester or quarter hours of specific health courses required of the following for 1, 2, 3, and 4 year degrees.

<table>
<thead>
<tr>
<th>Course</th>
<th>1 yr.</th>
<th>2 yrs.</th>
<th>3 yrs.</th>
<th>4 yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Education Majors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Education Minors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Education Majors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Education Minors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Economic Majors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Science Majors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(List other majors requiring specific health courses)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. What surveys or visits of environmental conditions within the school or community are made by students as part of their health courses? (Check each one used.)

- Housing Conditions.
- Sewage disposal plants.
- Garbage disposal plants.
- Water purification plants.
- Milk production.
- Eating places.
- Food Handling.
- Public Health Departments.
- Communicable Disease Control.
4. Do you feel that your college seeks to develop within the individual an appreciation of the health needs of his own community?

Considerable ______ Slight ______ None ______

5. Do you supplement group instruction by giving the students practical individual practice with? (Check)

a. Health Examinations.
   Considerable ______ Slight ______ None ______

b. Follow-up Conferences.
   Considerable ______ Slight ______ None ______

c. Athletic Training.
   Considerable ______ Slight ______ None ______

   Considerable ______ Slight ______ None ______

e. Student Health Record.
   Considerable ______ Slight ______ None ______

6. How many instructors handle health courses in your school? __________

How many have:

a. Majors in Physical Education. __________________________

b. Minors in Physical Education. __________________________

c. Majors in Health Education. __________________________

d. Minors in Health Education. __________________________

e. Others. (List their majors). __________________________

7. How many instructors have training in health education teaching methods? __________

HEALTH SERVICES:

1. Does your institution have a director of health education? Yes ______ No ______

2. Does your institution have an advisory committee or council on health? Yes ______ No ______ If yes, list the personnel represented on the council by position.

   Personnel Number
   1. (Example) School Nurse 1
   2. ____________________________
   3. ____________________________
   4. ____________________________
   5. ____________________________
   6. ____________________________
3. Do you have an infirmary for hospitalizing students?  
   Yes____No____. How many beds?________________________

4. How many doctors are on duty on the campus?  
   Full-time_____ Part-time_____  No. hours per day______
   _____  No. days per week______

5. How many nurses are on duty in the health service?  
   Full-time_____ Part-time_____  No. hours per day______
   _____  No. days per week______

6. How much is your student health fee per semester?____
   Quarter______ ?

7. Are pre-entrance examinations required of all students?  
   Yes____No______

8. Are periodical examinations given to students?  Yes____
   No_____. How often are they given?  Soph. yr.________.
   Jr. yr.________. Senior yr.________.

9. Is a senior examination required of the students before graduation?  Yes____No______.

10. Are members of the staff required to take physical examinations?  Yes____No_____. How often are they required?________________________ Are they given in the student health service?______ By
    private physician_________. Are they paid for by the staff?______ By the school______.

11. For which interscholastic athletics do you require a special examination before participation in the sport.  
    (check)  
    a. Football_________  f. Wrestling_________  
    b. Basketball_________ g. Track_________  
    c. Swimming_________ h. Golf_________  
    d. Baseball_________ i. Tennis_________  
    e. Boxing_________  j. Tumbling_________  
    k. Others (list.)_________.

12. Are the physical examinations used as a training device for students taking health?  Yes____No______.
    What part of the examination does the student do:  
    (check)  
    a. Eye_________.  
    b. Ear_________.  
    c. Posture_________.  
    d. Heart rate_________.  
    e. Collection of urine specimens_________.  
    f. Feet_________.  
    g. Weight_________.
h. Height
i. Measurements
j. History
k. Others (list)

13. Are permanent health records kept of all students? Yes __ No ___.

14. Are these records available to the counselor? Yes __ No ___.

15. Who is in charge of the follow-up program? ____________
Is each case followed through until it is disposed? Yes __ No ___.

16. Who performs the follow-up work? School doctor? ____________
Family doctor? ____________ Others? ____________
<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Dept.</th>
<th># taught</th>
<th>Semester hrs.</th>
<th>Required</th>
<th>Quarter hrs.</th>
<th>Good.</th>
<th>Method of Teaching.*</th>
<th>Teaching Aids Used**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hygiene (Example)</td>
<td>Phy, Ed, Fr</td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>a,c,d, &amp; g</td>
<td></td>
<td></td>
<td>1, 3, &amp; 4</td>
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<td>2.</td>
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</tr>
</tbody>
</table>

* Place the letter in the space for each method used.
  
a. Lecture-discussion.
b. Lecture-demonstration.
c. Formal lecture.
d. Question-answer.
e. Research.
f. Term papers.
g. Free authoritative pamphlets.
h. Projects.

** Place the number in the space for each special aid used.

1. Films.
2. Posters.
3. Free authoritative pamphlets.
4. Material from voluntary health agencies.