

THE UNIVERSITY OF MINNESOTA

GRADUATE SCHOOL

Report  
of  
Committee on Examination

This is to certify that we the undersigned, as a committee of the Graduate School, have given William Peter von Levern final oral examination for the degree of

Master of Arts

We recommend that the degree of

Master of Arts

be conferred upon the candidate.

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Chairman

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THE UNIVERSITY OF MINNESOTA

GRADUATE SCHOOL

Report  
of  
Committee on Thesis

The undersigned, acting as a Committee of the Graduate School, have read the accompanying thesis submitted by William Peter von Lavern for the degree of Master of Arts. They approve it as a thesis meeting the requirements of the Graduate School of the University of Minnesota, and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts.

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Educational and Vocational Guidance  
in the  
Junior High School

A Thesis Submitted to the Faculty of  
the Graduate School of  
THE UNIVERSITY OF MINNESOTA

by  
William Peter von Lavern

in Partial Fulfillment of the Requirements  
for the degree of

Master of Arts

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Educational and Vocational Guidance in the Junior High School.

Introduction

Chapter 1.

By the word guidance we mean enlightenment and advice leading to self direction. Guidance relates to intellectual life, culture, future vocation, citizenship, moral problems, recreation, social behavior, co-operative activity and many other phases of life.

Educational guidance comprises all of the foregoing forms of guidance and leads, whenever it is effective, into advice regarding various phases of the individual's personal and social life. For example, most decisions regarding choice of curriculum, and choice of studies, run into vocational guidance. Vocational possibilities are accepted or rejected through the particular educational decisions.

It is not the purpose of educational and vocational guidance, in the junior high school, or at any other time, to decide for young people in advance what occupations they are to follow, nor to project them into life's work at the earliest possible moment, nor to classify them prematurely by any system of analysis, either psychological, social, or economic. "Educational and vocational guidance should be a continuous process designed to help the individual to choose, to plan his preparation for, to enter upon, and to make

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progress in an occupation."(1)

Over 80% of American school children quit school for work before they have finished the senior high school and over half quit school before they have finished the junior high school.(2) Educational and vocational guidance if it is to be effective for the 80% must function in the junior high school or before the end of the compulsory education period.

The best proof of wasteful drift in work and education may be found in the large numbers of places held by children during their early working years, and in the excessive turnover of minor labor in the average establishment. This frequent change of employees, is waste to the child during the decisive years of adolescence, waste to his family, to his employer, and to society.

The situation first described is not only costly and wasteful, it is needless and in a large part preventable by giving the pupils of the junior high school a life career motive and proper educational and vocational guidance.

The purpose of this study is to determine the methods of educational and vocational guidance in use in the junior high school and to suggest new methods not commonly known. It is hoped that this study will contribute information that will be of value to

### 1. Vocational Guidance in Secondary Schools.

Bureau of Education - Bulletin 19 - 1918. - P 9

### 2. Statistics of City School Systems.

Bureau of Education - Bulletin 24 - 1920. - P 91

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junior high school teachers, principals, counselors and any one interested in the future of our youth.

In making this study, in addition to reading the best of the written material on the subject, a questionnaire was sent to 350 junior high schools, in all parts of the United States, in an effort to learn the practice in well organized schools throughout the country. This information is analysed and tabulated in chapter IV.

A detailed study was also made of a group of nineteen boys in the writer's classes as an illustration of the use of psychological tests for the purpose of educational and vocational guidance.

An extended bibliography of the material covered as a basis for this study is appended.

The Educational and Vocational Guidance Movement  
and the Junior High School.

Chapter 11.

While much has been written on the subject of educational and vocational guidance, little has been written on the subject as applied to the junior high school. This chapter contains a statement of the present status of the educational and vocational guidance movement as set forth in the works listed in the bibliography at the end of this study. In the summary the general principles and experimental data established by writers on educational and vocational problems have been accepted and applied to the junior high school. Some of the material however is a result of the writer's experience in dealing with the child of junior high school age in the public schools.

In spite of all the other excellent things which our public school system does for childhood, most boys and girls leave school to enter all kinds of wage-earning occupations not only untrained but undirected as to what they ought to do in life.

More than 6,000,000 boys and girls between fourteen and eighteen years of age are employed in various ways in this country.<sup>(1)</sup> This does not include the additional army of children in some of

1. Prosser C. A. - Readings in Vocational Guidance by Bloomfield P 352.

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the Southern states leaving school at the tender age of twelve.<sup>(2)</sup> More than seven out of 10 of this multitude did not finish the work of the elementary school. More than 3 out of 4 of them did not reach the eighth year of the schools and more than 1 out of 2 the seventh year. Almost half of them had not completed the fifth-grade work. Great numbers of them were barely able to meet the test for illiteracy necessary in order to secure working certificates, which in most of the states is a test of the work of the fourth grade.<sup>(3)</sup>

These children not only entered life deficient in the elementary school education which our day regards as being necessary to the civic intelligence and the vocational efficiency of everyone, but practically all of them had been trained by a formalized process in the things of books alone, which gave them no opportunity to find what they would like to do and what they were best able to do in life. Practically all of them went to work without proper educational and vocational guidance and direction. All of them found the doors of most of the skilled and desirable industries closed to them until they should become sixteen years of age.

Since they must work somewhere, most of these children wage earners find their way largely by accident into low-grade skilled or unskilled occupations - the great child employing industries and enterprises which are always wide open at the bottom to receive young workers but closed at the top so far as permanent desirable employment is concerned. Here, because their work lacks purpose and hope,

2. I bid

3. I bid

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they drift about from one unskilled occupation to another, changing in some states, on an average of once every four months.(4) The resulting moral degradation to the child and the tremendous cost to the employer, due to this indifferent, unstable, fluctuating service cannot be estimated. For most of these children the years from 14 to 16 spent in wage earning in store and shop and factory are wasted years since they find themselves at sixteen in the same position as at 14--starting life without any adequate preparation for wage earning. Their menial, monotonous, more or less automatic work not only gives no skill which will be useful to them in later life but also arrests rather than develops intelligence and ambition.

Out of the great army of children who leave school at 14 to go to work and get from those schools no further attention, come the ne'er-do-wells, the loafers, the tramps, gamblers, prostitutes, and criminals for whose care the state spends more money in penal and correctional work than it would cost to have prevented, through proper educational and vocational guidance and training, many of them from becoming a burden and menace to society.

In the absence of any work in the Junior High School which discovers the taste and ability of children, many pupils after completing the required work, elect the senior high school when it does not give the training which is best suited to their needs and to the kind of work they are to do in the world. They do this largely because they have not found themselves and have not come to realize

4. I bid.

5. Bloomfield - Readings in Vocational Guidance. P. 353.

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either the kind of work which they are destined to do or the kind of training which would best prepare them for it.

All boys and girls are, in the neighborhood of 14 years of age, required to make a choice of some kind. They decide first of all whether they are to attend school or go to work. If they are to attend school, they must decide what kind of school they are to enter. As vocational schools, or departments are established to meet the needs of those who are not destined for business and professional careers, every pupil ought, as the result of his previous training to be in a position at 14 years of age to make an intelligent choice of the occupation which he desires to follow or the kind of training which he wishes. This can only be done by some system of instruction in the junior high school which will test pupils out by other things in addition to arithmetic, spelling, reading, writing, and other traditional subjects of general education.

The results of our failure through the schools to properly direct and train all the children of all the people are unmistakable. Misfits in all vocations confront us everywhere. Many workers are inefficient because they are not adapted to the work they are doing and some because they have not been properly prepared for it. This lack of efficiency constitutes a permanent handicap not only to the worker but to the calling which he follows. It means lessened wage, uncertain employment, failure of promotion, economic struggle, waste in the use of material, poor workmanship, reduced output, and the lowering of the standards of skill and workmanship of American industries.

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We talk much today of the necessity of conserving our natural resources. We should not forget that the richest asset which this country possesses is the practical and constructive ability of the children who sit in our school houses today, who are to be the workers and the leaders in industry of the future, and whose talent and aptitude, whatever it may be, can only be uncovered by some system of training within our schools that will give it a chance for expression. Every consideration requires that every worker should have a chance to discover and to develop to the full all his possibilities, both for the good of himself and for the welfare of the social order.

Two things are necessary in any successful program of vocational and educational guidance: a greater knowledge of the child than we have thus far obtained through the work of the schools, and the close co-operation of other agencies in an attempt to give advice and counsel to the child as to his choice of a life work.

The greater knowledge of the child which we need to have in order to give educational and vocational direction is only to be obtained by some system of training within the schools, in the junior high school period, which shall help us to find out what he would like to do and what he is best able to do.

Under the comparatively simple and primitive conditions of farm and village life, of an earlier day, the experiences on the farm and in the village uncovered his interests and his abilities largely without the aid of the schoolroom. On rainy days he tinkered with the farm machinery in the barn and in the village he came in rather

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intimate contact with the work of the blacksmith, the wheelwright, the saddler, the carpenter, the shoemaker, the baker and all the other skilled trades which the community afforded. Through this environment the boy came in an elementary way to understand the trials, difficulties, achievements, workmanship, and ideals of the artisan. No matter what he became in later life he carried into his life work a sympathetic understanding and appreciation of the work of his fellows.

Out of these experiences came a very sensible vocational and educational guidance. The parents and the boy came to know what the boy was interested in and in what line he would be most apt to succeed.

Under the conditions of modern life the opportunity for the boy to secure such real experience outside the school has to a large extent, disappeared. Trades have become factoryized. Seldom if ever, does the boy have an opportunity to get beyond the factory gate to even witness the work which is being carried on beyond it. It hardly need be said then, that our modern school system must in some way secure for its children the kind of life experiences, before they leave the junior high school, which will give some basis upon which they and those guiding and directing them may deal intelligently with the problem of placing them in proper schools, in giving them proper training and in placing them in the calling of life for which they are best suited.

A program of educational and vocational guidance in our modern junior high school demands a knowledge of the movement of vocational

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education in all its phases, as continuation classes, try-out courses, night school, co-operative trade course, unit trade course, and household arts courses, as well as academic and college preparatory courses. It also demands a knowledge of the best practice in administration such as office records, equipment and buildings, school surveys and curriculums, and of such diagnostic devices as psychological tests, age grade charts and studies of permanance of pupils interests.

The means at the disposal of the educational and vocational guidance movement are: the teacher; the trained counselor; the volunteer helper; the co-ordinator; the employment supervisor; the librarian; the employer; the employment manager; civic organizations; the vocationalized school program; the prevocational school; the continuation and part time plan, the life career class; the student activities(6) and many others.

The movement is looked upon by the public as a means of solving the individual vocational problem, by industry as an instrument by which economic and industrial ills can be cured, and by educators as a means of helping the pupil into a life work for which he is best suited and pointing out the best way to fit himself for it.

Guidance may be divided into three parts; vocational, educational and avocational. Generally speaking they are all included in the one term vocational guidance. Some writers divide it into three divisions as - vocational guidance in junior high school, senior high school, and college. Of these three divisions the first named

6. Brewer, John M. - The Vocational Guidance Movement. P. 279.

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is by far the biggest problem and one of the most important problems in the educational world today. The junior high school is the first place in the life of a child when a definite program of educational and vocational guidance ought to be pursued vigorously. There is no reason for it before this time as the child is too young and the course well defined. The law prevents the child in the elementary school from assuming any direct interest in industry, and thus the need of information or council concerning it are not of such vital importance. But in the junior high school the conditions are entirely different.

Boys and girls who are eliminated before or at the close of the junior high school period are in greater need of educational and vocational guidance than are high school pupils or college pupils. If definite information be deferred until the high school period, they lose it entirely.

If vocational and educational information is offered in the junior high school, both the pupil who goes on in school and the one who drops out secure the benefit. The pupil who goes to high school should have acquired basic information and should have established habits of thought which will assist him to guide himself reinforced as he will be by the better mental back ground.

Teachers in the elementary schools are better equipped to make a success of a functioning course than are high school teacher. The significance of the educational and vocational guidance movement has been more rapidly grasped by grammar school teachers and the most successful effort toward adapting it have come from the same

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source.(7)

Economically the junior high school age in the life of a child is a very critical period. The law usually releases its hold upon him, allowing him to take his place in industry, should economic pressure of the home compell him to do so. Should the child desire to leave school because of dislike or friction with school conditions, or due to his aspiring to take his place as a wage earner, whereby his actions will be more or less independent of the direction of others, the law permits him to do so.

The junior high school is the adolescent school teaching adolescent children and should be directed by a faculty conscious of and in sympathy with adolescent problems and using a curriculum adapted to adolescent needs.

The purpose of educational and vocational guidance in the junior high school should be to furnish three points of information for the student: acquaint the child with the kinds of work to be done, make the child conscious of what he or she can do, after the decision has been made, direct him or guide him into the best way of getting the education or training needed, all conditions considered. But when the educational and vocational guidance department has done these things for each one of its pupils before they leave the junior high school then it has not yet performed its full duty unless it also undertakes placement work for those who stop school, makes a job analysis of the work before the child is placed and then follows up the case after placement.

7. Reed, A. Y. - Vocational Guidance Report 1913-16. P. 22.

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The junior high school can practically eliminate the child's ignorance in the matter of "things to be done", for a living or life work by the organization of classes in vocations as an integral part of the curriculum. The vocations or "life career classes" as they are sometimes called should be a required part of the junior high school course just as English or mathematics, and credit should be given for them. This class should be taught by an experienced teacher who has a broad and comprehensive view of the vocations, knowing where and how to secure the details. The vocational classes will of course be segregated and topics appropriate to each sex freely discussed.

For boys the various fields of endeavor will be discussed especially those prominent in the community, though other vocations should not be neglected as it would be fallacy to think that every boy should go into some line of work represented in the local community. Talks by prominent men who have made a success of their line of work are of value. If possible the speaker should be given an outline for his use in preparing his talk so that he will tell the important things to be told about his business and not just tell his personal experiences. He should give the class information as to the possibilities of his line of work, also give his opinion of what qualities and characteristics are needed for success. Arrangements should also be made for trips to various industries to show the pupils what the occupational prospects are in the industry. The occupation or industry should of course be well discussed before the visit is made so the children will have an idea of what is to be

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accomplished by such a trip. Further supplementary study should be carried on in English, History, Geography, Economics, Sociology, Civics and in any other class which can co-operate in any way.

The junior high school as it is being organized today contains much shop work and this should be organized as try-out courses for the purpose of educational and vocational guidance. No school system can provide all the shop experience that prevail in a community but at least 8 to 10 should be chosen which are most prominent, have the greatest opportunity, and are most adaptable to school conditions, and the child given a try-out in as many different things as possible. It is very reasonable to expect that these try-out courses need not all be the same length because it certainly is much easier and requires less time to get an idea or understanding of some occupations or trades than of others.

For those children who do not expect to make use of this shop experience but intend to go on to school and take up one of the professions as law or medicine, etc., the shop experience will form a part of their general education, making them more democratic. Those who will be compelled to leave school to enter industry will have some experience upon which to make a decision and choice when the time for decision comes. Certainly we should leave the road open in junior high school for the boy who changes his mind or suddenly finds himself in a position which he did not expect so that he can go on and get a higher education and not lose any time in doing so by having to make up courses that he did not get in junior high school.

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Several factors enter into the problem of a child choosing an occupation in junior high school - The natural ability of the child; the physical qualifications; the ability of the parents to support the child during the period of training etc.

The school through the work of the counselor or vocational and educational guidance department must aid in making the decision. The primary work of the vocational and educational guidance director is to skillfully show the child the various possibilities, all things considered, and then leave the final choice to the child. Concrete examples of how this should be done will be discussed in Chapter 111. The work of the counselor is merely one of advice under given conditions and possibilities. It is the counselor's business to point out not to decide. The child should make his own decision.

The counselor must collect his information from many sources;-- from the child, from the child's parents and home, from his teachers, from the school physician or nurse, from the child's previous experiences, from the results of psychological tests and any other sources available. The more information he can get the better advice he is able to give and in dealing with such an important problem the smallest detail should not be neglected and should be made use of. His method of attack in every case should be comparable to that of a competent physician in diagnosing a complicated case in the line of medicine altho he is not using the same instruments. A competent M. D. does not neglect to make use of the smallest detail that might have a bearing on the case and neither should the educational and vocational counselor.

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After the facts have been placed before the child and a decision has been reached educational guidance enters into the problem and conscious preparation for the vocation chosen should begin. The child should be guided under the existing conditions as to the best way of reaching his chosen goal. The goal might be a profession, a trade, or an occupation and might take anywhere from a few days or even hours to a number of years before it is reached.

The next step for those who must leave school at this time, and it is over  $\frac{6}{10}$ %, is the entering upon work. (8) This is no doubt the most important step for several reasons. This is the largest group with which the junior high school counselor has to deal, it is composed to a large extent of those who are least able to take care of themselves. The child must be placed in industry under such conditions that he continues under the supervision of the school as to hours of work, conditions of labor, health, further education and salary.

The proper functioning of the Educational and Vocational Guidance and Placement Department demands various kinds of vocational part-time and co-operative-industrial arrangements as well as co-operation with business in all its branches. When the child is placed in business or industry he should not be forgotten by the agency that placed him there. The school should have coordinating power at least until the child can assert himself as a voter and have some power to control his own affairs. Up to that time he

### 8. Statistics of City School Systems.

Bureau of Education Bulletin No. 24 - P. 91.

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should be given an opportunity for promotion and readjustment, through the use of the part-time, co-operative and evening schools.

One of the important functions of the junior high school is education for the proper use of leisure time. The development of the right use to make of leisure time is an important part of the junior high school educational and vocational guidance program. The child should be taught how to make use of his leisure time in an enjoyable manner, consistent with good citizenship. He should become interested in some club while in junior high school or develop a hobby and the relation between his club or hobby and other phases of life pointed out to him.

In short vocational and educational guidance is a continuous process. It precedes vocational education, accompanies vocational education, and follows vocational education.(9)

### Summary

The present social, industrial and economic conditions of life require a new kind of educational equipment for the individual. If, as Dr. Courtes expresses it, "education is the process of helping children to help themselves" much of the traditional, purposeless subject matter must be discarded and in its stead the child be given during the compulsory school period work which will definitely aid him in choosing a life work and help him become a useful and desirable citizen. (This is particularly the function ~~work~~ of the junior high school.) This function of the junior high school must be

9. Schultz, M. F. - Prin. of Garfield J. H. S. Erie, Pa.

Educational Review - Vol. 63, No. 3 - P. 246.

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perform<sup>ed</sup> through its diversified curriculum with its vitalized and  
purposed instruction, and its well organized educational and vocation-  
al guidance departments in charge of specially trained executives and  
counsellors.

The Use of Psychological Tests in Educational  
and Vocational Guidance.

Chapter III. Part 1.

General Intelligence Tests.

Only in so far as the junior high school differs from other segments of the educational establishment will uses of intelligence tests differ in a junior high school. Obviously, the most important use of intelligence tests in the junior high school will be the discovery and measurement of differences in intellectual abilities of the individual pupils.

Such studies as have been made of measured differences in the intellectual abilities of secondary school pupils indicate two uses to which the results of intelligence tests may reasonably be applied. The results obtained from intelligence tests now available may be used as one element in the prognostication of the field of the pupil's probable educational and vocational future, pointing out for him the program of studies and work which will be of greatest usefulness to him, and they may be used in the predication of the rapidity with which the pupil will be able to make progress in his studies. In other words, the results of intelligence tests may be used as one means of helping a pupil choose wisely the direction in which he should go, and then as a means of so classifying him that he will be associated with others who are going in the same direction and also at the same rate.

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Most of the evidence that intelligence tests may be used as a basis for guidance of pupils into educational or vocational fields where they would be most successful, has been obtained by measuring the intelligence of pupils who of their own choice have already entered upon certain educational and vocational careers. The conclusion then should be that pupils who made a choice of certain lines of work and were then successful in them, made such and such scores when measured by the tests; and therefore those who make such and such scores would undoubtedly be successful in these lines of work or study. (1)

In vocational guidance the best that intelligence tests can do is to indicate roughly the vocational level in which success is possible. The final choice of a vocation must be determined largely by environment and opportunity. However, intelligence tests can tell us whether a child's native ability corresponds approximately to the median found in the professions, the semi-professional pursuits, the ordinary skilled trades, the semi-skilled trades or among unskilled labours, etc., and the information is of great value in planning a child's education. It is accordingly in educational guidance that intelligence tests have their chief value.

When sufficient studies have been made in the field of vocations so we are able to determine with fairly reliable accuracy the I. Q. necessary to make a success of a given vocation, trade, or occupation, then the results of intelligence testing will be of much more value in the field of vocational guidance.

1. Trabue, M. E. - The Twenty-first Year Book. P. 173.

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A War Department bulletin(2) on army mental tests shows the intellectual level for various occupations as determined by application of thousands of intelligence tests at the army cantonments. While this is a start in the right direction there are a number of factors which enter into the results which make it incorrect to say that the carpenters in the army scored between 55-59, therefore to be a success as a carpenter it is only necessary to score 55 or above on the army test; or the men who classified themselves as machinests in the army scored between 60-64, therefore to be a successful machinest a person should score over 60 in the army test. The best men in the trades mentioned in the <sup>list</sup> ~~test~~ to which the army test was given were not in the army. Large numbers of skilled workmen in many trades were exempt or over age. The ones that were in the army undoubtedly called themselves carpenters even tho they had only a beginner's knowledge of the trade and only a few month's experience. The same was true of the machinests. If before going into the army a young man had worked as a machinest's helper for a few months he called himself a machinest. By so doing they were placed in a special class and avoided the regular routine of the army private. These and numerous other factors affect the accuracy of the scores in all the trades or occupations listed.

In the field of education the limits of achievement of pupils of a given I. Q. have been fairly well determined. Psychologists are now able to tell with considerable accuracy whether a child possesses

2. Army Mental Tests, Methods, Typical Results and Practical Applications. November 22, 1918. Washington D. C.

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an I. Q. which will even make it possible for him to do the work of a particular school, or institution, or grade in school. Further, they are able to determine whether a child's mental age is now sufficient to learn the work of a particular grade. Dr. Terman's experience leads him to the conclusion that pupils with a I. Q. of 60 will not be able to do work beyond Grade III or IV. The 70 I. Q. child will not be able to do work beyond V or VI. The 80 I. Q. will reach his limit about grade VII. The 90 I. Q. may with much persistence go through high school. (2)

On the other hand, children of 120 to 129 I. Q. are usually found either one or two grades accelerated.

Children of 130 to 139 I. Q. are still more accelerated and those of 140 to 170 I. Q. however, are likely to become three to four years accelerated and reach the eighth grade at the age of eleven or twelve years. Whenever children of the higher I. Q. groups are located, their work always presents a striking contrast with that of children of the 60, 70, or 80 I. Q. class who are several years their senior.

Pupils of high I. Q. are often misjudged by their teachers. A twelve year old boy in the sixth grade was not promoted by his teacher at the end of the term. The father consulted the psychologist of the city schools and the boy was found to have an I. Q. of 140. Notwithstanding the boy's non-promotion in the sixth grade, arrangements were made for him to skip both the seventh and eighth grade and to enter high school immediately! He did so and passed all his work

2. Terman, Lewis M. - The Intelligence of School Children.

## Chapter 111. Part 1.

with good marks. For some months his teachers were not told of the heresy that had been committed, and they never suspected that the pupil had not come to them in the usual way.(3)

The seventh grade or the first year of the junior high school usually marks the real beginning of differentiated courses and pre-vocational education. From this point on educational guidance becomes increasingly important. When educational guidance is properly carried out, the problem of vocational guidance are greatly simplified. For both mental ability tests are indispensable. However, instead of depending upon a test score as infallible, the counselor should make this the point of departure for further study of the child. Careful estimate should be made of the quality of school work; data on health, interest, habits, and social status should be supplemented by educational tests and tests for special aptitudes. The purpose of such tests is to make a difference in the educational treatment of the pupils, not to gratify a merely idle curiosity regarding their intellectual status.

We may never be able to determine by means of intelligence tests for what vocation precisely, an individual is best adapted; but at least we know that an individual of low mentality should be dissuaded from striving to enter such vocations as law, medicine, or teaching. Moreover, a person of exceptional intelligence should be encouraged to enter a vocation requiring more than mediocre mental ability in order that his capabilities may have opportunity for full development. By determining the degrees of mentality of an individual, therefore we can ascertain the probable maximum level of

3. Terman, Lewis M. - "The Intelligence of School Children" P. 289.

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vocational or professional attainment which he may be expected to achieve, and can advise accordingly.

Beyond this we cannot go with measurement alone. There are many and various factors other than intelligence that govern an individual's fitness for this or that specific vocation. "Whether John Jones, eighteen years of age and known to have, say 'average' intelligence should be advised to enter the grocery business, salesmanship, auto repairing, song writing, plumbing or go to college, depends upon his tastes and temperament, his previous experience, his special aptitudes as a result of the foregoing, his financial resources, the immediate opportunities, etc. Knowing these and his intelligence rating, vocational and educational guidance becomes not a matter of measurement but of judgment.(4)

4. Otis, Arthur S. - Manual of Directions.

## Achievement Tests.

### Chapter 111. Part 11.

The use of standardized tests of achievement when being used by the educational and vocational counselor is largely in the field of educational guidance. However, it is impossible to guide an individual successfully, into a certain vocation unless we know something about his ability or potential ability in that particular line.

The purpose of achievement tests when used by the educational and vocational guidance department is entirely diagnostic. The counselor assumes that the child has been in a learning situation and wishes to know how much has been learned in the particular line being measured.

The tests applied to pupils of the junior high school should not be limited to the work covered in junior high school or in the elementary school. Surprising results are often obtained from tests given to pupils in subjects which they have not pursued in school. Cases of this kind are shown in the last part of the chapter.

The first measurements of capacity or ability to learn were simply unstandardized observation of children by parents and neighbors. The measurements were inevitably inaccurate because of numerous errors such as parental vanity, neighborly jealousies, etc. If the work is to be done accurately and scientifically we must make use of a reliable, impartial, standardized, measuring stick such as the standardized test is rapidly coming to be. The use of tests

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for selective purposes unquestionably demonstrated their worth during the recent war.

More and more educational selection is becoming an important function of the school. Private schools deny entrance to children whose learning capacity is judged to be below a certain standard. Public schools are sending pupils to special classes for the mentally slow. Certain public schools group pupils within each grade according to learning capacity. Other schools refuse admission to any whose capacity is not unusually great. Some countries, recognizing that its greatest asset is its children of genius and that these geniuses belong to the community rather than to particular parents, are selecting these children for special education. The time for this selection for special education is in the junior high school.

"When matters of such critical importance to the individual are at stake a democracy will not long tolerate a system of educational selection which does not utilize the most thoroughly scientific, impartial, impersonal, and rigidly standardized technique possible.<sup>(1)</sup> Standardized educational and psychological tests, inaccurate though they may be, are rapidly becoming recognized as the best means for educational selection. It is but a question of time until they supplant the traditional selective mechanism of home and school.

Three principles or near-principles will make clear the use of achievement tests for the purpose of guidance. The first principle is, that to guide a pupil into a specialized occupation a specialized

1. McCall, Wm. A. - How to Measure

In Education. - Macmillan Book Co. 1922.

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series of tests will be required. Certain traits such as mathematic-  
al ability, ability in drawing, musical composition, singing, (2) etc.  
may be so specific as to require a special diagnosis. It is fairly  
well established that a general intelligence test will not reveal  
whether an individual possesses the peculiar combination of traits  
requisite for success in certain specialized occupations. Thorndike's  
series of tests for clerical workers, and Seashore's tests of music-  
al capacity, Roger's tests for the diagnosis of mathematical ability,  
and the Stenquist Mechanical Aptitude Tests are all attempts to  
measure the degree of presence of certain specialized abilities or  
aptitudes.

The second principle is that the lower we go in the occupation-  
al scale and the less the exercise of intelligence is required the  
less significant is an intelligence measurement as a basis for voca-  
tional guidance. Simple computation, checking, and the like in cler-  
ical work are usually done about as well by persons of moderate  
intelligence as by persons of high intelligence, for the reason that  
the exercise of no more than a rudimentary intelligence is required.  
Appropriate specialized tests could easily discover individuals of  
low intelligence who have enough aptitude to actually do better work  
than individuals of higher intelligence. On the other hand, the  
higher up the occupational scale one goes, and the more the posi-  
tions become responsible ones, and the more they require the exer-  
cise of a broad general intelligence, the more significant differ-  
ences in intelligence becomes for purposes of educational and

2. McCall, Wm. A. - How to Measure Intelligence in Education. - Macmillan

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vocational guidance.

The third possible principle is that disabilities are more frequent than special aptitudes. It is the presence of special disabilities which often explains why an otherwise gifted individual fails to succeed in some highly specialized occupation. More will be said on this point in the next division of this chapter.

Time does not permit the measurement of intelligence and the measurement of all possible abilities and disabilities. Certain traits of an individual need never be measured except in connection with certain occupations. However, a cumulative record of a pupil's scores on educational tests given during his stay in the junior high school should be a very great aid and time-saver to the vocational and educational counselor. A pupil whose spelling is abominable is not likely to succeed as a stenographer. A pupil who is slow and inaccurate with numbers will be handicapped as a bookkeeper or accountant. A survey is urgently needed to locate the common causes of pronounced failures or pronounced successes in various occupations in order that vocational and educational counselors may be on the alert for the presence of these traits.(3)

3. I bid.

## Aptitude Tests

### Special Abilities and Disabilities.

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While intelligence scores of a certain level may be used as a fairly good index of the vocations or courses of study in which the child might expect success, the public in general will wish to have further evidence from the actual success or failure of children who have been guided into the vocations or into educational courses on the basis of the results of intelligence tests. Furthermore, it is quite clear that one can not use the test results alone as a basis for the guidance of pupils, for a given score in such a test may be typical of successful persons in a half dozen or more different specific vocations or curricula. The interpretation of the intelligence tests in educational and vocational guidance is largely negative, suggesting lines of work in which the child will probably fail rather than asserting that the individual will be successful in a given field. Tests of aptitude and probable success in specific lines of endeavor are much needed by those engaged in guiding young people. Such specific tests, used in the junior high school in connection with courses for exploration or try-out and discovery of vocational interests, would supplement the negative evidence of the intelligence tests and make a real science of educational and vocational guidance.(1)

1. Trabue, M. R. - Twenty-first Year Book. P. 177.

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Notable work in devising tests for educational and vocational guidance has been done by Dr. L. L. Thurstone in the Thurstone Vocational guidance tests, consisting of tests in Arithmetic, Algebra, Geometry, Physics, and Technical Information, particularly with reference to entrance to engineering colleges. This test cannot be used, however, in guidance in the junior high school because of the use of the advanced subjects.

The Stenquist Mechanical Aptitude tests as herein described have been found effective in detecting one special ability, namely general mechanical aptitude. They have been shown to reveal very great differences among school children of junior high school age, some pupils possessing many times as much of this ability as others.

In the public schools of Manhattan, New York City, out of over 2000 pupils who were given these tests, the scores ranged from 13% right up to nearly 90% right.<sup>(2)</sup> That is, some children possess practically no information about the nature of things mechanical, having practically no aptitude in solving problems that require reasoning in mechanical terms, while others have unusual ability of this kind and show a remarkable understanding of the nature of mechanical devices.

Where this knowledge is obtained by the typical American child cannot be fully answered here. But the explanation of the fact that one pupil knows a great deal and another almost nothing about the mechanical principles of the hundreds of devices, toys, and machines

2. Stenquist, J. L. - Bureau of Reference, Research, and Statistics.  
New York City. - Manual of Directions.

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with which both are surrounded might quite well be based in a large measure upon original nature - the native interests and aptitude of each individual child. At first thought it would seem as tho it were entirely a matter of training - that the boy who has had shop and science courses must in every case know much more about this field than the one who had not. This, however, we do not find to be the case. Special training provided in courses is, to be sure, one important factor. But the child who is by nature mechanically inclined obtains a general knowledge and develops a certain mechanical reasoning ability that is almost uncanny, out of his everyday experience. Every toy, every machine, every workshop that he sees contribute to his general knowledge of this field, because of his native interest in them.

It is obvious that a definite measure of general mechanical aptitude constitutes a valuable guide in advising pupils in the choice of courses, especially courses that involve choice of vocation. If he wishes to enter any of the mechanical fields, it is of greatest importance that he possess natural aptitude for such work. Whether or not he has this attribute is too often nearly a guess. Here a definite test is invaluable, provided always that test results are intelligently interpreted and properly used. "Too frequently a "mechanical career" for example, is recommended to a pupil merely because he is backward in the more abstract book subjects - as a convenient way around a perplexing situation."

There is no evidence to show that because a pupil scores low in general intelligence he is likely to score high in general

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mechanical ability. The facts are rather the reverse, the correlation between the two abilities ranging from .2 to .4.(3) The more important point to keep in mind is that these two types of ability are largely independent of each other: that the so-called stupid child may possess marked mechanical ability, but the bright child is even more likely to possess marked ability of the same sort.

The following results were obtained by J. L. Stenquist(4) when six intelligence tests and four mechanical aptitude tests were given to 275 seventh and eighth grade boys. Group B or 20% were above the average in mechanical aptitude and below the average in general intelligence, group A or 26% were above the average in both kinds of tests, group D or 23% of the cases were high in general intelligence and below the average in mechanical aptitude and 31% of the cases, or group C, were below the average in both general intelligence and mechanical aptitude.

In this last group mentioned, or in the 31%, there would undoubtedly be some with special ability in lines not tested by any of the tests mentioned. There is a great field for tests of a similar nature along other lines than mechanics.

In the chart which follows an attempt has been made to illustrate the use of the three different kinds of tests - general intelligence tests, achievement tests and special aptitude tests - for the purpose of the educational and vocational counselor in the junior high school.

3. I bid.

4. Stenquist - "Case of the Low I. Q." Journal of Educational Research - Nov. 1921.

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Chart showing results of the three different kinds of tests mentioned above, when given to nineteen boys in grade 7B. also teacher's estimates and school marks for the same group.

RESULTS OF ACHIEVEMENT, GEN. INTELLIGENCE & MECH. APTITUDE TESTS COMPARED WITH SCHOOL MARKS & TR. ESTIMATE OF 19 B7 GRADE BOYS.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
	90 to															RQ		S. S. S. S.		M				
Norms	12-6	110		1	2	3	4	56	72	80	80	80	81	83	74	100	71	4.7	PR	PR	67	251		
1	11-11	100	B	B	B	B	B	56	66	76	79	47	83	77	61	100	78	4.5	26	25	C	67	207	
2	13-2	106	B	B	B	B	C	B	54	75	84	88	90	80	93	85	113	101	4.2	44	31	B	91	258
3	12-6	129	D	D	C	C	C	F	58	79	85	83	82	82	86	80	119	102	5.0	79	69	A	127	297
4	13-5	100	C	C	C	C	C	F	54	71	90	76	78	85	88	68	104	95	3.8	53	48	C	89	245
5	15-3	77	D	D	C	F	C	F	44	72	65	76	74	73	77	58	85	64	2.8	53	57	B	60	202
6	12-10	89	C	C	C	B	C	B	47	68	76	77	81	81	81	63	86	86	2.8	60	53	B	64	186
7	12-4	137	D	D	B	B	F	F	70	71	78	78	88	74	83	77	118	110	3.3	56	42	A	143	311
8	13-3	109	C	C	C	A	B	C	55	76	84	79	86	84	76	66	101	99	2.8	62	51	B	108	263
9	12-10	106	C	C	C	A	C	F	65	69	84	81	71	76	86	68	101	100	5.0	53	50	B	78	260
10	15-0	76	D	D	F	A	C	F	52	75	73	65	47	72	75	64	68	82	3.8	35	34	C	56	184
11	15-3	91	D	D	D	B	C	F	56	82	95	70	68	72	77	67	81	81	5.0	70	57	A	106	244
12	14-0	91	D	D	C	B	C	F	56	70	69	70	77	71	86	72	99	98	4.4	57	55	C	63	236
13	12-4	113	C	C	B	B	B	C	61	76	66	78	79	87	82	71	101	101	6.5	54	55	B	104	250
14	12-8	91	C	D	B	B	B	C	56	75	67	71	57	81	77	71	90	72	4.5	57	37	C	41	213
15	15-3	82	E	E	F	F	F	F	48	60	66	71	65	57	81	62	65	75	3.8	48	43	B	65	220
16	13-9	94	B	B	C	B	B	C	51	70	80	71	70	81	80	56	87	79	2.8	62	59	C	71	242
17	13-8	101	D	D	C	C	C	F	56	82	65	81	77	98	74	51	94	76	3.2	63	62	A	84	260
18	14-8	92	D	D	F	F	F	F	54	62	92	81	86	82	80	79	98	104	2.8	55	50	C	108	226
19	12-9	102	C	C	C	B	C	C	60	82	82	70	52	83	83	54	97	89	3.8	59	53	B	87	230

\* PR As compared with boys 15-6 years of age

- |  |  |
|--|--|
| 1 Age  | 12 Geography information                                   |
| 2 I. Q.                                      | 13 Geography thought                                       |
| 3 Teacher's estimate of scholarship          | 14 Van Wagenen History reading scale - A                   |
| 4 Teacher's estimate of intelligence         | 15 Thorndyke McCall Read. Scale                            |
| 5 School marks (Reading - 1<br>(Spelling - 2 | 16 Thorndyke Visual vocabulary A2 - (x) (Nassau Co. Supple |
| 6 School marks (Arith. - 3<br>(Geog. - 4     | 17 Composition (ment to the (Hillegas scale                |
| 7 Spelling scale Alpha                       | 18 Stenquist Mechanical Aptitude-1                         |
| 8 Woody multiplication scale - C             | 19 Stenquist Mechanical Aptitude-2                         |
| 9 Buckingham Arith. Prob. Scale - 1          | 20 Estimate of Shop Teacher                                |
| 10 History information                       | 21 Terman General Intelligence Test                        |
| 11 History thought                           | 22 National Intelligence Tests A&B.                        |

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As an illustration of a scientific method of work to be used by the educational and vocational counselor the writer has secured data consisting of twenty-two different items on each of the nineteen boys. In addition to this he has a personal acquaintance of nearly one school year in many phases of school life including having the individuals in his class daily.

The red figures at the top of the chart are norms for each test for grade 7B in as many cases (~~as many cases~~) as norms are necessary. The red figures at the left are the numbers of the nineteen boys of the group used in place of their names.

Items three and four at the top of the chart are a combined judgment of three teachers who have had at least a year of personal acquaintance with the individuals in their classes.

Items five and six are the average marks in the school subjects indicated at the end of the 7C grade or first three months of the seventh grade.

The letters in column twenty indicate the estimate of the manual training instructor as to the mechanical ability of each individual of the group.

Besides these teachers estimates and school marks the writer gave the following achievement tests to the group - Spelling Scale Alpha, Woody Multiplication Scale C, Buckingham Arithmetic Problem Scale 1, American History Information Scale C, American History Thought Scale C, Van Wagenen Geography Information Scale A, Van Wagenen Geography Thought Scale A, Van Wagenen History Reading Scale A, Thorndyke - McCall Reading Scale Form 1, Thorndyke Visual

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Vocabulary Scale A2 Series x, and the Nassau County Supplement to the Hillegas Scale for Measuring the Quality of English Composition.

The tests for special ability or aptitude that were given are the Stenquist Mechanical Aptitude Tests both test one and test two.

The Terman General Intelligence test was given to all members of the group as well as the National General Intelligence Tests both form A and form B and the I. Q. for each individual figured from the combined results of the three intelligence tests.

In columns eighteen and nineteen on the chart the raw score on the test is given but the significant figure is the P. R. or percentile rank (given in red). Thus if a boy has a P. R. of 28 it means 28% of boys of his own age score lower on the test and 72% score higher.

In column fifteen the scores given are in terms of the R. Q. or reading quotient. The R. Q. in the case of a normal individual being 100 if he has normal reading ability.

There are many other factors, besides the ones indicated on the chart, to be taken into consideration before attempting to give either educational or vocational guidance. The counselor must consider the pupil's health, interest, perseverance, personality, etc., as well as his parent's wishes and aspirations or ability to help in the matter of his education or training for the occupation chosen.

Let us assume that these outside factors are being taken into consideration and from the criteria given on the chart see what advice a counselor might give to some of the individuals selected at

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random, always remembering that it is the counselor's business merely to collect the need<sup>ed</sup> information and advise, but the pupil is to make his own choice. We may also assume that the pupil is a student in a modern junior high school where such classes as Vocational Information or Occupational Study, Citizenship Classes, Life Career Classes and other modern courses are a part of the curriculum.

Pupil number one, for instance, is a little younger than the average for the grade, has an I. Q. of 100 which is normal. The teachers of academic subjects have a fairly good opinion of his scholarship and intelligence and he gets good marks in the academic school subjects. However, he is just at the norm or a little below in most of the achievement tests. He is low in tests 8, 9, 11, 13 & 14 all of which require reasoning ability. He does better in the other tests which are largely memory work. The shop teacher rates him rather low in mechanical ability and the two Stenquist tests for mechanical aptitude show him as having a P. R. (percentile rank) of about 26 or 27 or that he has only a small amount of ability along mechanical lines. His scores in the intelligence tests show him to be about normal or as having a normal amount of general intelligence. This pupil would probably have a hard time in such subjects as science and mathematics but would be able to get along fairly well in history and languages where he would have an opportunity to study the printed page and remember the information stated but not have to reason. He would do fairly well at an academic college if the right subjects were chosen and would later probably be a success as a librarian or newspaper man. If he did not go to college, he could

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be a good telegraph operator, provided he had the necessary muscular reaction or he could be a success in a clerical position requiring a small amount of mathematics and a good memory such as mail clerk or information clerk in a railroad office.

When we study pupil number three we see that for some reason his teachers in the academic subjects have entirely misjudged him.

He is the proper age for the grade, has a high I. Q. of 129 and is above the norm in every achievement test and doing work comparable to his general intelligence scores which are high. It is not hard to find the field of his natural aptitude however when we look at his P. R. in the Stenquist tests. When we average the two he gets a P. R. of about 98 not only when compared with boys of his own age but when compared with boys three years older. This boy will no doubt be a success in any profession which he wishes to take up when he goes to college or university. However, his strongest interest is of a mechanical nature and he has already expressed himself<sup>as</sup> wanting to go to the University and take an engineering course. He will no doubt be a success. He would most likely do just as good work in the ninth grade if allowed to skip the eighth grade.

Let us look at pupil number five. He is three years over age for the grade. Gets low marks from all his teachers except his shop teacher. He is considerably below the norm for the grade in all the achievement tests. He has a low I. Q. of 77 and low scores on the intelligence tests. When we average the P. Rs. on the Stenquist tests however we get a P. R. of 85. He has the ability of the upper 25% along mechanical lines. He should be and has been sent to a

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vocational school. He is studying to be an electrician and has been at it several months. He is happy in his work and is making good.

In pupil number seven we have an entirely different case. He has a high I. Q. of 137 and high scores in the General Intelligence Tests. He has a high reading quotient and gets a high score in the Thorndyke Vocabulary Test. His teachers of academic subjects give him a low rating and he gets poor marks in his school subjects except reading and spelling. He has a P. R. of 88 in mechanical aptitude but could no doubt do better than that in any of the other subjects if given the proper motivation. There are many pupils in our schools today that are not making use of their ability the same as this boy. This boy could make a success of anything in which he became interested and to which he applied himself. At present he is not doing his school work because he is not interested.

In number fifteen we have another boy of the same type as number five. He is three years over age for the grade, has a rather low I. Q. of 82 and his teachers give him F in all his school work. He falls some distance below the norm in all the achievement tests and slightly below in the general intelligence Tests. He has an average P. R. of 68 in the mechanical aptitude tests. While this P. R. is not high it is an indication that he would do better in this kind of work than he can do in the other subjects. An attempt was made to send this boy to a vocational school but his parents objected because of the additional expense. However that is certainly the place he should go as he will no doubt stop school as soon as he becomes sixteen years of age. It will be a good thing for such boys

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when Minnesota has a part time compulsory education law up to eighteen years of age. There is a strong indication that such a law will be passed at the next session of the state legislature.

The Educational and Vocational Guidance Situation in One Hundred  
Thirty-Five Junior High Schools.

Chapter IV.

This chapter will deal entirely with the tabulation of the information obtained from sending out 350 questionnaires to junior high school principals, concerning, educational<sup>k</sup> vocational guidance in their respective schools. The purpose of the questionnaire was to find out what is being done in regard to educational and vocational guidance throughout the United States. 152 questionnaires were returned, but out of this number 17 were not filled out because no educational or vocational guidance work was being done in these schools. Six of these 17 principals in replying stated that they planned to do some of this work in the near future. The figures and percentages in the tables which follow are therefore based on the 135 questionnaires that were filled out in whole or in part indicating definitely that educational and vocational guidance work is being done in these schools. The information is tabulated separately for each question as it appears in the questionnaire which was sent and a copy of which is shown on pages 45, 46, 47, and 48. In the appendix will be found a list of the cities by states from which the 135 replies to the questionnaire were received. This table also shows the number of schools replying from each city and the average or actual enrollment of each.

The map on page 44 shows the geographical distribution of the

## Chapter IV.

cities. The number indicates the number of schools replying from each city.

In the table which follows the cities are distributed according to the following sections of the United States.

Section 1. New England - includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.

Section 2. Middle Atlantic - includes New Jersey, New York and Pennsylvania.

Section 3. East North Central - includes Illinois, Indiana, Michigan, Ohio and Wisconsin.

Section 4. West North Central - includes Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.

Section 5. South Atlantic - includes Delaware, District of Columbia, Florida, Maryland, North Carolina, South Carolina, Virginia and West Virginia.

Section 6. East South Central - Alabama, Kentucky, Mississippi and Tennessee.

Section 7. West South Central - includes Arkansas, Louisiana, Oklahoma, and Texas.

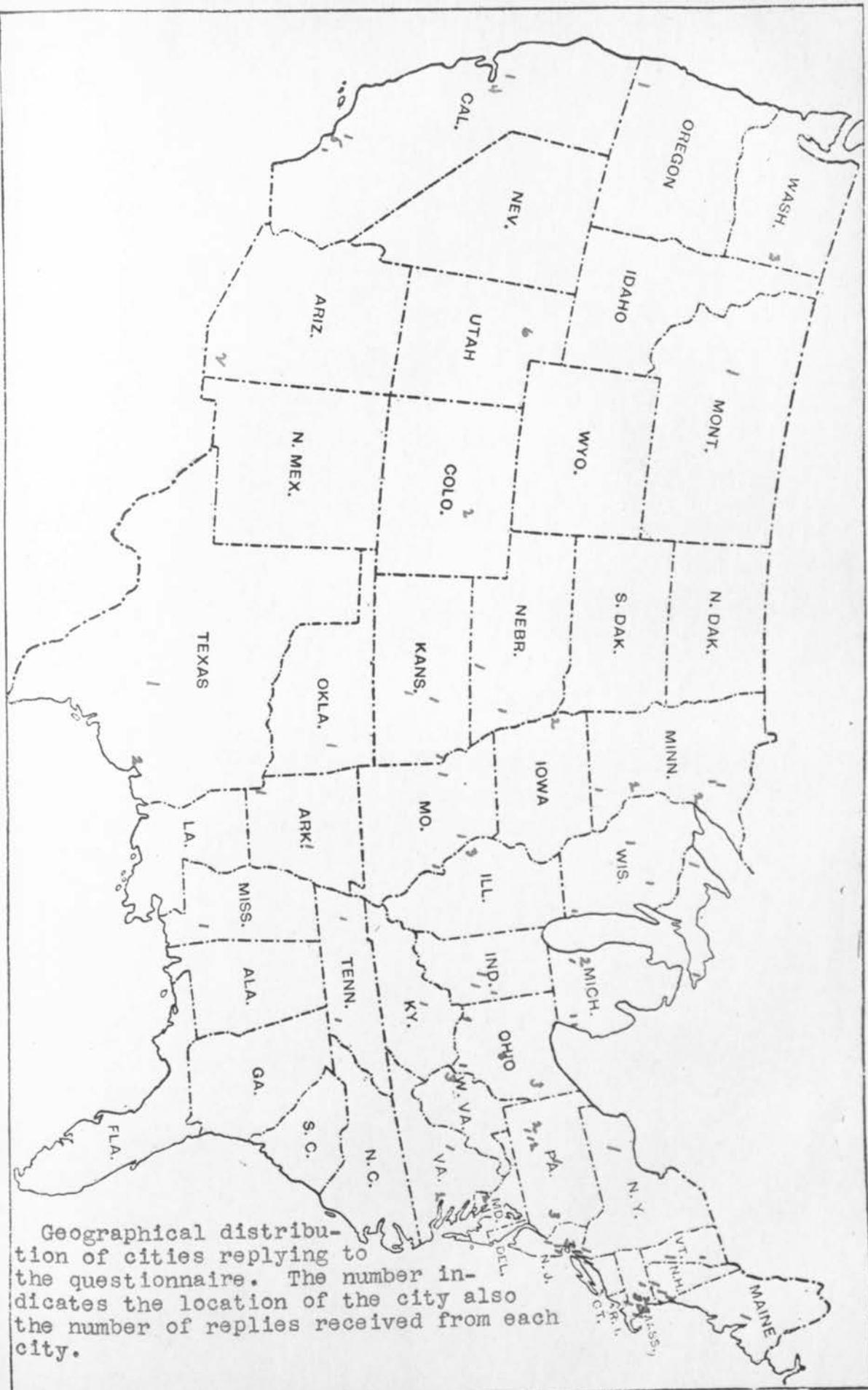
Section 8. Mountain - includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming.

Section 9. Pacific Coast - includes California, Oregon and Washington.

The total number of cities in each section and the percent of replies from each section is shown in the following table.

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Section	Number of Cities	Percent from each section
3	17	.21
2	14	.173
4	14	.173
1	12	.148
9	7	.086
7	5	.062
5	4	.049
6	4	.049
8	<u>4</u>	<u>.049</u>
Total	81	100%



Geographical distribution of cities replying to the questionnaire. The number indicates the location of the city also the number of replies received from each city.

1922.

City \_\_\_\_\_ State \_\_\_\_\_

To Junior High School Principals:

Under the supervision of the Department of Education of the University of Minnesota, I am making a study of "Educational and Vocational Guidance in the Junior High School." Toward that end I am sending out this questionnaire to the Junior High Schools throughout the United States.

The purpose of the study is to determine the methods of educational and vocational guidance in use in the Junior High Schools and to suggest new methods not commonly known, I hope through this study to contribute information that will be of value to Junior High School teachers and principals.

When you return this questionnaire, will you kindly enclose any printed material used in your schools for the purpose of educational and vocational guidance such as:

- I. Record cards.
- II. Questionnaires which pupils are required to fill out.
- III. A copy of any special ability tests which you use.
- IV. Any other printed material used for the purpose.

Your help in this study will add greatly to its value and will be very much appreciated.

Very sincerely,

W. P. von Levern.

QUESTIONNAIRE

Concerning Educational and Vocational Guidance

in the

JUNIOR HIGH SCHOOL

I. Check the following curriculums that are offered and list any others which you are offering.

- (a) General course for senior high school entrance.
- (b) Commercial course.
- (c) Industrial course.
- (d) Household Arts course.
- (e) \_\_\_\_\_
- (f) \_\_\_\_\_
- (g) \_\_\_\_\_
- (h) \_\_\_\_\_

II. In the following list check the subjects which are taught with direct reference to (definitely planned to aid in) educational and vocational guidance, and list any others.

- |                    |                    |                           |
|--------------------|--------------------|---------------------------|
| 1. English         | Reading _____      | 2. Arithmetic _____       |
|                    | Written _____      |                           |
|                    | Oral _____         |                           |
| 3. Geography _____ | 4. History _____   | 5. Economics _____        |
| 6. Civics _____    | 7. Sociology _____ | 8. Science _____          |
| 9. Drawing _____   | 10. Music _____    | 11. The Manual Arts _____ |
| 12. _____          | 13. _____          | 14. _____                 |
| 15. _____          | 16. _____          | 17. _____                 |
| 18. _____          | 19. _____          | 20. _____                 |

III. In the following list mark (X) if subjects are required and (V) if elective. List others of a similar nature.

- (a) Life career classes \_\_\_\_\_
- (b) Citizenship classes \_\_\_\_\_
- (c) Vocational information or occupational study \_\_\_\_\_
- (d) Class for teaching pupils how to study \_\_\_\_\_
- (e) \_\_\_\_\_
- (f) \_\_\_\_\_
- (g) \_\_\_\_\_
- (h) \_\_\_\_\_

IV. (a) State total number of pupils in school \_\_\_\_\_  
 (b) State number of pupils who attend school on the co-operative part time or half time plan \_\_\_\_\_

V. Do you do placement work for pupils who stop school? \_\_\_\_\_  
 (Yes or No)

VI. What method of follow up work do you use after placement? \_\_\_\_\_

VII. Do you co-operate with the following or any other organizations?

(a) U. S. Junior Employment Service \_\_\_\_\_  
 (Yes or No)

(b) Central Clearing Agency \_\_\_\_\_  
 (Yes or No)

(c) Philanthropic Bureaus \_\_\_\_\_  
 (Yes or No)

(d) \_\_\_\_\_

(e) \_\_\_\_\_

(f) \_\_\_\_\_

(g) \_\_\_\_\_

(h) \_\_\_\_\_

VIII. Do you make a job analysis where students are placed? \_\_\_\_\_  
 (Yes or No)

(a) How is occupational information obtained? \_\_\_\_\_

IX. Do you supervise \_\_\_\_\_ or keep a record of \_\_\_\_\_ employment during school  
 vacations or work outside of school hours? \_\_\_\_\_  
 (Yes or No) (Yes or No)

X. (a) Do you receive a cumulative record of the pupil from the first six grades? \_\_\_\_\_  
 (Yes or No)

(b) Do you keep a cumulative record of the pupil while in junior high school? \_\_\_\_\_  
 (Yes or No)

XI. Are pupils required to fill out an informational questionnaire upon entrance to junior high school?  
 \_\_\_\_\_  
 or at any other time \_\_\_\_\_  
 (Yes or No)

XII. List the subjects which you give as try-out courses and time spent on each.

	No. of Weeks	Hours per Week
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____

XIII. Do you use general intelligence tests \_\_\_\_\_ and tests for special ability \_\_\_\_\_  
(Yes or No) (Yes or No)  
in classifying pupils?

(a) For what classifications? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

XIV. List any clubs or organizations promoted by the school which are conducted so as to have educational or vocational guidance value.

- |           |           |
|-----------|-----------|
| 1. _____  | 13. _____ |
| 2. _____  | 14. _____ |
| 3. _____  | 15. _____ |
| 4. _____  | 16. _____ |
| 5. _____  | 17. _____ |
| 6. _____  | 18. _____ |
| 7. _____  | 19. _____ |
| 8. _____  | 20. _____ |
| 9. _____  | 21. _____ |
| 10. _____ | 22. _____ |
| 11. _____ | 23. _____ |
| 12. _____ | 24. _____ |

XV. Do you give credit for passing grade in a subject pursued for a definite period of time \_\_\_\_\_  
(Yes or No)  
or for definite tasks satisfactorily performed? \_\_\_\_\_  
(Yes or No)

XVI. In the following list, check method of counseling in your school or state method used.

- \_\_\_\_ (a) One counselor trained for the purpose who does all the work. \_\_\_\_\_  
\_\_\_\_ (b) One counselor trained for the purpose and assisted by teacher advisers and given definite hours for that purpose. \_\_\_\_\_  
\_\_\_\_ (c) No counselor employed for the work but a group of teachers given definite hours for that purpose. \_\_\_\_\_  
\_\_\_\_ (d) Work done by home teachers or home room teachers and not given time for the work. \_\_\_\_\_  
\_\_\_\_ (e) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

XVII. If one person is employed as counselor or educational and vocational guidance director state the training of that person for the position.

1. Number of years' attendance in high school \_\_\_\_\_ Graduate? \_\_\_\_\_ (Yes or No)  
2. Number of years' attendance in normal school \_\_\_\_\_ Graduate? \_\_\_\_\_ (Yes or No)  
3. Number of years' attendance in college or U. \_\_\_\_\_ Graduate? \_\_\_\_\_ (Yes or No)  
4. Number of years' attendance in special schools \_\_\_\_\_ Graduate? \_\_\_\_\_ (Yes or No)

(a) What school? \_\_\_\_\_

5. State amount in years \_\_\_\_\_ and nature of experience in work other than present position \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. State number of years' experience as counselor or vocational and educational guidance director

XVIII. Do you have a visiting teacher to visit the homes of the pupils? (Yes or No)

XIX. Check form of student government in your school.

(a) Strong

(b) Partial

(c) None

XX. Check the following agencies used in your school for educational and vocational guidance and list others.

( ) 1. Library ( ) 2. Museums

( ) 3. Talks on higher education

( ) 4. Talks by business and professional men upon their business or profession.

( ) 5. Physical examination.

( ) 6. Pupils given a chance to visit upper classes.

( ) 7. Pupils allowed to change electives of course after try-out.

(a) At what time are they allowed to change?

( ) 8. Pupils allowed to change to other courses.

(a) At what time?

(b) Under what conditions?

( ) 9. Educational and Vocational Scholarships.

( ) 10. Supervised study. ( ) 11. Advisory periods.

( ) 12. Moving pictures.

( ) 13. Auditorium periods at which pupils tell what they are doing in their classes.

( ) 14.

( ) 15.

( ) 16.

( ) 17.

( ) 18.

Signed \_\_\_\_\_

School \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

## Chapter IV

The replies to question 1 show that

1 Five curriculums are being offered in the junior high schools at the present time. The number and percentages of each follow:

	Number of Schools	Percent
1. General Course for senior high school entrance	112	82
2. Commercial Course	82	60
3. Industrial Course	79	58
4. Household Arts Course	68	50
5. Agricultural Course	6	4

11 The purpose of the second question was to determine to what extent the regular school subjects were being taught with direct reference to educational and vocational guidance. The table below shows the number and percent of schools teaching the regular school subjects with a direct bearing on educational and vocational guidance.

	Number of Schools	Percent
1. English (Reading (Written (Oral	54	40
	51	37.7
	52	38.5
2. Arithmetic	53	39.2
3. Geography	42	31
4. History	40	29.6
5. Economics	9	6.6
6. Civics	65	48
7. Sociology	5	3.7
8. Science	45	33.3

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	Number	Percent
9. Drawing	50	37
10. Music	32	23.7
11. The Manual Arts	66	49
12. Household Arts	8	5.9
13. Industries & Occupations	8	5.9
14. Latin	5	3.7
15. French	8	5.9
16. Bookkeeping	6	4.1
17. Electricity	2	1.4
18. Printing	4	2.9

III Replies to question III indicate that there is little uniformity of opinion to whether the following subjects should be required of all pupils or elective. The larger number however seem to feel that they should be required subjects.

	Required No.	%	Elective No.	%
a. Life Career Classes	10	7.4	3	2.2
b. Citizenship Classes	45	35.5	11	8.1
c. Vocational Information or occupational study	31	22.9	13	9.6
d. Classes for teaching pupils how to study.	37	27.4	4	2.9

IV Out of the 135 junior high schools eleven or 8.1% have students attending school on the co-operative part time or half time plan.

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	Total enrollment	Number attending part time	Percent attending part time
1.	554	71	.128
2.	1807	700	.388
3.	1392	326	.324
4.	576	20	.035
5.	320	2	.006
6.	940	2	.002
7.	1116	5	.004
8.	200	3	.011
9.	590	4	.006
10.	320	15	.047
11.	350	2	.005

V Twenty-four (24) or 17.7% of the junior high schools do placement work for pupils who stop school, 76 or 56.2% do no placement work and 35 or 25.9% did not report on this question.

VI Practically none of the junior high schools reporting have a well organized method which they use for follow up work after placement. The following table shows the returns on this question.

	Number	Percent
Follow up occasionally	7	5.1
Do nothing definite	3	2.2
Visits by Director of Vocational Guidance	3	2.2
Reports from employer	4	2.9
Work done by continuation school	7	5.1
Principal visits factories	3	2.2

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	Number	Percent
Work done by Attendance Dept.	6	4.4
Work done by Department of Placement	<u>3</u>	<u>2.2</u>
Total	36	26.3

The remaining ninety-nine schools did not report on this question.

VII Very few of the junior high schools co-operate at all with the United States Junior Employment Service, or a Local Central Clearing Agency, but 20% of them co-operate with some philanthropic bureau or organization.

	Co-operate		Do not co-operate	
	No.	%	No.	%
Co-operative organization				
U. S. Junior Employment Service	4	2.9	89	65.8
A Central Clearing Agency	3	2.2	88	65
Philanthropic Bureaus or organizations	27	20	77	57

VIII Four or 2.9% of the 135 junior high schools reporting make a job analysis of the jobs in which pupils are placed. Eighty-one (81) or 60% do no work of this kind. The remaining 50 or 37% did not report on this question.

LX A comparatively small number of the junior high schools supervise or keep a record of the work of their pupils outside of school hours or during school vacations for the purpose of educational and vocational guidance. The exact results follow:

Supervise		Keep Record		Do not Supervise		Do not keep record	
No.	%	No.	%	No.	%	No.	%
10	7.4	20	14.8	79	58.4	67	49.6
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X A cumulative record of the pupil showing his success or failures during his entire school life contains valuable information for the use of the vocational and educational counselor. The following table shows what is being done along this line in the junior high schools throughout the country.

Receive cumulative record from 1st six grades		Do not receive cumulative record from 1st six grades		Keep cumulative record in J. H. S.		Do not keep cumulative record in J. H. S.	
No.	%	No.	%	No.	%	No.	%
77	.57	33	24.4	104	80	6	4.4

X1 A large amount of information valuable to the educational and vocational guidance counselor may be secured directly from the pupils by having them fill out an informational questionnaire concerning themselves, their ambitions and plans for realizing their ambitions. The table below shows what use is being made of this device at the present time.

Pupils fill out informational questionnaire		Pupils do not fill out informational questionnaire	
Number	Percent	Number	Percent
63	46.6	72	53.4

X11 The try-out courses listed in reply to question X11 show great variety both as to subjects offered and time spent on each.

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Subject	Number of Schools reporting	Number of weeks	Number of hours per week
1. Printing	8	5 to 10	3 to 10
2. Latin	8	5 to 19	4 to 5
3. Mechanical Drawing	7	6 to 12	4 to 10
4. Electricity	7	5 to 12	4 to 10
5. Woodwork	7	6 to 12	4 to 10
6. Sheet Metal	6	5 to 12	4 to 10
7. French	6	5 to 19	5
8. Science	5	5 to 19	4 to 5
9. Sewing	4	9 to 12	4 to 10
10. Cooking	4	9 to 12	4 to 10
11. Auto Mechanics	3	5 to 10	4 to 5
12. Machine Shop	3	6 to 10	4 to 5
13. Spanish	3	12 to 19	5
14. Bookkeeping	3	5 to 12	5
15. Stenography	3	5 to 12	5
16. Lathe Work	2	6 to 12	5
17. House Construction	2	6 to 12	4 to 5
18. Drawing (free hand)	2	5 to 6	4 to 5
19. Algebra	1	6	5
20. Nursing	1	12	10
21. Millinery	1	12	10
22. Laundry	1	12	10
23. Cement Work	1	12	5
24. Pattern Making	1	9	4

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Subject	Number of Schools reporting	Number of weeks	Number of Hours per week
25. Planing Mill	1	9	4
26. Elementary Bench Metal Work	1	9	4
27. Tin can toys	1	12	5

In all 24 schools or 17.7% reported on this question. 111 schools 82.3% have no try-out courses.

X111 The use of intelligence tests and tests for special ability in the junior high schools throughout the country for classifying pupils is not as extensive as might be expected considering the mass of current literature on the subject.

Use Intelligence Tests		Do not use Intelligence Tests		Use tests for special ability		Do not use tests for special ability	
Number	Percent	No.	%	No.	%	No.	%
79	58.4	24	17.7	46	34	38	23.7

There were 14 schools<sup>or</sup> 10.3% did not reply as to the use of intelligence tests and 26 or 19.3% did not reply as to the use of tests for special ability.

There were five purposes given for which these tests were used.--- 45 schools or 33.3% used them for the grading of classes; 12 schools or 8.8% used them to help in choosing the courses a pupil should take; 12 or 8.8% used them for the purpose of individual placing; 3 or 2.2% used the tests to segregate the backward pupils and 2 schools or 1.4% used them as a check against teachers marks.

XIV A total of 72 schools or 53% reported clubs or organizations promoted by the school and conducted in such a way as to have educational or vocational guidance value. The names<sup>of</sup> clubs or organizations are listed with the number of schools reporting same.

Name of Club	Number of School	Percent of Schools
1. Glee Club	25	18.6
2. Orchestra	23	17
3. Dramatic	20	14.8
4. Radio Club	18	13.3
5. Art	15	11.1
6. Literary	14	10.3
7. Modern Language	12	8.8
8. Athletic	11	8.1
9. Civics	11	8.1
10. Girl Scouts	10	7.4
11. Boy Scouts	8	5.9
12. Science	8	5.9
13. Debate	8	5.9
14. Home Room Organization	7	5.1
15. Bird, Tree & Flower	6	4.4
16. School paper	5	3.7
17. Latin	5	3.7
18. Current Events	4	2.9
19. English	4	2.9
20. Travel	4	2.9
21. Fancy Work	4	2.9

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Name of Club	Number of School	Percent of Schools
22. Sewing	4	2.9
23. Gardening	4	2.9
24. Architecture	3	2.2
25. Chemical	3	2.2
26. Poultry	3	2.2
27. Mother Craft	3	2.2
28. Short Story	3	2.2
29. Mathematics	3	2.2
30. Furniture	3	2.2
31. Sign Painting	3	2.2
32. Good Time	3	2.2
33. Health	3	2.2
34. Business	2	1.4
35. Printing	2	1.4
36. Safety	2	1.4
37. Bank	2	1.4
38. Cooking for Boys	2	1.4
39. Darning&Knitting	2	1.4
40. Biology	2	1.4
41. First Aid	2	1.4
42. Reporter	2	1.4
43. Nature Study	2	1.4
44. Camera	2	1.4
45. Typewriting	2	1.4
46. Mandolin	1	

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Name of Club	Number of School	Percent of Schools
47. Sunshine	1	
48. Toy & kite	1	
49. Letter	1	
50. Dancing	1	
51. Chess	1	
52. Honor	1	
53. Mechanical	1	
54. Leisure Hour	1	
55. Hiking	1	
56. School City	1	
57. Achievement	1	
58. Jr. Red Cross	1	
59. Library Work	1	
60. History	1	
61. Home Making	1	
62. Vocational	1	
63. Agriculture	1	
64. Carpentry	1	
65. Cartoon	1	
66. Inventors	1	
67. Bible	1	

XV With regard to the basis for promotion and credit giving 74 schools or 54.7% use the familiar and traditional method of giving a passing grade in a subject which has been pursued for a definite period of time.

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In 54 schools or 40% credit is given for definite tasks satisfactorily performed. An insignificant number of schools use both methods.

XVI This inquiry shows that the counseling in the junior high school is still largely done by teachers who are not given time for the work. On the basis of the 135 schools under consideration the counseling is done as follows:

In 54 schools or 40% counseling is done by room teachers who are not given any special time allotment for the work.

In 15 schools or 11.1% the work is done by room teachers who are given time for the work.

In 15 schools or 11.1% have a counselor trained for the work and assisted by teachers who are given time for the work.

In 6 schools or 4.4% have a trained counselor who does all the work without assistance.

In 45 schools<sup>or</sup> 33% no counseling is being done.

XVII The training and experience of the 21 trained counselors employed in the junior high schools is shown in the following table.

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	Yrs H S	Grad	Yrs Nor- mal	Grad	Yrs Col- lege	Grad	Yrs Spe- cial	Grad	Names of special schools	Yrs in other work	Experience and nature of exper- ience	Yrs. as coun- selor
1			3	G			Some	No	Columbia	15 yrs	Teacher	3
2	4	G			3	G		No			Expert ac- countant part time	3
3	4	G			4	G	3 mo	No	Chicago School of Civics & Philan- thropy	20 yrs	Teaching	3
4	4	G			4	G	1/3	No	Columbia	None		
5	4	G			4	G				10	Voc. & Ed. Guidance	15
6	4	G			4	G				2	Voc. & Ed. Guidance	2
7	4	G			4	G	?	A.M.		8	Ind. Arts Ed.	3
8								A.M.	Leland Stanford			
9	3	G	3	G	3	No			Califor- nia State U.			2
10	4	G			4	G				6	Teacher	3
11	4	G	2							8 yr	Teacher of retarded pupils	2
12	4	G			4	G					Voc. coun- selor & Placement Tr.	
13	4	G			4	G			U. of P. student member of faculty	12	Teaching ad- ministrating Agency Man- ager	2
14	4	G	2	G			1		Columbia sp. course	8 4	Man. Tr. part time Mfg. exec- utive	
15	4	G	2	G			3		Cornell, Harvard, Columbia, Pa. State College	12	Teaching Ad- ministrating Agency Man- ager	2

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	Yrs H S	Grad	Yrs Nor- mal	Grad	Yrs Col- lege	Grad	Yrs Spe- cial	Grad	Names of special schools	Yrs in other work	Experience and nature of exper- ience	Yrs. as coun- selor
16	4	G	2	G	2	G	2½		U. of Mo. Kirksville State Teachers College Washington & Lee	12	Teaching Adminis- trating Agency Manager	2
17		G			4	G			U of Mich. Harvard Summer School	10	H S teach- er - War work in France	
18				G		G						
19	3	G			4	G			Several years study in Germany & France Summer School U of Cal.	10		3
20	4	G	2	G	2		1	G	Business College U of Cal.	2	Ginn & Co.	
21	4	G							Berkeley	28	Grade teacher and much practical home ex- perience	2

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XVIII In the matter of co-operation with parents thru teacher visits to the homes a very small number - 16 or 11.8% employ a teacher for visiting the homes of the pupils while 87 or 64% do nothing in this respect. The other 24.3% of the schools did not answer this question.

XIX Training in self control, and co-operation as expressed in the form of student-government used in the 135 junior high schools follows:

44.4% or 60 schools have a partial form of student government.

30.3% or 41 schools have a strong form of student government.

6.6% or 9 schools have no form of student government.

18.7% or 25 schools did not reply to this question.

XX The following table shows the agencies used for educational and vocational guidance purposes in the order of the frequency of occurrence in the 135 junior high schools.

<u>Agency</u>	<u>No. of Schools</u>	<u>Percentage of Schools</u>
1. Library	94	70
2. Talks on higher education	90	66.6
3. Physical Examination	88	65
4. Talks by business or professional men upon their business or profession	82	60.6
5. Supervised Study	81	60
6. Moving Pictures	50	37
7. Advisory Periods	46	34
8. Auditorium periods at which pupils tell what they are doing in their classes	43	34

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	<u>Agency</u>	<u>No. of Schools</u>	<u>Percentage of Schools</u>
9.	Museums	19	14
10.	Pupils given an opportunity to visit upper classes	16	11.8
11.	Assembly periods	8	5.9
12.	Educational & vocational scholarships	7	5.1
13.	Schools using none of the above agencies.	3	2.2

Section 7 of this question asked whether pupils are allowed to change electives of course chosen after a try-out and if so at what time. Without exception the answer to this question was, "Yes, whenever it is of advantage to the pupil to do so."

Section 8 of this question asked whether pupils are allowed to change to other courses and at what time. The answers are shown in the table below.

	<u>Time or reason for change</u>	<u>No. of Schools</u>	<u>Percentage of Schools</u>
1.	At any time	13	9.6
2.	At end of first semester	40	29.6
3.	When course is not profitable	32	23.7
4.	After consultation with parents and principal	30	22.2
5.	Request of parents	18	13.3
6.	Consent of parents	5	3.7
7.	If they can make up other work	4	2.9

This chapter has dealt only with the factual material obtained from the questionnaire. The conclusions of the writer and recommendations concerning these facts appear in chapter V.

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In general the returns on the questionnaire from the 135 cities show that a mere beginning has been made in carrying out the functions for which the junior high school was instituted. The traditional general course for senior high school entrance still predominates over other courses by 22% in spite of the fact that over half<sup>(1)</sup> of the pupils never enter the senior high school.

Twenty or 14.8% of the schools are doing good educational and vocational guidance work and making use of practically all the devices considered valuable for the purpose. Of this number however only 11.1% of the schools approach the ideal situation in the method of counseling, that is, employ a counselor trained for the work and assisted by teachers who are given time for the work. Unfortunately the counselors training and experience in most of these cases is very inadequate.

1. Bloomfield - Readings in Vocational Guidance. P. 6.

## Recommendations and Conclusions.

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In Chapter II was shown the present status of educational and vocational guidance, as gathered from the large amount of literature on the subject listed in the bibliography.

Chapter III gave an illustration of a scientific method of work by the use of standardized psychological tests. In Chapter IV is shown the present educational and vocational guidance situation in 135 junior high schools distributed throughout the United States. It is the aim of this chapter to state the conclusions which seem to be warranted by the evidence presented in the <sup>preceding chapters and to</sup> vocational guidance ~~in the~~ <sup>recommend a program of educational - and</sup> which might be used as a beginning in a well organized junior high school.

The questionnaire returns from the 135 junior high schools show that by far the larger number of junior high schools still cater to the minority who go on to senior high school and college, and are not doing nearly as much as might be expected for the 80% of the school children who never complete the senior high school or the 50% who do not finish the elementary school. Only 14.8% of the junior high schools replying indicate that they are making use of the numerous established and valuable devices for educational and vocational guidance. The other 85.2% use only a fraction of the numerous resources for the purpose at their disposal and 17 of the total 152 returns or 11.2% frankly admit they are doing nothing in the field

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of either educational or vocational guidance.

The following is submitted as a type of program of educational and vocational guidance in a well organized junior high school which would satisfy the principles set forth in the previous chapters.

1. Special vocational and educational counselors with adequate training should be employed in all junior high schools wherever there are persons whose satisfactory guidance requires individual conferences. Obviously this includes all junior high schools regardless of the number of pupils enrolled, but it does not prohibit a well qualified teacher from doing the counseling provided said teacher is given adequate time for doing the work.

2. Persons appointed as counselors should have a good general education and have made a study of economics, industry, psychology, and sociology. They must keep well informed about local vocational and educational opportunities and requirements, and should keep in touch with scientific investigations in the guidance field and aim to make contributions thereto.

3. Counselors should be appointed who are free from prejudices and who will insist upon the right to freely discuss with children the advantages and disadvantages of educational, vocational and industrial problems. A counselor prejudiced in favor of particular lines of pursuit be they industrial, academic or professional is vitiating the value of his services. No vocational and educational guidance department can fulfill its mission which leans toward one or another of the departments of human endeavor. Its business is to deal with facts, impartially, honestly and vigorously. To be suspected of one-sided sympathy is to lose a chance for large community service.

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4. Children should be classified into school room groups on the basis of individual differences revealed through the social life of the child, progress in school subjects, and the results of standardized psychological and educational tests. All group classifications should be regarded as tentative, being largely for the purpose of efficient learning and teaching.

5. Much care needs to be taken in order to intelligently interpret and wisely use the results of psychological tests. This is a most vital point concerning the use of all psychological tests and cannot be too greatly emphasized. There are many other factors or traits besides those which can be measured thru tests which are important and many times determinative of success - such as industry, perseverance, loyalty, cheerfulness, etc. It should be remembered that psychological tests are merely diagnosing instruments designed to function in the same way as a physician's stethoscope or thermometer, or better in the same way as the blood count or the pulse rate.<sup>(1)</sup> The person who is using tests must be clear as to the purpose for giving each particular test and clear as to the reliability of the results obtained. For many jobs average mechanical ability coupled with high general intelligence is adequate. For many others abstract general intelligence is of less importance and actual mechanical genius is of greatest importance. When intelligence tests are used the results must be interpreted in the light of other data indicative of capacity. In the case of school children such, "other data", are school marks, teachers estimates, school progress, etc.

1. Stenquist, J. L. - Manual of Directions.

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6. Junior high school teachers should relate their work to educational and vocational problems just as they now relate it to other phases of life activity, such as the cultural, recreational, civic and social. This means the elimination of much non-useful and non-practical subject matter and substitution of work that will broaden the child's vision of life's possibilities, broaden his sympathies so that he will appreciate the difficulties of the other man's work, and help to break down the prejudice against manual work.

7. For all children in the junior high school, before the school-leaving age, there should be provided a wide variety of try-out experiences in academic and industrial work as well as in co-operative pupil activities. Such try-out experiences are for the purpose of teaching efficiency in every day tasks, broadening the social and occupational outlook of the children, and discovering to them and their teachers their interests and abilities.

8. The life-career motive whether temporary or permanent, should be encouraged and should largely govern the choice of a curriculum in the junior high school and of certain elective subjects within the curriculum. This incentive may be fostered or gained through life-career classes, vocational information and occupational study, and citizenship classes. It does away with the aimless drifting through school and the not being equipped for any particular kind of work when the time comes to leave school or graduate.

9. The miscellaneous working experience of children before and after school, on Saturdays and during vacations should be studied and supervised. Very often this work is as valuable or more valuable than the try-out courses given in the junior high school. These

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experiences should be made to aid the child in understanding his environment and in discovering his vocational aptitudes and interests.

10. All forms of part-time education, such as the continuation school, co-operative courses, trade extension, trade preparatory and evening schools should be provided in connection with the junior high school, in order that school work may be brought into closer co-operation and that there may be more careful supervision of the child in employment.

11. Cumulative records should be kept for each child during his entire school life both in part-time and junior high school. These should include academic records, social conditions, physical and mental records, records of work while in any form of part-time school, and the results of counseling.

12. Means should be found through either public or private funds, to provide scholarships for keeping deserving children in junior high school, or for continuing schooling on a part-time arrangement.

13. Counselors should study the educational offerings of the community through its schools, museums, art galleries, libraries, etc., in order to enable children to use these opportunities in preparation for a vocation or for further training.

14. Educational and vocational counselors should co-operate when possible with personnel managers, labor organizations, employers' associations, government officials, social and civic organizations and clubs, and any others interested in the problem. Much help and information can be secured from these agencies that cannot be secured in any other way.

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15. The educational and vocational guidance department of the junior high school should undertake placement work for those pupils who must stop school and should do follow-up work with employment supervision, to extend throughout the time of the minority of the child and to be exercised in co-operation with the above mentioned agencies.

16. Scientific educational and vocational guidance should discourage and supplant any attempt to choose an occupation or educational program by any other means. Provision should be made for reconsideration and rechoice and care should be taken that the choice is made by the individual himself. It is the counselor's business to point out not to decide.

17. The counselor should employ a systematic method of collecting and disseminating information concerning the vocations, in regard to:

1. Entrance requirements.
2. Wages beginning, increases, maximum.
3. Developing or disappearing trade.
4. Health and safety.
5. Promotional possibilities.
6. Organized or not.

18. Every effort should be made to measure the results of educational and vocational guidance. The counselor should know as soon as possible the effectiveness and practicability of his methods of work. In making such a study of results it is hoped that more effective methods for guidance may be developed.

## Bibliography

Allen, Frederick J.

A guide to the Study of Occupations. - Harvard University Press.  
1921.

Bloomfield, Meyer.

Readings in Vocational Guidance. - Ginn and Company, Boston,  
1915.

Bloomfield & Meyer.

Vocational Guidance and the High School. Scribners, 1914 P.P.  
608-628.

Bloomfield, Meyer.

Youth School, and Vocation. Houghton Mifflin Co. Boston 1915.

Bonser, Fredrick, G.

The Curriculum as a Means of Revealing Vocational Aptitudes.  
Education Vol. XXXVII 3, 145-159. Nov. 1916.

Brewer, John M.

Vocational Guidance Movement. The Macmillan Co. New York 1918.

Brewster, Edwin Tenney.

Vocational Guidance for the Professions. Rand McNally & Co.  
New York 1917.

Bureau of Education.

Vocational Guidance in Secondary Education. Bulletin 19-1918.

Cody, Sherwin.

Commercial Tests & How to Use Them. World Book Co. Yonkers-on-  
Hudson New York 1919.

Davis, Jessie Buttrick.

Vocational & Moral Guidance. Ginn & Co. Boston 1914.

Bibliography.

Davis, Anne.

Occupations & Industries open to children between 14 & 16 years of age. See Bloomfields Readings in Vocational Guidance 542-556.

Devine, Henry C.

Choosing a Boys Career. Henry J. Glaisher, 55 7 57 Wegmore Street, London 1914.

Dewey, Evelyn & Dewey, John.

Schools of Tomorrow. E. P. Dutton & Co. New York 1915.

Dickson, Marguarete Stockman.

Vocational Guidance for Girls. Rand McNally & Co. New York 1919

Fletcher, Alfred. P.

Guidance by Means of a System of Differentiated courses. U. S. Bureau of Education. Bulletin 1914 No. 14 P. P. 48-52.

Goddard, H. H. -

Human Efficiency and Levels of Intelligence. - 1920.

Giles, Frederic Mayor & Giles, Imogene Kean.

Vocational Civics. The Macmillan Co. New York 1919.

Goodwin, Frank P.

Vocational Guidance in Cincinnati. Bloomfields Readings.

Gayler, G. W.

Voc. Guidance in the H. S. Psychological Clinic Vol. 9 No. 6. Nov. 1915. P.P. 161-166.

Hanus, Paul H.

School Efficiency, A constructive Study Applied to New York City World Book Co. 1913 P.P. 6-10.

Hope, K J. & Wilson G. M.

How to Measure. The Macmillan Book Co. 1920.

Bibliography.

Horton, D. W.

A plan for Voc. Guidance. The School Review Vol. XXIII, No. 4  
April 1915 P.P.236-243.

Indiana State Board of Education.

Report of Evansville Ind. Survey (1Vol.) Report of Indianapolis  
Ind. Survey. (in 2 volumes) 1917.

Inglis, Alexander,

Principles of Secondary Education Houghton Mifflin Co. Boston  
1918.

Jennings, Irwin G.

Vocational Guidance in College & Universities. Educational  
Review Vol LI No. 4 April 1916. P.P. 331-341.

Kelly, Roy Willmarth.

Training Industrial Workers. The Ronald Press Co. New York.  
1920.

Kitson, Harry D.

Psychological tests and Vocational Guidance. The School Review  
Vol. XXIV No. 3 March 1916. 207-214.

Leavitt, Frank M.

The School Phases of Voc. Guidance. The School Review Vol XXIII,  
No. 10 Dec. 1915, 687-696.

Link, Henry C.

Employment Psychology. The Macmillan Co. 1919.

Leake, Albert H.

Vocational Education for Girls and Women. Macmillan Book Co.  
New York 1918.

Bibliography.

Leland Stanford Junior University.

(Committee on Voc. Guidance, Stanford U. California 1919.)  
Vocational Information.

McCall, Wm. A.

How to Measure in Education. Macmillan Book Co. 1922.

Moore, Ernest C.

What is Education. Ginn & Co. 1915. P. P. 164-169.

Mead, Geo. Herbert.

The larger Educational Bearings of Voc. Guidance. Bloomfields  
Readings 43-55.

Munroe, James Phenny.

New Demands in Education. Doubleday Page & Co. Garden City.  
New York 1912.

National Society for the Study of Education.

The Twenty-first Year Book. Public School Publishing Co. 1922.

Ontario Government.

(Department of Labor, Toronto, Canada) Vocational Opportunities  
in the Industries of Ontario.

Reed, Anna Y.

Newsboy Service. World Book Co., Yonkers on Hudson New York 1917

Richter, Leonard.

The Curriculum and Vocational Guidance. The Elementary School  
Journal Vol. XVI, No. 7, March 1916, 369-380.

Robison, Emely, (Compiler)

Vocational Education H. W. Wilson Co. New York 1917.

Reed, Anna Y.

Junior Wage Earners The Macmillan Book Co. 1920.

Bibliography.

Rollens, Frank West.

What Can a Young Man Do. Little Brown & Co. Boston 1907.

Stenquist J. L.

The Case of the Low I. Q. Journal of Educational Research Vol.  
1V, 4, 241-54.

Schultz, Fredrick.

Vocational Guidance in the Junior High School. Educational  
Review. Vol. 63,3-1923.

Schneider, Herman.

Education for Industrial Workers. School Efficiency Series  
World Book Co. Yonkers-on-Hudson. New York 1915.

Stenquist, J. L.

Stenquist Mechanical Aptitude Tests. Manual of Directions.  
World Book Co.

Terman, Lewis M.

The Measurement of Intelligence. Houghton Mifflin Co. 1916.

Terman, Lewis M.

The Intelligence of School Children. 1920.

Thwing, Charles Franklin.

The training of Men for the Worlds Future. The Platt & Nourse  
Co. New York 1916.

Appendix.

Chart showing cities from which returns were received, by states also number of replies from each city with average or actual enrollment of each school.

Cities over 100,000 population.

		No. of Sch. Replying.	Actual or aver- age Enrollment
Los Angeles	California	5	870
Denver	Colorado	1	880
Washington	D. C.	2	590
Kansas City	Kansas	1	940
Grand Rapids	Michigan	2	895
New York City	New York	11	1260
Cincinnati	Ohio	1	1116
Columbus	Ohio	6	634
Pittsburg	Pennsylvania	2	1274
Minneapolis	Minnesota	2	690
St. Louis	Missouri	1	1500
Newark	New Jersey	3	861
Richmond	Virginia	2	829
Spokane	Washington	<u>3</u>	196
	Total	42	

Cities from 30,000 to 1,000,000 population.

		No. of Schools Replying	Actual or Average Enroll- ment.
Berkeley	California	4	692
Pasadena	California	1	875
Quincy	Illinois	3	306
Sioux City	Iowa	2	721
Lexington	Kentucky	1	659
Chelsea	Massachusetts	3	643
Lynn	Massachusetts	2	710
Somerville	Massachusetts	3	776
Kalamazoo	Michigan	1	160
Duluth	Minnesota	2	490
Lincoln	Nebraska	1	197
Manchester	New Hampshire	1	140
Trenton	New Jersey	1	1000
Mount Vernon	New York	1	465
Allentown	Pennsylvania	3	667
Johnstown	Pennsylvania	2	1021
Chattanooga	Tennessee	1	600
Houston	Texas	2	1148
Salt Lake City	Utah	6	629
Roanoke	Virginia	1	1392
Huntington	West Virginia	<u>3</u>	769
	Total	44	

Cities from 10,000 to 30,000 population

		No. Schools	Actual or Average Enrollment
North Little Rock	Arkansas,	1	350
Anderson	Indiana	1	903
Richmond	Indiana	1	485
Hutchinson	Kansas	1	534
Leominster	Massachusetts	1	360
Revere	Massachusetts	1	875
Ironwood	Michigan	1	502
Sault St. Marie	Michigan	1	316
Great Falls	Montana	1	600
Hannibal	Missouri	1	180
Nashua	New Hampshire	1	433
Portsmouth	New Hampshire	1	406
Hackensack	New Jersey	1	554
Port Chester	New York	1	687
Warren	Ohio	3	212
Muskogee	Okla	1	448
Homestead	Pennsylvania	1	450
Wilkinsburg	Pennsylvania	1	1025
Jackson	Tennessee	1	573
Austin	Texas	1	1010
Kenosha	Wisconsin	<u>1</u>	427
	Total	23	

Cities from 5000 to 10,000 population.

		No. Schools	Actual or Average Enrollment
Bisbee	Arizona	2	183
Texarkana	Arkansas	1	283
Santa Ana	California	1	600
Shelbyville	Indiana	1	800
Santa Rosa	California	1	350
Salina	Kansas	1	808
Old Town	Maine	1	295
Wellesley	Massachusetts	1	300
Wyandotte	Michigan	1	576
Ypsilanti	Michigan	1	200
Austin	Minnesota	1	519
Eveleth	Minnesota	1	415
Hibbing	Minnesota	1	590
Laurel	Mississippi	1	476
Independence	Missouri	1	483
Fairburg	Nebraska	1	320
Red Bank	New Jersey	1	425
Solway	New York	1	300
Ashland	Ohio	1	330
Ashland	Oregon	1	210
Clearfield	Pennsylvania	1	335
Bellows Falls	Vermont	1	120
St. Johnsbury	Vermont	1	225
Chippewa Falls	Wisconsin	1	207
Rhine Lander	Wisconsin	1	300
	Total	26	