

A SURVEY OF TESTING AND COUNSELING PROGRAMS
AVAILABLE TO PRE-NURSING STUDENTS IN
SELECTED MONTANA HIGH SCHOOLS

by

Gayle J. Holland

A PAPER

Submitted to the Faculty of the School of Nursing

in

partial fulfillment of the requirements

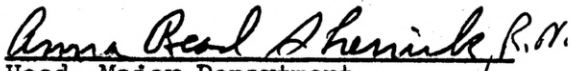
for the degree of

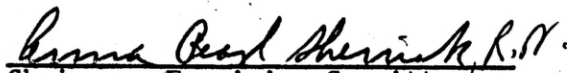
Master of Nursing

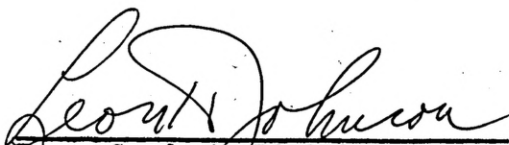
at

Montana State College

Approved:


Head, Major Department


Chairman, Examining Committee


Dean, Graduate Division

Bozeman, Montana
August, 1960

ACKNOWLEDGEMENTS

The author wishes to express sincere gratitude to the following for their time, guidance and assistance in preparing this paper.

Dr. Anna Pearl Sherrick, Director, School of Nursing,
Montana State College

Mr. Maurice Brookhart, Head, Testing and Counseling
Service, Montana State College

Dr. Melvin Monson, Professor of Education, Montana
State College

Mrs. Jeanne R. Claus, Assistant Professor of Nursing,
Montana State College

Dr. Harlan C. Riese, Assistant Professor Psychology,
Montana State College

Mrs. Eleanore Mode, Assistant Professor of Nursing,
Montana State College

The author expresses particular gratitude to her husband and parents for their patience, assistance and encouragement.

TABLE OF CONTENTS

Chapter	Page
I. THE PROBLEM SITUATION	1
Review of Literature	4
Statement of the Problem	7
Purpose of the Study	7
Hypothesis	8
Definition of Terms	8
Overview of Remainder of the Study	9
II. DESIGN OF THE STUDY	11
III. DESCRIPTION OF PERTINENT TEST AREAS AND MONTANA STATE COLLEGE NURSING PROGRAMS	14
Nursing Aptitude Test	14
Interpretation of the Montana State College Nursing Aptitude Test Battery	17
Aptitude for College Level Training Programs	17
Mathematic Test Results	17
The Kuder Preference Record	17
Nursing Programs	21
Test Areas	24
Interest Tests	24
Ability Tests	25
Aptitude Tests	27
IV. ANALYSIS AND INTERPRETATION OF QUESTIONNAIRE	28
Data Regarding Nursing Aptitude Tests	29
Data Regarding the Montana State College School of Nursing	31

Chapter	Page
Data Regarding the Testing Areas	34
Supporting Data	39
V. SUMMARY, CONCLUSIONS AND SUGGESTIONS FOR FURTHER STUDY	44
Summary	44
Conclusions	45
Recommendations for Further Study	46
BIBLIOGRAPHY	48
APPENDIX	51
Letter to Guidance Director	52
Questionnaire	53

LIST OF TABLES

Table	Page
I. The Number of High School Students Taking the Nursing Aptitude Test and the Number of High Schools in Which the Tests Were Administered by Montana State College Testing and Counseling Department, 1955-1959	20
II. Nature of Counseling that Occurs With Prospective Pre-Nursing Student Termed "Not Suitable" for Professional Nursing as Evidenced by Nursing Aptitude Test	30
III. Tests Administered to Students in the Areas of Interest, Ability and Aptitude as Identified by Guidance Directors in Various Montana High Schools	36
IV. Montana State Department of Public Instruction Recommended Minimum Test Program in Montana, Grades 7-12	37
V. Use of Test Results as Identified by Guidance Directors in Various Montana High Schools in Counseling Students	39

LIST OF FIGURES

Figure		Page
1.	Nursing Aptitude Test Results Autumn, 1958	18

ABSTRACT

This study was concerned with the nature of testing and counseling that exists between the high school guidance director and the prospective nursing student, which occurs in twenty selected Montana high schools.

A survey was made by sending a questionnaire to the guidance directors employed in twenty selected high schools, in an attempt to gain knowledge regarding the nature and extent of the testing program in effect at that time.

The results of the survey indicated that a testing and counseling program of varying degree was in effect in 19 of the 20 high schools and that various types of tests and methods of guidance were employed by each of the responding guidance directors.

A SURVEY OF TESTING AND COUNSELING PROGRAMS
AVAILABLE TO PRE-NURSING STUDENTS IN
SELECTED MONTANA HIGH SCHOOLS

CHAPTER I

THE PROBLEM SITUATION

In this day of advancing research and progress, it is doubtful that individuals have fewer problems to solve simply because of streamlined mechanisms which aid the individual in his work. However, it is still likely that an individual is confronted with problems before obtaining status in the so-called adult world.

One of the problems which may seriously confront a young high school student is the choice regarding his or her future profession, vocation or occupation. This perhaps is a greater problem today than ever before due to the increasing demand for qualified individuals in various professions and technical occupations. Naturally, a student may wish to pursue one of these areas, which will offer a more adequate salary, personal satisfaction and status.

It is obvious, however, that not just any individual may enter a technical profession due to the many demands that this profession will place upon the individual. Rather, in the eyes of the investigator, the individual must possess the ability, interest and aptitude for his given profession, or it is doubtful that optimum performance or satisfaction will be gained by the eventual employer or employee.

Recognition of an individual's ability, interest and aptitude should be dealt with at an appropriate time in the growth and development

cycle of each individual. Consideration should be given to this early in the individual's school attendance. Certainly, particular attention should be placed in this area when the individual reaches high school since it is primarily at this time that attention is given to one's future goals. It is therefore imperative that individuals have someone to whom they may turn for guidance in solving educational-vocational problems.

It is the investigator's opinion that an organized testing and counseling program should exist in all high schools and that the services of a qualified guidance director should be employed to assist all individuals with their various problems. Each student is entitled to individual attention in planning future goals, and each student has the right to the use and knowledge of accurate information about himself and his environment.

It must be recognized that when all teachers of a given high school faculty participate in guidance or are responsible for such, the effectiveness of the guidance program is diminished. It is obvious that not all teachers have the interest, preparation or competence to perform guidance duties. Therefore, the most effective testing and counseling program is dependent upon a trained guidance director.

It is also recognized by the investigator, that in many instances a full time guidance director is employed in a high school, but he is responsible for assuming educational or administrative duties in addition to the prescribed testing and guidance duties. Needless to say, this in itself limits the effectiveness of the program, due to many other responsibilities placed upon the individual which deprives him of giving the necessary time to pupils desiring his guidance.

According to the Montana State Department of Public Instruction, it is recommended that, "A minimum equivalence of one full time person for each 400 students enrolled,"¹ be available for the purpose of administering testing and guidance services in the high school. This time is determined on the basis of periods assigned to guidance and counseling. Therefore, approximately 6 hours per day is necessary to provide adequate guidance for 400 students enrolled, thus allowing one hour for every 67 students.

It would seem to the investigator that these ideal conditions do not prevail throughout all high schools as evidenced through data obtained in the survey of the 20 selected Montana high schools. The time element is a definite factor in the effectiveness of a guidance program.

The investigator became interested in this study while performing duties as an instructor and counselor of freshman nursing students for the Montana State College School of Nursing.

During this time, it came to the investigator's attention that approximately one-third of each freshman class that entered the degree or diploma program, did not possess either the desired interest or ability necessary in this profession. This lack of interest or ability was exhibited either by withdrawing from the nursing curriculum at the end of one or two quarters of college preparation, or repeated failures in courses required as evidenced by quarterly grades. It would seem that, if more effective testing and counseling occurred with the student

¹Montana State Department of Public Instruction, "Computation of Counselor Time". May 26, 1960. Unpublished paper.

while still in the high school situation, the traumatic experience of failure in addition to the seeming loss of time and money in achieving one's goals could be avoided. This would enable the student to plan according to actual interests and abilities, thus avoiding a period of frustration due to indecision or failure.

The primary objective of this study was to determine whether the testing and counseling received by prospective pre-nursing students in high school assists the individual in choosing the nursing profession through knowledge of one's own interests and abilities, as gained through guidance.

Limitations to this study must be noted. Since questionnaires were used to obtain this information from the high school guidance directors involved in their own testing and counseling program, their responses may be either more favorable or more critical than a research observer's might be. The questions were so worded to illicit some factual data and thus lessen this limitation.

It must also be noted that the method of obtaining the data, through the questionnaire, may limit the number of responses received. However personal interviews to each guidance director was deemed infeasible due to the distance and time elements involved in securing the data.

The problem may also be limited by the small number (twenty) of high schools included in the study.

REVIEW OF LITERATURE

The scope of the present day nursing profession far exceeds that of the same profession 20 years earlier, with respect to the professional

demands that are being placed upon the member of this professional body.

The modern nurse in caring for patients may no longer be concerned only with the infected foot or gallbladder. Rather, she must concern herself with the patient as a whole person, as he is, was and will be, physically, emotionally and socially.

Cowan stated that nurses have a greater opportunity for influencing the lives and feelings of others. They are in a strategic position to assist in the development of mature individuals, and therefore, to promote mental health and ultimately, to improve interpersonal relations. Yet, this can be done without extra physical effort or added hours. It does require insight into patient needs and the ability to give of oneself on a person to person basis. But, to do this, the nurse must possess the essential qualities and nursing schools must assume responsibility for developing and fostering such attributes. Traditional courses and traditional methods of teaching will not achieve this goal. Students must be as proficient in interpersonal relations, as they are in nursing physical ills.²

Advances have been made toward improving basic professional nursing educational programs in colleges which have resulted in developing high standards of education. Graduates of such programs should be able to meet the nursing needs of patients and families.

Due to the ever increasing scope of advancement in the nursing profession, the investigator felt that interested individuals planning to enter this professional group must be equipped with certain abilities and interests which will enable the individual to meet and effectively deal with the responsibilities with which he will be confronted.

One important factor may well be the nature of the extensive promotional campaigns for recruitment of nursing students. Emphasis is centered so largely in these campaigns on quantity of

²M. Cordelia Cowan, (Editor). The Yearbook of Modern Nursing. 1957-1958. (New York: G. P. Putnam's Sons, 1958) p. 240.

'student nurses' and so little upon qualitative selection, which is the goal of higher education, that it is little wonder the public is still insufficiently aware of the distinctive purpose and advantages of collegiate nursing.³

The place for pre-college counseling is in the high school with colleges and professional schools providing the high school counselors with essential facts regarding their educational programs.

Bixler adds that with improvement in the understanding of nursing on the part of the parents of high school students and their counselors, there should be increasing numbers of young people presenting themselves for admission to nursing education programs.

The schools will need to plan their aims more carefully and define them more sharply, and will need to construct their policies accordingly, to enable their admission officers to select students with well adopted qualifications. Research in nursing education will need to develop better methods of selecting students for nursing who have the qualifications for becoming good nurses.⁴

The admissions officers should be reasonably certain that students who are admitted have the qualifications to succeed and that the school's program is adaptable to any special personnel handling that may be necessary to create the proper conditions for success. Many young people cannot survive failure without serious damage to self-confidence. Too many schools, because of the difficulty of pre-admission screening, accept students of very doubtful promise of success and screen them afterward. Such policy is not in the interest of the student and is wasteful and inefficient for the institution and antagonistic to the interests of nursing. A student centered program of admissions is best for the school and for the society in the long run.⁵

In view of the aforesaid, it would seem that adequate testing and counseling of the pre-nursing student by the high school guidance

³Ibid., p. 57.

⁴Roy Bixler and Genevive Bixler. Administration for Nursing Education. (New York, G. P. Putnam's Sons, 1954) p. 197.

⁵Ibid., p. 206-207.

director is not only desirable, but necessary, in an attempt to identify the individual's true interest and ability.

Further review of literature did not reveal studies of other guidance programs dealing with a problem of this nature.

STATEMENT OF THE PROBLEM

In doing this study, an attempt was made to survey the testing and counseling program in effect in twenty selected Montana high schools, that provide guidance to the pre-nursing student.

Particular consideration was given to pertinent information regarding the following:

1. The content of areas covered in the testing program as related to nursing.
 - A. Interest
 - B. Ability
 - C. Aptitude
2. The way in which nursing aptitude tests are used.
3. Literature regarding the Montana State College School of Nursing.
 - A. Knowledge of the programs
 - B. Use of the literature (if or how)

STATEMENT OF PURPOSE

The purposes of this study were:

1. To obtain from high school guidance directors information regarding the testing and counseling services provided within the school.

2. To obtain information regarding the types of interest and ability tests which are administered to students.
3. To obtain information regarding the use and value of the pre-nursing examination, as incorporated with the overall testing and counseling received by the student.
4. To obtain information from the guidance director regarding his understanding of the requirements of both the degree and diploma nursing programs as outlined by Montana State College.
5. To obtain information in the form of supporting data, as related to each individual guidance director, which might help in determining how the testing and counseling services assist the prospective pre-nursing student.
6. To draw conclusions from an analysis of the compiled data which might assist in further evaluation of the high school testing and counseling program in Montana high schools.

HYPOTHESIS

The testing and counseling services received by prospective nursing students in various Montana high schools does not provide sufficient guidance for choosing the nursing profession in which to pursue further study.

DEFINITION OF TERMS

Guidance: That assistance given any individual to help him discover and use his natural endowance, in addition to any special training from any source, which enables him to live and make a living to the best of his advantage and society.

Guidance Director: That individual in each high school who is responsible for executing testing and counseling services to students. He may or may not assume other duties, but his primary responsibility is in the field of guidance.

Prospective Pre-Nursing Student: A student who is seriously planning to enter the nursing profession, but as yet has not enrolled in any prescribed course of study required for this profession.

Basic Degree Program: A 4-year course of study, in which 195 credits are necessary for the individual to be eligible to receive a Bachelor of Science degree in nursing at Montana State College.

Diploma Nursing Program: A 2-year course of study, in which 106 college credits are necessary for the individual to receive the current Associate in Nursing Degree at Montana State College.

At the time of the survey, the 2-year collegiate nursing program was termed diploma program. It is now termed the Associate Degree program. It will be referred to as the diploma program throughout this study.

OVERVIEW OF REMAINDER OF THE STUDY

The remainder of this study is presented in the succeeding four chapters. Chapter II presents a detailed methodology. Chapter III presents a detailed description of the nursing aptitude test and descriptions of the two nursing programs presently in effect at Montana State College. A less detailed description of the three major test areas, (Interest, Ability and Aptitude), in addition to a listing of the tests currently being administered by the respondents will also appear in

Chapter III. Chapter IV presents an analysis and interpretation of the questionnaire. Chapter V presents the summary, conclusions and recommendations.

CHAPTER II

DESIGN OF THE STUDY

The scope of this study was limited to the testing and counseling programs presently in effect in twenty Montana high schools, which specifically provide guidance to pre-nursing students.

After determining the feasibility of such a study as this with subject matter specialists,¹ the selected problem was clearly defined, so that it was one with which the investigator could successfully deal.

The investigator determined the method in which to gather the desired data for the proposed study. The survey method, employing the questionnaire as a tool, was selected as the most appropriate means of obtaining the desired information. In any questionnaire, there are possibilities for misunderstandings due to lack of clarity or ambiguities. However, due to the prevailing time element and distance involved, it was deemed impossible to make personal interviews to each guidance director.

In formulating the questionnaire, questions were included which not only would give a fairly clear picture of the guidance program in effect, but also would provide information regarding the three major areas of concern to the investigator as outlined in Chapter I. In addition, questions to be used as supporting data were included, which it was felt would give strength to the study. Suggestions for the

¹Maurice Brookhart, Head, Testing and Counseling Service, Montana State College and Melvin Monson, Professor, Department of Education, Montana State College.

types of questions to be included primarily originated through a course of study in Vocational and Educational Guidance. In addition, subject specialists were again consulted.

In an attempt to eliminate many misunderstandings that frequently occur with the use of the questionnaire, the questionnaire was submitted to four various subject specialists for review. This resulted in some revision of a few items prior to distribution. A copy of the questionnaire appears in the Appendix, page

The next step was to select the desired sample. The investigator received the able assistance of Dr. Melvin Monson, Professor, Montana State College, in selection of the sample. Dr. Monson is very familiar with guidance programs in the State of Montana, and teaches Vocational and Educational Guidance and Counseling.

The total universe included all high schools in the State of Montana. The investigator felt that 20 high schools was a workable sample; the final sample was a select one according to the following criteria:

1. Knowledge of some type of guidance program already in effect in the high school. Magnitude of the program was not taken into consideration.
2. Various size schools were to be included, i.e. schools with an enrollment of 100 students as well as schools with an enrollment of 500 students or more.
3. Schools from various regions in the State of Montana.

Thus, the investigator felt a general overall picture of the guidance program would be gained, even though the sampling was relatively small. No mention is made in the study as to the identity or differentiation of the schools included in the sample.

To enable the guidance director to more fully understand the purpose of the study, a letter accompanied the questionnaire. The cover letter was co-signed by Dr. Anna Pearl Sherrick and Mr. Maurice Brookhart. A copy of the cover letter appears in the Appendix, page 51.

The letter and questionnaire were distributed through the mail accompanied with a self-addressed, stamped envelope.

Upon return of the questionnaires, of which 95% or 19 questionnaires were received, the data was tabulated. The method of tabulation was on the raw score, percentage basis. The interpretation of the data is based on documentation and the investigator's opinion, which is, in part, based upon course material completed in graduate school.

CHAPTER III

DESCRIPTION OF PERTINENT TEST AREAS

AND

MONTANA STATE COLLEGE NURSING PROGRAMS

A description of the major areas, Nursing Aptitude Test, the guidance director's knowledge of the requirements of the two nursing programs offered at Montana State College, and the use of literature pertaining thereto and the content areas covered in the testing program will follow. It is hoped that through this the reader will realize the investigator's purpose in stressing these three areas.

NURSING APTITUDE TEST

One known method of securing information needed to understand a person in relation to his educational-vocational objectives is through the use of psychological testing. It must be emphasized, however, that the use of psychological tests in educational-vocational guidance is but one technique employed in the guidance process. Super states that psychological tests information concerning the general intelligence of an individual, his interests and his abilities must be known before proper educational-vocational guidance may occur.¹

Super cautions, however, that users of tests in educational-

¹Donald E. Super, Appraising Vocational Fitness. (New York: Harper & Bros., 1949) p. 1.

vocational guidance frequently fail to take into account the specific validity of the tests used.²

In recognition of the fact that many Montana high schools lacked qualified guidance personnel³ and the desire to secure students who have the ability and interest necessary to enter and complete the collegiate nursing program, the School of Nursing at Montana State College, through the Testing and Counseling Service, developed the Nursing Aptitude Tests which are designed to:

1. Assist high school students, especially girls, in an evaluation of their aptitudes for the professional career of nursing; and,
2. Encourage those who apparently have the aptitudes, interests and abilities to enter the collegiate nursing program.⁴

The Nursing Aptitude Testing program in effect at Montana State College places emphasis upon the guidance of prospective pre-nursing students rather than upon selection of them.

Schools of nursing must be aware of the fact that when a student fails either during a course of study or on State Board Licensure Examinations everyone suffers--the student, school of nursing and the community. In many instances the student is forced to return to the community that sent the student away to become a nurse. Frequently the student does not admit personal failure, but rather, places the

²Ibid., pp. 6-7.

³Statement by Dolf Jennings, State Supervisor of Occupational Information and Guidance Services, to Occupational Information Class at Montana State College.

⁴Harlan C. Riese, Social Science Methods, A Proposal. (Unpublished research).

blame on the school, profession, the family, or high school instructors. The school of nursing suffers a financial loss as well as a human loss and since the majority of withdrawals occur during the first year when the class work is heavy,⁵ it can be concluded that a more intense program of educational-vocational guidance prior to the student's definite commitment to a specific vocation would greatly benefit both the student and professional school.

If, then it is possible to estimate the potentialities of individuals through the use of psychological tests, efforts should be made to employ such tests, whenever it is possible, in light of their predictive ability.

The variables taken into consideration by the Testing and Counseling Service in evaluating a high school student's aptitude for nursing are:

1. The student's high school scholastic standing.
2. The Nursing Aptitude Test which is composed of:
 - a. A scholastic aptitude test: This test consists of the Linguistic (L) part of the 1947 American Council of Education Psychological Examination. The sub-tests of the (L) section are: Same-opposites, completion, (verbal) and verbal analogies.
 - b. A mathematics test: This test consists of two sections. Section one is comprised of the Arithmetic Reasoning section of the 1947 American Council of Education Psychological Examination. Section two, designated as Arithmetic Fundamental, is a test constructed by the Montana State College Mathematics Department.

⁵Ella A. Taylor, "Graduation and Withdrawals". The American Journal of Nursing. Vol. 51, March, 1951, p. 201.

- c. The Kuder Preference Record: This is an interest preference instrument, and the Vocational Form C is a part of the Nursing Aptitude Test battery. Ten broad areas of preference for activities are measured by this inventory: Outdoor, Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Social Service and Clerical. One additional scale, the verification or V scale is included. This scale is not a measure of vocational preference, but is a validity measure, intended to identify persons who have responded carelessly or insincerely.⁶

To enable the reader to understand the method in which the Nursing Aptitude Test Results are interpreted, a copy of the same appears on Page 18.

INTERPRETATION OF THE

MONTANA STATE COLLEGE NURSING APTITUDE TEST BATTERY

Aptitude for College Level Training Programs

The best single factor for predicting scholastic success in college is the student's high school grade point average. The next best predictive factor are scores attained on scholastic aptitude and achievement tests. Probable college freshman achievement in the Montana State College School of Nursing is evaluated on the basis of these factors. Many students whose scores are low in the junior year, with diligent study, improve their standards markedly by the following year.

Mathematic Test Results

Freshman students scoring "5" (see Page 18) or above on the mathematics tests usually can achieve C's, B's or A's in their first quarter of college chemistry. Students scoring "4" (see Page 18) or less may be required to take additional mathematics prior to taking chemistry. Additional time on campus may be the result, with entrance into the hospital for clinical experience thereby delayed.

The Kuder Preference Record

1. The results of the Kuder Preference Record for each student have been plotted on a profile sheet which compares the student's interest pattern

⁶Riese, op. cit., pp. 7-8.

Name _____

High School _____

Mailing Address _____

This student stated her occupational choices as:

1. _____

2. _____

3. _____

Mathematics

Quantitative Reasoning _____

Arithmetic Fundamentals _____

Scholastic Aptitude - Verbal

Probable College Freshman Achievement - MSC School of Nursing

High School Standing reported by

☐ Advisor

☐ Student

Lower 1/3

Middle 1/3

Upper 1/3

Measures Interest Pattern

appears to be:

Very suitable for nursing

Suitable for nursing

Probably suitable for nursing

Such that suitability for nursing is questionable. Student should be encouraged to explore,

with her advisor, other possible objectives.

Figure 1.
Nursing Aptitude Test
Results Autumn, 1958

with that of a group of student nurses in Montana and a group of student nurses and Registered Nurses in Texas. Research indicates that these groups are very similar with respect to mean scores and standard deviation.

2. The higher Outdoor preference of student nurses is not only a part of Montana culture but also a preference for activity which is found among nearly all nurses. Some natural science interest is often indicated by an above average score in the Outdoor area.
3. Among 83 student nurses tested in Montana, in 1956, only one had a high score pattern (above Kuder's 75 percentile line) in Art, Music, and Literary; only one in Art and Literary; two in Literary and Music; three in Music and Art; and only one had high scores in Clerical and Computational.
4. Only four of the 83 student nurses had a Social Service score below Kuder's 50 percentile.
5. A high Science preference is indicated among a majority of student nurses and Registered Nurses.
6. A majority of the student nurses and Registered Nurses disliked Clerical.⁷

Due to the fact that Montana State College is a tax supported public institution, it maintains the policy that all students making application must be accepted, if they are graduates of an accredited Montana high school. In view of this policy, the School of Nursing cannot eliminate prospective applicants on the basis of a battery of tests, but it may use the tests as a means of self-evaluation by individuals considering nursing as a profession.

Table I indicates the number of students receiving the Nursing Aptitude Test as compared with the total number of schools participating over a five-year period from 1955 to 1959. In 1955, 476 students received the exam and a total of 68 schools participated. In 1956, 509

⁷Duplicated from Nursing Aptitude Test Results as outlined by Testing and Counseling Service, Montana State College. Unpublished paper.

TABLE I

THE NUMBER OF HIGH SCHOOL STUDENTS TAKING THE NURSING APTITUDE TEST
AND THE NUMBER OF HIGH SCHOOLS IN WHICH THE TESTS WERE
ADMINISTERED BY MONTANA STATE COLLEGE TESTING AND
COUNSELING DEPARTMENT, 1955 - 1959.

Year	Students	Schools
1955	476	68
1956	509	69
1957	506	71
1958	641	73
1959	594	67

students received the exam and a total of 69 schools participated. In 1957, 506 students received the exam and a total of 71 schools participated. In 1958, 641 students received the exam and 73 schools participated. In 1959, 594 students received the exam and a total of 67 schools participated.

The decline in the number of students receiving the test in 1957 from 1956 might possibly have been due to the Asiatic Flu epidemic in effect at that time.

The decline of the number of schools participating in this particular testing program in 1959 might have been due to the fact that many schools had previously participated in a state-wide testing program.⁸

It must be noted that these explanations are assumptions and not proven facts. However, no other attempt has been made to explain the declines to the investigator's knowledge.

⁸Stated by Mrs. Helen Dean, Supervisor, Testing and Counseling Service, Montana State College, to the investigator.

NURSING PROGRAMS

The philosophy of the Montana State College School of Nursing states that nursing is a rising order of knowledge, intellectual skills and abilities. The professional nurse must be able to use her knowledge, skills and abilities in giving nursing care, in participation as a member of the health team, and in improving the quality of health practices and services for herself, family and community.

Therefore, the curriculum is designed as a continuum of professional education. The diploma (Associate Degree) graduate is prepared for beginning positions such as hospital staff nurse, nursing team leader,⁹ a nurse in the doctor's office or a private duty nurse. The basic degree graduate is prepared to give nursing care in all clinical situations including public health and can readily assume positions such as assistant head nurse or head nurse without further education; she has sufficient preparation in teaching to assume her role as a professional person with her patients, their families, other nursing personnel and other members of the health team. "The Registered Nurse Graduate of the baccalaureate program has preparation equivalent to that of other graduates in the baccalaureate program with the exception of public health nursing (there are not at the time of this study sufficient facilities to extend to this group of students although supplementary programs are in the planning)."¹⁰

⁹An individual who is responsible for the care of a designated number of patients as well as for the immediate personnel caring for these patients.

¹⁰Montana State College School of Nursing Philosophy. Prepared for the State Board of Education. Unpublished paper.

The field of nursing has a need for large numbers of personnel with varying amounts and kinds of educational preparation to fulfill all its functions in its service to society. College and university programs in nursing leading to a baccalaureate degree are designed to serve the needs and purposes of qualified students who seek college preparation for the nursing profession, and also to serve the clearly recognized needs in the field for college-educated personnel.

The characteristics of baccalaureate education in nursing are consistent with those of undergraduate college education preparing for any occupational field. Such education is usually characterized by:

1. Organization in a four-year program progressing from freshman to senior levels in a college or university.
2. Optimum development, within the scope of the program, of the potentials of students for contributions as persons, workers, and citizens.
3. Instruction throughout the program by faculty members of the institution of higher education, well qualified for college teaching in their respective disciplines.
4. Provision of resources and facilities for general and specialized education, an environment where a community of scholars shares interests, purposes and opportunities.
5. Substantial foundations in the arts and sciences, shared by students in various programs which provide the greatest possible values in breadth of general education and in content directly contributory to education in the major field of concentration.
6. Education in this major field, largely or wholly on the upper division level, which utilizes and builds upon this contributory content, foundational or concurrent, and develops competence for the special occupation.
7. Provision of an adequate foundation for graduate study in this field.¹¹

¹¹Printed by The National League For Nursing. Department of Baccalaureate and Higher Degree Programs. Mimeographed paper.

The diploma (Associate Degree) program in nursing is established as an integral part of a community or junior college, or of a senior college or university. This program in nursing provided a means of correlating the philosophy and standards of nursing education with those of general education. Instruction in all areas of the curriculum, including the arts and sciences and nursing is provided by qualified college faculty. The curriculum is generally organized within the framework of a two-year period. The ratio of nursing education courses and general education courses is developed in accordance with the regulations of the State Licensing Board and the college policy. Learning experiences are planned in the appropriate clinical situation as an integral part of the nursing courses and credit is granted to these laboratory experiences within the policies of the institution. The careful selection of learning experiences by the nursing faculty in broad nursing courses reduces repetitive practice to a minimum. Graduates of this program are eligible for state examination for licensure and are prepared to give patient-centered nursing care in beginning general duty nurse positions in all clinical nursing areas.

Printed literature regarding the above described programs provides a concise description of each, and certainly the guidance director should be aware of such. The knowledge of these programs, as provided in printed matter, and use of this literature is of prime importance in assisting prospective pre-nursing students, as it is primarily through this media that the student becomes aware of the expectations with which he will be confronted and, also, what he may expect from his chosen school.

TEST AREAS

The description of tests that appear in the test areas are those tests which high school guidance directors identified as being administered to students at the time of the survey.

Interest, as referred to in this study denotes, "the feeling without which a person is unable to learn".¹² The interest inventory presents a series of questions concerning the objects which the individual has an interest, likes or prefers. It is frequently used in vocational guidance, personnel selection and personality diagnosis. Interest inventories referred to in this study include the Kuder Preference Record and the Strong Vocational Interest Blank.

The Kuder Preference Record is a "self-administering" and has "self-interpreting" profiles. Interpreting the profile requires the skill of a counselor.

The Strong Vocational Interest Blank consists of 400 items grouped according to type of content. The first group lists many types of occupations, emphasis being placed on business and professional fields. The second area is concerned with school subjects, amusements, peculiarities of people, vocational activities.

Ability as referred to in this study denotes, "actual power to perform an act, physical or mental, whether or not attained by training and education".¹³ General ability is concerned with types of tasks, but primarily those of a cognitive or intellectual nature. Ability tests referred to in this study include the:

¹²Horace B. English & Ava Champney English. A Comprehensive Dictionary of Psychological and Psychoanalytical Terms. (Longmans, Green & Company, New York, London, Toronto, 1958) p. 271.

¹³English, op. cit., p. 1.

California Mental Maturity test which was designed to study the special mental abilities of a subject and to predict success in verbal or academic subjects, and quantitative or technical subjects.

Differential Aptitude test was designed to measure eight different abilities. Some of the abilities are aptitudes in the stricter sense of the term, (Verbal Reasoning, Numerical Ability, Space Relations and possibly Abstract Reasoning). Others may be treated as aptitudes, (Clerical Speed and Accuracy and Mechanical Reasoning). Still others are proficiencies, (Language Usage: Sentences and Spelling). A time limit prevails ranging from 6-35 minutes per test.

Otis Quick Scoring test which was designed for use with senior high school, college and adults. The content includes 75 mixed items arranged in order of difficulty in the areas of verbal, arithmetical and spatial. A 30 minute time limit prevails.

National Merit Scholarship Qualifying test was established in 1955 to provide scholarship assistance to students exceptionally capable of benefiting from a college education. The test covers the five major areas of English Usage, Mathematics Usage, Social Studies Reading, Natural Science Reading and Word Usage.

Hemmon-Nelson Test of Mental Ability was composed of 90-five choice items arranged in order of difficulty. The areas covered include vocabulary, sentence completion, word classification, logical selection, disarranged sentences, interpretation of proverbs, verbal analogies, mixed spelling, series completion, design analogies and arithmetic reasoning.

American Council on Education Psychological Examination, (ACE) test provides a verbal and linguistic score through a Same-opposites series (consisting of 50 antonym-synonym multiple choice items); and Completion (60 items in which a definition of a word is followed by five letters, one of them being the initial letter of the word desired). A quantitative score is derived from 20 arithmetic thought problems and a number series.¹⁴

Terman-McNemar Test of Mental Ability was an old type intelligence test that consists of a variety of items arranged either

¹⁴Buros, Oscar Krisen (Editor). The Fifth Mental Measurements Yearbook. Highland Park, New Jersey: The Gryphon Press, 1959.

in spiral omnibus form or according to type with a time limit for each type which yields only a total score or I. Q. (Intelligence Quotient).

Iowa Tests of Educational Development were primarily to reveal the pattern of the individual student's development and to denote growth in this development from year to year. The tests also give a good prediction of probable college success.

Tests of Primary Mental Abilities were developed to measure six primary mental abilities such as verbal meaning, space, number, memory, word fluency and reasoning. Each test is accurately timed, with a practice exercise preceding it.

Stanford-Binet test was designed to measure an individual's mental ability or ability to learn. It also would be categorized as an omnibus test, yielding only a total score or intelligence quotient.

The Co-operative Achievement Tests were designed so that the content varies with the areas covered by the test and with the level for which it was designed. The Co-operative Survey Tests include the areas of (Natural Sciences, Social Studies and Mathematics). The Co-operative Test of Recent Social and Scientific Developments were designed for high school juniors and seniors. The Co-operative General Culture Test includes the areas of (History, Social Studies, Literature and Fine Arts). The Co-operative Contemporary Affairs Test, was designed for use with college sophomores.

California Reading Test was designed to produce three scores, one each in the area of vocabulary, comprehension and the total score. This reading test is available for grades 1-11.

The Sequential Tests of Educational Progress were designed to measure outcomes of educational experiences, both formal and informal from elementary school to college. Tests have been constructed for the areas of communication, science, mathematics and social studies. It has been the intention of the authors to emphasize utilization of learned skills in solving new problems.

The Iowa Reading Test was designed to cover the areas of rate comprehension, directed reading, poetry comprehension, word meaning, sentence meaning, paragraph comprehension, location of information through the use of index and selection of key words.

Stanford Achievement Test was designed so that batteries at four levels, primary, elementary, intermediate and advanced were available. Each battery contains five to nine tests;

two reading, spelling, language, two arithmetic, social studies, science and study skills.

Aptitude as referred to in this study denotes the "capacity to acquire proficiency with a given amount of training, formal or informal".¹⁵ General aptitude denotes the capacity to acquire proficiency in many activities. Since all measurement is primarily of present performance, an aptitude test is merely one form of ability test. It is a measure of present characteristics that has been found to be predictive of the capacity to learn. The aptitude test is a set of tasks so chosen and standardized that they yield an estimate of a person's future performance on other tasks not necessarily having evident similarity to the test tasks. Aptitudes of which there is some knowledge, appear to become crystalized in early childhood and after that they remain relatively constant.

Aptitude tests referred to in this study include:

The Clerical Aptitude test was used as a classification of clerical jobs which describes three phases of clerical work: doing the work, checking it and supervising it.

The Mechanical Aptitude test was designed to predict success in mechanical activities primarily through the media of space visualization.

The State Employment Test Battery was composed of twelve separately timed objective tests. The areas covered are Name Comparison, Computation, Three-Dimensional Space, Vocabulary, Tool Matching, Place Apparatus, Turn Apparatus, Assemble Apparatus and Disassemble Apparatus.

The California Algebra Aptitude test was designed as an objective test which tests areas of thought problems, formulas and number series. A time limit of 50 minute prevails.

¹⁵English, op. cit., p. 39.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF QUESTIONNAIRE

The importance of the use of the Nursing Aptitude Test, Administration of tests in the areas of Interest, Ability and Aptitude, and the guidance director's knowledge of the nursing programs and use of literature pertaining thereto has been previously stated in Chapter III.

Through the distribution of a questionnaire, which appears in the Appendix, page , it was hoped that accurate information would be gained regarding specified activities in each area which would give the investigator insight into the nature of guidance received by prospective pre-nursing students in selected Montana high schools.

Twenty questionnaires were distributed to twenty selected Montana high schools. Each was accompanied by a self-addressed, stamped envelope to facilitate direct return to the investigator as quickly as possible. Nineteen of the twenty questionnaires were returned within a month.

The questionnaire consisted of twenty-one items. Eleven were answerable by a check mark (✓) on "yes" or "no"; eight by a check mark (✓) to specified areas, and two were to be completed by the respondent. The questions were not specifically categorized as they appeared on the questionnaire. However, upon tabulation, the questions were placed in four categories: Data regarding the Nursing Aptitude Test, Data regarding the testing programs; Data regarding the Montana State College School of Nursing and Supporting data.

The basis for calculation of the data was the total number of returned questionnaires divided into each given answer per question.

Example: The total number of questionnaires received was nineteen of twenty. The total number of replies for portion A of question one was seventeen. The number nineteen was divided into the number seventeen, thus determining the percentage of the given raw score.¹ This procedure was carried out for each portion of every question that appeared on the questionnaire.

Roeber, Darley and Super were consulted frequently for the interpretation of the data. Buros was consulted for information regarding the various tests.

DATA REGARDING NURSING APTITUDE TESTS

Item eight requested that the respondent determine the extent to which the Nursing Aptitude Tests were utilized in counseling prospective nursing students. Three respondents failed to answer this item. The replies were:

<u>Specified Area</u>	<u>Raw Score</u>	<u>Percent</u>
Always incorporated	15	79.0
Occasionally incorporated	1	5.2
Seldom, if ever incorporated	0	0.0

It would appear that the majority of the respondents concurred with Riese,² with regard to employing such tests as these in the light of their predictive ability and in aiding the individual in assessing one's own abilities.

¹The score as originally obtained from the test or measuring instrument.

²Harlan C. Riese, Social Science Methods, A Proposal. (Unpublished research).

Item nine requested the respondent to state the nature of counseling that occurred with a student termed "not suitable" for professional nursing.

Table II shows that not quite one-half of the respondents answering this item explored other occupations with students termed "not suitable" for professional nursing. Three respondents failed to answer this item. The remainder of the respondents either recommended practical nursing, had the student retake the test during the senior year, view test results with the student, compare test results with other data regarding the student, or strongly advise the student against entering the nursing profession.

TABLE II

NATURE OF COUNSELING THAT OCCURS WITH PROSPECTIVE PRE-NURSING STUDENT TERMED "NOT SUITABLE" FOR PROFESSIONAL NURSING AS EVIDENCED BY NURSING APTITUDE TEST

Replies	Raw Score	Percent
Recommend practical nursing	5	26.4
If a junior, retake test as a senior	1	5.2
Explore other occupations	8	42.2
View test results with student	2	10.5
Compare test results with other data regarding student	3	15.8
Strongly advise student against entering nursing profession	1	5.2

It would seem that the desired counseling, primarily that of exploring other occupations with the student, as suggested by Testing and Counseling Service, does not prevail. Recommendation of Practical Nursing is viewed by the investigator as very acceptable, providing the student's interest pattern and ability to perform in this area is as it should be.

DATA REGARDING THE MONTANA STATE COLLEGE
SCHOOL OF NURSING

Item fourteen inquired as to whether the respondent felt he clearly understood the relationship of the two-year collegiate diploma (Associate Degree) and the baccalaureate program. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	14	73.7
No	5	26.3

Though the majority of the respondents apparently understood the relationship of the programs as outlined in Chapter III, it is deemed essential by the investigator, that all guidance directors have a clear concept of these programs and their relationship so that the student will be correctly informed of each.

Item seventeen inquired as to whether the respondent would find it desirable to confer with a Montana State College faculty member regarding the nursing curriculum. Two respondents failed to answer this item. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	9	47.5
No	6	31.5
Yes, in near future	2	10.5

Since over one-half of the respondents felt it necessary to confer with a faculty member, it is assumed that they have unanswered questions regarding the programs. An attempt to determine whether the six respondents who did not wish to confer with a faculty member felt they had complete understanding of the programs, or whether this indicated indifference, was not made. If the guidance director is not equipped with essential facts regarding the nursing program, he will not be able to provide adequate guidance for the student.

Item sixteen inquired as to whether the respondent felt that he had adequate literature regarding the Montana State College nursing programs. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	10	52.5
No	1	5.2
Would like more literature	4	21.0
Yes, would like more literature	1	5.2
No, would like more literature	3	15.8

It is essential that the guidance director have adequate literature, not only for his own use, but interested students should be supplied with current literature that will serve to outline many areas of interest to the student considering professional nursing.

Item twenty-one inquired as to the manner in which literature regarding Montana State College nursing programs was made available to the interested student. The specified areas for reply were:

- a. Through group counseling
- b. Through individual counseling
- c. Placed where students may obtain literature at will

The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Group counseling	0	0.0
Individual counseling	4	21.0
Literature obtained at will	1	5.2
Group and individual counseling	0	0.0
Group counseling and literature obtained at will	3	15.8
Individual counseling and literature obtained at will	9	47.5
Group and individual counseling and literature obtained at will	2	10.5

While group counseling often serves to provide students with general information regarding their needs, the ultimate solution of personal problems can be achieved only through individual assistance.³ It would seem, therefore, that it would be desirable that more guidance directors conferred with interested students individually in regard to the nursing programs, thus answering individual questions.

Item fifteen inquired as to whether the respondent ever recommended Practical Nursing or a three-year hospital program, rather than the collegiate nursing program. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	17	89.6
No	2	10.5

The investigator feels that in many instances students interested in nursing do not possess the necessary ability to cope with professional nursing, but would succeed in practical nursing or a three-year hospital program. These areas definitely should be explored with this type of

³Edward C. Roerber, Glenn E. Smith, Clifford E. Erickson. Organization and Administration of Guidance Services. (New York, Toronto, London: McGraw-Hill Book Company, 1955) Second Edition.

student because very often the student's primary interest is nursing care of patients. This may be achieved in either program without the stress placed on the student that might be in the college meeting, due to the many and varied demands placed upon the student in that position.

DATA REGARDING THE TESTING AREAS

Item two inquired as to whether a testing program was in effect in each high school. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	19	100
No	0	0

The respondents apparently agree with Darley⁴ that testing is one of the more important devices in helping the individual solve his problems.

Item three inquired into the magnitude of the testing program as to whether it was Extensive (all students receiving various tests), Fair (tests administered to students of parents requesting it), and Limited (tests administered to a selected few). The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Extensive	19	100
Fair	0	0
Limited	0	0

It appears that all respondents feel that the testing program presently in effect in their high school provides adequate data about each student through the media of testing. This should assist students

⁴John G. Darley, Testing and Counseling in the High School Guidance Program. (Science Research Associates, Chicago. Atlanta, 1945). p. 20.

in decisions relating to educational, vocational, adjustive and developmental activities.

Item four inquired into areas in which tests were administered.

The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Interest	18	94.9
Ability	16	84.2
Aptitude	19	100.0
Special	14	73.8

Pupil achievement or scholastic aptitude should periodically be sampled from grades one to twelve. Interest inventories and special aptitude tests should be administered to each individual pupil in the secondary school.

Item five requested that the respondent indicate which tests were administered in each particular area. The respondents checked more than one item in each area.

Table III presents the various tests which were being administered at the time of this study in the areas of Interest, Ability and Aptitude, as identified by the responding high school guidance directors. The importance of these tests cannot be over emphasized in the determining of an individual's ability and aptitude. The findings of this item will be compared with the Recommended Test Program for Montana.

Table IV illustrates the Recommended Minimum Test Program for grades seven to twelve in Montana, as outlined by the State Department of Public Instruction. Grades seven and eight are included due to the fact that grade eight tests are used in grade nine for a four-year school in which grades seven and eight cannot be utilized.

TABLE III

TESTS ADMINISTERED TO STUDENTS IN THE AREAS OF
INTEREST, ABILITY AND APTITUDE AS IDENTIFIED
BY GUIDANCE DIRECTORS IN VARIOUS
MONTANA HIGH SCHOOLS

Test	Raw Score	Percent
<u>Interest</u>		
Kuder Preference Record	17	89.5
Strong Vocational Interest Blank	3	15.8
<u>Ability</u>		
California Mental Maturity	9	47.4
Otis Quick Scoring	15	79.0
Differential Aptitude Test	15	79.0
National Merit Qualifying Exam	4	21.0
Hemmon-Nelson	2	10.5
American Council on Education	2	10.5
Terman-McNemar	1	5.2
Iowa Test of Educational Development	1	5.2
Primary Mental Ability Test	1	5.2
Stanford-Benet Test	1	5.2
Co-operative Achievement Test	4	21.0
Sequential Test of Educational Progress	2	10.5
California Reading Test	2	10.5
Stanford Achievement Test	1	5.2
Iowa Reading Test	1	5.2
<u>Aptitude</u>		
Nursing	14	73.9
Clerical	7	36.8
Mechanical	5	26.3
State Employment Battery (GATB)	3	15.8
California Algebra Aptitude Test	2	10.5

TABLE IV

MONTANA STATE DEPARTMENT OF PUBLIC INSTRUCTION
RECOMMENDED MINIMUM TEST PROGRAM
IN MONTANA^a
GRADES 7-12

	Grades 7, 8, 9	Grades 10, 11	Grades 11, 12
Intelligence or Scholastic Aptitude	Calif. Test of Mental Maturity (7-8)	Iowa Test of Educ. Development (or) Sequential test of Educational Progress	Ohio State University Psychological Exam. Nat. Merit Scholarship Qualifying Exam
Achievement	Calif. Achievement Tests (7,8)	Co-op Achievement Tests	Ohio S. U. Psychological Exam
Reading	Iowa Silent Reading (or) Diag. Reading Test, Survey Sec. (9)		
Interest	Simple Interest ck. list (or) Kuder Pref., Vocational form c.		Kuder Preference
Personal	Mooney Prob. Ck. list		
Aptitudes and Vocational	Differential Aptitude Test		GATB (Gen. Aptitude Test Battery)

^aMontana: Recommended Minimum Test Program. Reprint from Montana January 1958 Guidance Newsletter.

It appears that in the area of Interest, the minimum recommendations are being met. In the area of Ability a number of various tests are being administered, and while these appear to be good tests in themselves, the specified tests in this area are not, on a whole, being administered. In the area of Aptitude, it again appears that a greater percentage of test programs are meeting the recommendation with respect to the Differential Aptitude test, and a few are administering the General Aptitude Test Battery.

Item six requested the respondent to state to whom test results were to be interpreted. Specified answers were: Pupil involved, Parent involved and Teacher involved. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Pupil involved	19	100
Parents involved without exception	8	42.1
Parents involved, at times	8	42.1
Teacher directly concerned, without exception	12	63.2
Teacher directly concerned, upon request	2	10.5

In the investigator's opinion, if the student is to receive the proper guidance, not only should he have an awareness of his assets and limitations, but so should his parents and the teacher directly concerned. It is through joint effort that problems are solved.

Item seven was designed to gain information regarding other ways in which test results were used by the respondents. The nature of the question was primarily one of curiosity, since each stated method, no doubt, and has merit.

Table V indicates the various methods of utilization of the test

TABLE V

USE OF TEST RESULTS AS IDENTIFIED BY
GUIDANCE DIRECTORS IN VARIOUS
MONTANA HIGH SCHOOLS IN
COUNSELING STUDENTS

Method	Raw Score	Percent
Indication of strengths and weaknesses	1	5.2
Group guidance	3	15.8
Class ability groupings	2	10.5
College counseling	3	15.8
Remedial work	1	5.2
Problem solving--discipline or scholastic failure	1	5.2
Evaluation of curriculum	3	15.8
Selection of scholarship applicant	2	10.5
Correlation with school achievement	2	10.5
Evaluation of student	1	5.2
Parent-teacher discussions	2	10.5
Individual counseling	1	5.2
Registration purposes	4	21.0
Vocational planning	1	5.2
Student's performance compared with national norms	1	5.2
Placement purposes	1	5.2
Vocational guidance	1	5.2

results in the counseling of high school students as identified by the
responding high school guidance directors.

SUPPORTING DATA

Item one inquired as to what high school year particular attention
was initiated with regard to the student's future college qualifications
and abilities. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Freshman	12	63.3
Sophomore	5	26.3
Junior	2	10.5
Senior	0	0.0

It is essential that particular attention be given in this area during the secondary school years since it is primarily at this time that the student begins to think seriously of future educational goals. If the student receives assistance from the freshman year, hence, he will have the opportunity to gain an awareness of his personal assets and limitations which may have a definite bearing upon future plans.

Item eleven inquired as to whether students were required to meet with the guidance director periodically. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	7	36.8
No	12	63.2

A notable weakness of incidental guidance lies in the fact that counseling is many times not recognized as the medium through which the several activities of a guidance nature are brought to bear upon the individual pupil's peculiar abilities, interests and needs. Another point in favor of required guidance is the fact that this may eventually resolve the stigma attached to the guidance director and the duties which he performs. Frequently, probable would-be problems are detected in an early stage and dealt with accordingly, thus preventing anxiety on the part of the student.

Item ten inquired as to whether "group counseling" was ever used by the respondent as a means of discussing personal qualifications, (academic ability, personality and interest) desired in prospective

pre-nursing students. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	9	47.5
No	6	31.4
Occasionally, upon student request	4	21.1

While group methods frequently serve to provide pupils with general information related to their needs, only personalized assistance can aid the pupil in solving personal problems.

Item twelve inquired as to whether the respondent felt that adequate facilities in the form of guidance materials were at his disposal. One respondent failed to answer this item. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	15	79.0
No	3	15.8

Guidance materials include testing supplies, records, books for the professional library and information materials. It is obvious that if the guidance director does not have proper access to such materials, proper effective guidance will not ensue.

Item thirteen inquired as to whether the respondent felt that adequate facilities in terms of office space and time were at his disposal. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	7	36.8
No	8	42.2
Office space, yes time, no	4	21.0

Counselors have worked successfully in the absence of suitable and necessary facilities, but the quality of their work is negatively affected by inadequate physical facilities and equipment. The guidance director's

quarters needs to ensure privacy, so that the student will feel he is receiving the full attention of the guidance director.

It must be recognized that counseling periods are not "free" periods, as is frequently interpreted. The guidance director who must continually interrupt scheduled counseling appointments to resume some teacher's classes soon loses contact with some of the pupils who most need counseling.

Item eighteen inquired as to whether the respondent was a full-time guidance director or counselor. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	7	36.6
No	12	63.4

Item nineteen inquired as to whether teaching responsibilities were assumed in addition to guidance or counseling activities. The replies were:

	<u>Raw Score</u>	<u>Percent</u>
Yes	10	52.5
No	9	47.5

Item twenty inquired as to what portion of the school week, in terms of percentage, was the respondent available for guidance or counseling duties. The replies were:

<u>Available Time in Percentage</u>	<u>Raw Score</u>	<u>Percent</u>
10	1	5.2
25	3	15.8
50	5	26.3
66 2/3	1	5.2
71 1/2	1	5.2
75	3	15.8
100	5	26.3

The State Department of Public Instruction recommends a minimum equivalence of one full-time guidance person for each 400 students enrolled. This time is determined on the basis of periods assigned to guidance and counseling.

Thus, for a school of 400 pupils four or five counseling periods per day would be required. It is probably safe to assume that the most efficient ratio is probably between 50 and 100 pupils for each counseling period. If the counselor has major responsibilities for other guidance services and for consultation with elementary school personnel, additional released time should be added to his schedule.

CHAPTER V

SUMMARY, CONCLUSIONS AND SUGGESTIONS FOR FURTHER STUDY

SUMMARY

The primary objective of this study was to determine whether the testing and counseling received by prospective pre-nursing students in high school, assists the individual in choosing the nursing profession through knowledge of one's own interests and abilities, as gained through guidance.

The hypothesis was: The testing and counseling services received by prospective nursing students in various Montana high schools does not provide sufficient guidance for choosing the nursing profession in which to pursue further study.

Primary consideration was given to the three major areas of: the Nursing Aptitude Test, the test areas of Interest, Ability and Aptitude and test content of each; and the guidance director's knowledge and use of literature regarding Montana State College nursing programs.

The survey method employing the questionnaire as a tool was used to obtain data from twenty selected Montana high schools regarding the above stated areas. Nineteen of the twenty distributed questionnaires were returned. The respondents were high school guidance directors.

Review of literature stressed that the place for pre-college counseling lies in the high school, and that selection of students qualified for becoming good nurses must eventually occur due to the increased number of young people interested in entering the profession.

While the majority of the respondents replied that the nursing Aptitude Test was "always incorporated" with counseling, only two-thirds of the respondents used them to recommend other occupations or objectives, as recommended by the Testing and Counseling Service, Montana State College.

Over two-thirds of the respondents felt they clearly understood the relationship between the two-year collegiate program (Associate Degree) and the baccalaureate program and apparently transmit this to the interested students through individual counseling.

While all respondents felt their particular testing program was extensive, on the whole they failed to meet the Recommended Minimum Test Program for Montana, as outlined by the State Department of Public Instruction, in the areas of intelligence or achievement. Over one-third of the respondents were not paying particular attention to the student's future qualifications and abilities until the sophomore and junior high school year. This should be stated during the freshman year, if not sooner.

Two-thirds of the respondents definitely felt that they did not have enough time in which to perform necessary guidance functions. Thus indicating that in many instances even the recommended minimum of one guidance person per 400 students was not being met.

CONCLUSIONS

The primary conclusion is that in some instances the pre-nursing student is, and in other instances is not, receiving optimum testing and guidance as evidenced by the following:

Factors that seem to indicate pre-nursing students are receiving optimum testing and guidance:

1. The nursing aptitude was being used by sixteen of the nineteen respondents.
2. Over two-thirds of the respondents felt they clearly understood the components of the nursing programs and almost two-thirds felt they would like to confer with a Montana State College nursing faculty member.
3. All respondents conduct a testing program of some type.

Factors that seem to indicate that pre-nursing students are not receiving optimum testing and guidance:

1. Almost two-thirds of the respondents desired additional nursing literature and the method of distribution of the nursing literature to interested students varied somewhat.
2. A variety of Interest, Ability and Aptitude tests are administered to students. Not always those tests which were recommended for Montana by the State Department of Public Instruction were administered, but recognized comparable tests were used.
3. Approximately two-thirds of the respondents were not full time guidance directors, and felt they definitely did not have adequate time in which to perform the guidance duties.

RECOMMENDATIONS FOR FURTHER STUDY

To the investigator's knowledge, a study such as this one has not been previously attempted in Montana. It is felt that this is a very important area, not only for previously stated reasons but for many others which were not brought out in this study.

The investigator believes that the hypothesis has been answered partially affirmatively and partially negatively.

This technical paper has only begun to "scratch the surface" in determining the type of testing and guidance received of young people in Montana high schools, who are on the brink of making one of life's most important decisions. This matter is not only of importance to the student, but to the nurse educator, administrator, college professor and eventually to the patient himself, for the individual's Interest, Ability and Aptitude will surely have some bearing upon services rendered by an individual.

Due to the limited scope of this study, both in number included and specialized student, it is desirable that more extensive studies be performed in this area in an effort to clearly evaluate the high school testing and guidance programs. This perhaps can be achieved in part by asking the guidance director a different type of question than this investigator did, and also obtaining data from students as to the testing and guidance received of the student while in the high school setting. The desired end result being adequate guidance personnel in each and every Montana high school to assist students with their problems and with decisions regarding future vocations, professions and occupations. This would, to a great extent, eliminate that inevitable one-third of every nursing class that experiences failure, delay or discouragement in obtaining their goal due to lack of self-awareness regarding personal assets and limitations.

BIBLIOGRAPHY

BIBLIOGRAPHY

BOOKS

- Bixler, Roy, and Bixler, Genevive. Administration for Nursing Education. New York: G. P. Putnam's Sons, 1954.
- Buros, Oscar Krisen, (Editor). The Fifth Mental Measurements Yearbook. Highland Park, New Jersey: The Gryphon Press, 1959.
- Cowan, Cordelia M. (Editor). The Yearbook of Modern Nursing, 1957-1958. New York: G. P. Putnam's Sons, 1958.
- Darley, John G. Testing and Counseling in the High School Guidance Program. Chicago, Atlanta: Science Research Associates, 1945.
- English, Horace B. and English, Ava Champney. A Comprehensive Dictionary of Psychological and Psychoanalytical Terms. New York, London, Toronto: Longmans, Green and Company, 1958.
- Roeber, Edward C., Smith, Glenn E., and Erickson, Clifford E., Organization and Administration of Guidance Services. New York, Toronto, London: McGraw-Hill Book Company, Second Edition, 1955.
- Super, Donald E., Appraising Vocational Fitness. New York: Harper Brothers, 1949.

PERIODICALS

- Taylor, Ella A. "Graduation and Withdrawals". The American Journal of Nursing. Vol. 5. March, 1951, p. 201.

MISCELLANEOUS UNPUBLISHED MATERIALS

- Montana: Recommended Minimum Test Program. Reprint from Montana January 1958 Guidance Newsletter.
- Riese, Harlan C., "Social Science Methods A Proposal". Unpublished research. University of Montana, Missoula, Montana.
- Montana State College School of Nursing Literature, Prepared for the State Board of Education.
- National League For Nursing, matter prepared by the Department of Baccalaureate and Higher Degree Programs.

Nursing Aptitude Test Results, prepared by the Testing and Counseling Service, Montana State College.

Montana State Department of Public Instruction. "Computation of Counselor Time." May 26, 1960

APPENDIX

MONTANA STATE COLLEGE
Bozeman

The School of Nursing

March 18, 1960

Dear Guidance Director:

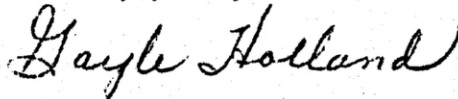
I am a student in the Master's program at Montana State College, with a major in Nursing Education. As partial fulfillment of the requirements for a Master of Nursing Degree, I am doing a study related to the field of Testing and Counseling.

We (myself and the Nursing Faculty) are very interested in information of this nature, so that we might improve our counseling of Freshman nursing students.

This survey is being made for the purpose of obtaining data from guidance directors throughout Montana High Schools, in regard to the nature of the Testing and Counseling as related to pre-nursing students.

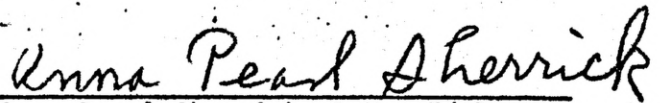
I will be most appreciative of your assistance in this survey. Enclosed is a stamped self-addressed envelope. Please fill out the questionnaire and return it to me as soon as possible.

Sincerely yours,

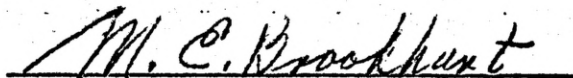


(Mrs.) Gayle Holland, R.N.

The Faculty and Staff from Montana State College School of Nursing and Testing and Counseling Service appreciate your assistance as this study should aid us in improving the counseling and guidance program for Freshman nursing students.



Anna Pearl Sherrick, R.N., Ed.D.
Director, School of Nursing



M. E. Brookhart
Head, Testing and Counseling

P.S. All participants in this study will receive a summary of the findings.

QUESTIONNAIRE

1. At what high school year do you begin to give particular attention to the student's future college qualifications and abilities?

☐ A. Freshman

☐ C. Junior

☐ B. Sophomore

☐ D. Senior

2. Do you conduct a testing program in your school?

☐ A. Yes

☐ B. No

3. If a testing program is conducted, what is its nature in terms of its magnitude?

☐ A. Extensive (All students are administered various tests).

☐ B. Fair (Tests administered to students or parents requesting it).

☐ C. Limited (Tests administered to a selected few--Ex. students with a particular problem).

4. Please check the areas in which tests are given.

☐ A. Interest

☐ C. Aptitude

☐ B. Ability

☐ D. Special

5. Please check the basic tests that are given in the following areas.

☐ A. Interest

☐ B. Ability

☐ C. Aptitude

☐ 1. Kuder

☐ 1. California Mental Maturity

☐ 1. Nursing

☐ 2. Strong

☐ 2. Otis Quick Scoring

☐ 2. Clerical

☐ 3. Other (state)

☐ 3. Differential Aptitude Test

☐ 3. Mechanical

☐ 4. Other (state)

☐ 4. Other (state)

6. To whom are the test results interpreted?

☐ A. Pupil involved

☐ B. Parents involved

☐ C. Teacher directly concerned with the student involved.

7. Briefly state other ways in which test results are used by you.

8. In particular, to what extent are the Nursing Aptitude tests utilized in counseling prospective nursing students?
- ☐ A. Always incorporated with regular counseling.
 - ☐ B. Occasionally incorporated with regular counseling, if something irregular or extreme is noted regarding aptitude test.
 - ☐ C. Seldom, if ever, incorporated with regular counseling.
9. What is the nature of counseling that occurs with a prospective nursing student, whose nursing aptitude test indicates he or she is not suitable for professional nursing? Briefly state.
10. Is "Group Counseling" ever used by you, to explain or discuss personal qualifications (academic ability, personality and interest) desired in prospective nursing students?
- ☐ A. Yes
 - ☐ B. No
 - ☐ C. Occasionally, upon student request
11. Are students required to meet with the Guidance Director of Counselor periodically, without exception?
- ☐ A. Yes
 - ☐ B. No
12. Do you feel that you have adequate facilities to conduct an effective counseling program in terms of guidance materials, such as tests?
- ☐ A. Yes
 - ☐ B. No
13. Do you feel that you have adequate facilities to conduct an effective counseling program in terms of office space and time?
- ☐ A. Yes
 - ☐ B. No
14. Do you feel you clearly understand the relationship of the two year collegiate diploma and the Bachelor of Science Degree programs offered at Montana State College?
- ☐ A. Yes
 - ☐ B. No

15. Do you ever recommend that a student consider either a one year Practical Nursing program or a three year hospital program, rather than the collegiate nursing program?
- ☐ A. Yes
- ☐ B. No
16. Do you have adequate literature regarding the Montana State College two year collegiate diploma program and the Bachelor of Science Degree program?
- ☐ A. Yes
- ☐ B. No
- ☐ C. Would like more literature
17. Would you find it desirable to confer with a Montana State College faculty member regarding the nursing curriculum?
- ☐ A. Yes
- ☐ B. No
- ☐ C. If yes, in the near future
18. Are you a full time Guidance Director or Counselor?
- ☐ A. Yes
- ☐ B. No
19. Do you also assume teaching responsibilities in addition to counseling or guidance activities?
- ☐ A. Yes
- ☐ B. No
- ☐ C. Occasionally
20. What portion of the school week, in terms of percentage, are you available to perform Guidance or Counseling duties?
- ☐ A. 25% ☐ C. 75% ☐ E. Other (state)
- ☐ B. 50% ☐ D. 100%
21. How is information or literature regarding the nursing programs offered at Montana State College made available to interested students?
- ☐ A. Through group counseling
- ☐ B. Through individual counseling
- ☐ C. Placed where students may obtain literature at will