

PERCEPTIONS OF MONTANA HIGH SCHOOL GUIDANCE COUNSELORS
TOWARD THE PLACEMENT OF ACADEMICALLY TALENTED
STUDENTS IN VOCATIONAL EDUCATION

by

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This professional paper has been read by each member of the graduate committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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DEDICATION

This professional paper is humbly dedicated to the memory of the author's grandfathers: Mr. Hugh Hunton Hurst, Sr. and Mr. Robert Edward Struble...

Two very talented and creative men that never received a secondary education, but put a total of eight children through college and were firm believers in the value of a practical vocational education.

A special thank you to the memory of these two very fine gentlemen.

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TABLE OF CONTENTS

	Page
APPROVAL.....	ii
STATEMENT OF PERMISSION TO USE.....	iii
DEDICATION.....	iv
ACKNOWLEDGEMENTS.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	viii
ABSTRACT.....	x
CHAPTER:	
1. THE PROBLEM AND ITS SETTING.....	1
Introduction.....	1
Statement of the Problem.....	2
Purpose of the Study.....	2
Objectives.....	2
Need for the Study.....	3
Definition of Terms.....	5
Limitation.....	6
Assumptions.....	7
2. REVIEW OF LITERATURE.....	8
Historical Perspective.....	9
The Stigma of Vocational Education.....	11
The Position of Industry.....	11
Benefits to Programs and Students.....	13
Career Education Potential.....	14
Summary.....	15
3. METHODOLOGY.....	16
Population.....	16
Instrument Design.....	16
Data Collection.....	18
Data Analysis.....	19

TABLE OF CONTENTS--Continued

	Page
4. RESULTS AND ANALYSIS.....	20
Demographic Data.....	20
Counselor Perceptions Toward Vocational Education.....	30
Counselor Reactions to Case Studies.....	37
5. CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS.....	45
Conclusions.....	45
Implications.....	46
Recommendations.....	47
Recommendations for Further Study.....	48
Summary.....	48
REFERENCES.....	50
APPENDICES:	
A. Guidance Counselor Questionnaire.....	55
B. First Mailing Cover Letter.....	61
C. Second Mailing Cover Letter.....	63
D. Student Case Studies.....	65
E. Open-Ended Comments from Counselors.....	70
F. Proposed Standards at Time of Study.....	76

LIST OF TABLES

Table		Page
1.	Total number of counselors serving the high school population.....	21
2.	Class of schools represented by counselors responding to the questionnaire.....	22
3.	Grade levels served by counselors responding to the questionnaire.....	23
4.	Subject areas of teacher certification for counselors responding to the questionnaire.....	24
5.	Colleges and universities where counselor respondents received their bachelors degree.....	25
6.	Colleges and universities where counselor respondents received their counseling degree or endorsement.....	26
7.	Percentage of students from the current high school population whom counselors expect to enter a four-year college or university.....	27
8.	Percentage of students from the current high school population whom counselors expect to complete a four-year college or university degree.....	28
9.	A comparison of data from Table 7 and Table 8.....	29
10.	General questions regarding perceptions of guidance counselors toward vocational education in the high school.....	31
11.	Responses to the question: "Will the proposed minimum college entrance standards affect counseling of students that enroll in vocational education courses?"....	34

LIST OF TABLES--Continued

Table		Page
12.	Responses to the statement: "If the college entrance requirements of the Board of Regents are applied, a student that wishes to enter college will have room in his or her schedule to take more than one vocational education course in the four high school years".....	36
13.	Means and standard deviations for statements pertaining to case studies.....	38

ABSTRACT

This study determined the perceptions of Montana high school guidance counselors toward the placement of academically talented students in high school vocational education classes. Data for this study were obtained through the use of a mailed questionnaire sent to counselors in Montana high schools. Information from the returned questionnaire was statistically analyzed using the MSU STAT computer program.

Based on the results of this study, it was concluded that vocational education teachers are not proportionally represented in the population of high school guidance counselors. Counselors responding do feel that vocational education is appropriate for all students regardless of their future educational aspirations. Counselors do agree that math and science have a direct relationship with vocational education. Counselors will not encourage lower achieving students not interested in college to pursue a college preparatory education.

At the time of this study (March 1988), the Board of Regents of the Montana University System was considering the adoption of a required slate of course areas for college and university admission. It was concluded from the data gathered that the counselors' perception was that enrollment in vocational education classes by talented students will diminish because students will take the proposed college preparatory courses to keep their options open and this will not leave time to take vocational education classes.

CHAPTER 1

THE PROBLEM AND ITS SETTING

Introduction

The increasing unemployment and underemployment of large numbers of college graduates have raised concerns about the counseling of all academically talented students into programs that are essentially college preparatory (Phelps, 1978).

Guidance programs in the high schools are typically provided by professional counselors that are well prepared to serve the college bound but lacking a knowledge and sensitivity for the many opportunities in the trade and technical fields (Mills and Rushing, 1982).

Vocational education has had the image of being an alternative to an academic education for those students that are not able to perform well in the academic areas (Milne, 1982). The opinion of many parents and counselors is that vocational education is not the place for the academically talented student (Crosby, 1982). The view held by many is that the only worthy goal for the academically talented student is the college preparatory program (Stewart, 1985). Such a trend is damaging to the vocational education programs. Both those students within the programs and those

that do not enroll are also at a loss due to deteriorating program quality and lost opportunities for knowledge. When all talented students are counseled into college preparatory programs, society is the ultimate loser.

There is an ever-increasing demand for talented people in the vocational fields. As the technological systems we rely on become more complex, so must the skill levels of our technicians become more sophisticated. Vocational education is typically the training ground for skilled technicians.

Statement of the Problem

Academically talented students are not enrolling in vocational education classes in Montana high schools in numbers proportional to their enrollment in college preparatory courses.

Purpose of the Study

The purpose of this study was to determine the perceptions of Montana guidance counselors toward the placement of academically talented students in vocational education as opposed to a strictly academic education.

Objectives

The following objectives were established for this research:

- (1) To identify perceptions high school guidance counselors have toward vocational education.
- (2) To determine in what program of study high school guidance counselors would counsel selected students to enroll.
- (3) To determine the academic backgrounds of the high school guidance counselors and if their backgrounds affect the manner in which they counsel students relative to career choices.

Need for the Study

There are valid reasons for the academically talented students to be encouraged to participate in secondary vocational education classes. Career education possibilities that are covered in these classes generally are not provided through the traditional academic classes. Interestingly, the back-to-basics movement in public education is also joined by a call for additional training in career and life skills that many believe should be provided in high school. In the eighteenth annual Gallup poll of the public's attitudes toward the public schools, 57 percent of the persons surveyed responded that the chief reason for giving children an education is preparation for life and career skills:

The skills that we are training our technicians in are becoming more complex and require a sharp intuitive mind to solve the

problems they will be presented with. The academically talented fit into this role (Milne and Lindekugel, 1976).

Secondary schools should experience an increasing number of academically talented students in vocational education as the skills taught become more complicated. Instead, vocational education classes are becoming smaller and still remain an alternative for the less academically talented. It is here that the term "dumping ground" is often applied (Trapnell, 1982). This is an unfortunate situation. Potential college-bound students are not encouraged to take advantage of the skills and attitudes developed through vocational education courses.

Some of the blame for this situation is ascribed to the counselors by teachers of vocational education courses. This blame is further supported by Cuneo (1983) and Mills and Rushing (1982), as well as Bottoms and Copa (1983). The researcher felt there was a need to survey the counselors to determine their perceptions of and thoughts toward the placement of academically talented students in Montana high school vocational education classes.

In Montana there has been a push by the State Board of Regents of the Montana University System and others to require a prescribed slate of course areas for all students that wish to enroll in the Montana State University system. Therefore, it was deemed desirable to survey the counselors to determine how this recommendation affected their

counseling of students in high schools. The most vulnerable programs would be vocational education and music if the requirements were too narrow (Albrecht, 1988). High school counselors were the individuals that would assist students in selecting their classes. As the changes implemented by the Board of Regents of the Montana University System took effect, the advice counselors gave in part determined if the student would later be able to attend a unit of the Montana University system.

It should be noted that the data for this research were collected in March and April of 1988. At this time, no formal university admissions policy had been adopted by the Board of Regents. Data for this study were collected before any final decisions were mandated. (Refer to Appendix F for a listing of the proposed college entrance requirements at the time the data were collected.) It is the hope of the researcher that the data collected and reported can be used to educate those involved in the course selection process.

Definition of Terms

- (1) Gifted and talented: Children of outstanding abilities who are capable of high performance and require differentiated educational programs beyond those normally offered in the public schools in order to realize their contributions to self and society (Cassidy and Johnson, 1986).

- (2) Academically talented: Those students that are in the upper one-third of their class or meet the standards in one or more of the federal definitions of gifted and talented students.
- (3) Vocational education classes: Those classes that are taught within the comprehensive high school that develop employment skills or career awareness in broad areas of careers. Typical courses within this definition are: industrial arts, business and office skills, vocational agriculture, home economics, and other programs offered on a local, as-needed basis.
- (4) College preparatory program: The cluster of courses recommended by institutions of higher education and, in the State of Montana, those courses proposed by the Board of Regents to be required for college entrance. Generally these courses would include: foreign languages, visual and performing arts, advanced courses in math, science, and cultural studies. The college preparatory program would exclude vocational education.

Limitation

The following limitation was placed on this research: The data obtained from this survey pertain only to Montana high school counselors and schools that offered vocational education classes during the 1987-88 school year.

Assumptions

The following assumptions were made:

- (1) Guidance counselors were providing students with the information they needed in order to make class selections and understand the ramifications of these choices.
- (2) Exposure to vocational education could benefit any student in the form of career awareness and development of life skills, regardless of the student's educational intentions.
- (3) There will continue to be basic objections among large segments of teachers, administrators, parents, and counselors relative to placing academically talented students into programs of vocational education as opposed to a strictly college preparatory program.

CHAPTER 2

REVIEW OF LITERATURE

In today's labor force, only 20 percent of the workers are in jobs calling for a college education (Stewart, 1985). The remaining 80 percent work in jobs calling for some type of vocational training, or in positions where such training would have been desirable. It is important to remember that at least 25 percent of our youth do not finish high school (Bottoms, 1982). Of those who do finish, 50 percent go on to some type of further education. This figure is not limited to those students who have completed a college preparatory education. In a study conducted by Paul Campbell in 1984, it was shown that secondary vocational education does not preclude students from enrolling in post-secondary education curricula. It has been shown that 56 percent of the students identified as concentrators in vocational education courses do continue their education (Bottoms and Copa, 1983).

In national polls, the public is calling for a back-to-basics approach to public education to include basic life skills and vocational education (i.e., the Gallup Poll of the Public's Attitudes Toward the Public Schools). The college-bound student will profit from career exposure if

enrolled in vocational education, as will those students presently enrolled in the courses. Through knowledge gained in introductory courses, many students may choose to continue in vocational education and, by doing so, broaden their career opportunities. From this group will come our highly skilled technicians and vocational educators of the future. Can we afford to promulgate the elitist notion that the only worthy goal for students is a college education? By counseling the bulk of our academically talented students into strictly college preparatory programs, society will be denied the technical and vocational leadership at the entry levels of the employment arena. Persons entering fields requiring vocational education will be forced to return to school to obtain training at either their own or their employer's expense.

Historical Perspective

The case of vocational teachers in the field complaining about the attitude of the counselor toward their programs is not an isolated incident. The researcher was able to find within professional literature examples of teachers complaining about various aspects of school counseling (Benson, 1982; Colson et al., 1983). Vocational educators from a number of states have said increased graduation requirements in the academic subjects have resulted in decreasing enrollments of the more academically talented

students in vocational education (Bottoms, 1982). There is very little written as to why this situation exists. No survey of attitudes of the counselors who advise students into the programs was discovered by the researcher. It is known that most counselors have an academic background themselves and many are not entirely familiar with the goals of vocational education (Mills and Rushing, 1982). Pressure from administration and the community is typically applied for counselors to spend their time with those students needing help in college selection and placement.

In 1984, William Schoonmaker published the results of a survey in which he compared the attitudes of industrial arts class participants and non-participants in Minnesota. His population consisted of first-semester college freshmen. The study generalized that this group of students was more academically talented than the average high school population by virtue of the fact that they had been admitted to college. Most of the responses to Schoonmaker's questionnaire showed very little difference between the industrial arts participants and non-participants. The overall responses to questions regarding perceptions of students toward outside influences for enrolling in industrial arts classes were interesting to observe.

In Schoonmaker's study, students responded that counselors would not encourage them to take industrial arts courses. Respondents also indicated that they felt

"industrial arts courses do not look OK on a high school transcript." This study also indicated that counselors discouraged this group of college-bound students from taking industrial arts classes.

The Stigma of Vocational Education

Somewhere in our history, the soiling of hands to make a living came to have a poor image (Crosby, 1982). Crosby continues by stating that prejudices that have no basis have come to be attached to vocational education. Again, the only worthy goal for the academically talented student is college. The blame for nonenrollment of the brighter students in the vocational curriculum cannot solely be placed on the counselor. Many parents have denied their children access to vocational education, not realizing that all education for the world of work is vocational (Crosby, 1982). Students are advised into programs on the basis that they will be considered somewhat inferior if they are not on the college track. These stigmas are to some extent lessening, but they are far from gone. The social stigmas attached to vocational education must be dissipated further if students are to feel comfortable taking those classes.

The Position of Industry

Vocational education is closely tied to industry in that it is a direct supplier of skilled and semi-skilled

entry-level employees. Most vocational education departments also have some type of advisory council made up of persons in the industries the programs represent. These advisory councils are charged with the responsibility of providing feedback on the content of the programs (Vocational Education Act of 1963). Thus the students can be taught currently needed skills to better meet the needs of industry. Industry personnel recognize that high school is where the work ethics, attitudes and basic interpersonal skills, as well as some basic technical skills needed for success in the field, will be developed.

In the forum of the September 1985 Vocational Education Journal, L.W. Stewart, a representative of Wyle Laboratories, Inc., provided the following employers' opinion of graduates of vocational education programs:

Your students are not seen as the main-stream, but as exceptions that don't fit the mold of an academically oriented school system. The purpose of education is to prepare persons to be good family members, good citizens, and to be economically self-sufficient in occupational pursuits that are reasonably attainable (Stewart, 1985).

The basic skills of math, science, reading, and writing are just as important to success in the work place as in the college classroom, but educators are not developing the skills to apply this knowledge. Stewart offered another opinion applying to all aspects of vocational education:

In industry, our stockholders, customers and good employees all demand that we screen out

or weed out unqualified or trouble making employees. Accordingly, we aren't too keen on hiring people who as students were deliberately and persistently unsatisfactory in either achievements or discipline or both. You all too often use vocational education as a dumping ground for these kinds of students even though it is almost a certainty that they will deliberately defy rehabilitation. You must find a way to purge these intentional miscreants from vocational education or your image will never rise above the standard they represent (Stewart, 1985).

Industry demands that talented and qualified persons fit its specifications. As the nature of the positions that vocational education students fill becomes more technical, industry will need more talented individuals who will come from the ranks of the academically talented students.

Benefits to Programs and Students

The inclusion of the academically talented students in vocational education will elevate the level of the program and improve the overall base of knowledge of the product turned out. The individual students will prosper from the experience in many ways. Vocational education provides a relevance to learning. It is generally a class where the academic skills can be applied. It can enhance the desire of youth to broaden both their vocational and academic skills. Crosby (1982) stated:

Once the vocational teacher informed the students that it was necessary to have advanced math, especially algebra, in order

to do well in the vocations, the students began signing up for algebra.

The reality provided in vocational education is a significant motivator for many students.

Students who are considered to be a part of the gifted and talented programs comprise at most five percent of the student population (Cassidy and Johnson, 1986). These students present a special challenge to vocational education. Many gifted and talented students are extremely frustrated by school. They are typically seen as the brightest and most likely to succeed but, as reported by Phelps (1978), in Iowa it has been shown that over 17 percent of the gifted and talented students drop out of school, and within this group, vocational education has been shown to have an influence in keeping students in school. The frustration mentioned was reported to be a lack of challenge and relevance found in a strictly academic education.

Career Education Potential

The career education potential of a vocational curriculum is not limited to classroom experiences. Through active laboratory experiences, students have the opportunity to explore aspects of the careers in question and apply them to their occupational goals. This is an inherent part of vocational education that is generally not a part of the traditional academic classes. The intense curiosity of many

talented students leads them to gain from a diverse educational experience.

For those talented students that can benefit from specific career exploration and preparation experiences, access to vocational education is imperative (Phelps, 1978).

It is the opinion of this researcher that talented students should have increased opportunities available to them, and not be limited to a strict college preparatory education.

Summary

If the academically talented students are to be included in vocational education, it will require the support of the counselors in the secondary schools. By educating parents and students through the guidance programs in schools, students can benefit from the programs in all areas of vocational education. Milne and Lindekugel (1976) summed the situation in the opening remarks of their publication, "Vocational Education: An Opportunity for the Gifted and Talented Student":

Vocational Education has traditionally been seen as a less prestigious alternative for fulfilling the educational needs of the more capable students than are the professional pathways open to them through the baccalaureate degree. As we look at the immediate and long range consequences of this type of thinking, we find that the overemphasis upon the professional areas has left industry critically short of skilled personnel. Vocational Education must attract the superior students into its programs if this shortage is to be filled.

CHAPTER 3

METHODOLOGY

Population

In the state of Montana, the Office of Public Instruction maintains a list of all guidance counselors. Using this list as a base, a population of secondary counselors was identified. Counselors that worked in schools which did not offer vocational education courses were not included in the population. A total population of 273 eligible guidance counselors was identified. The entire population was included in the survey.

Instrument Design

The researcher, with assistance from his graduate committee, designed a survey instrument. The first part of the instrument consisted of a set of general statements about the counselor's perceptions toward vocational education and demographic questions. The second part of the instrument was made up of four case studies representing four different student character type sets that would logically be found in any school.

The test instrument was checked and proofed by members of the researcher's committee and faculty in school guidance counseling at Montana State University.

These case studies were developed as a compilation of student characteristics from the literature review. The case studies were reviewed and refined in cooperation with staff and graduate students in the Counselor Education Division of the Department of Health and Human Services at Montana State University. The case studies were also approved by faculty in the Department of Agriculture and Technology Education at Montana State University, due to their vocational perspectives.

The four case studies were followed by eight statements to be rated on a four-point Likert scale to indicate whether the counselor agreed or disagreed with the statement (Vockell, 1983). Each case study was followed by the same set of statements.

In brief, the students represented were:

- (1) An academically talented female student interested in a college preparatory education. The student wishes to take classes in industrial arts and in home economics.
- (2) An academically talented male student interested in completing high school and entering the work force. He wishes to take classes in industrial arts/vocational agriculture and take only the minimum of the non-vocational classes as required by the school.

- (3) An academically average male student unsure of his needs and uncertain as to whether or not to attend college. He wishes to take classes in business and industrial arts as scheduling allows.
- (4) An academically below-average female student from a single-parent dysfunctional home. She performs poorly in math and science and seems to have no vocational interest.

The statements in this part of the questionnaire were directed at the placement of the student in classes the counselor recommended. The intent was to determine if the counselor would suggest the student take vocational classes, college preparatory classes, or a mixture of both.

Data Collection

On March 1, 1988, the survey instrument (Appendix A) and cover letter (Appendix B) explaining the procedure to follow were mailed to each high school guidance counselor. Counselors responding to the first mailing provided a total of 128 usable instruments. Those individuals not responding to the first mailing were sent a second instrument with a cover letter (Appendix C) on April 1, 1988. Thirty-two (32) usable returns were collected from counselors responding to the second mailing. Of the 273 instruments mailed, a total of 160 usable instruments were returned. Nine additional returned instruments were unusable, as the respondents were

not high school counselors. Using the new total of 264 (273-9) as a population, a 60.6 percent rate of return was achieved.

Data Analysis

The computer program WORD PERFECT was used to create a data file containing the information from the questionnaires. The MSU STAT computer statistics program (Lund, 1987) was used to analyze the data. Using the elements SUMSTAT to obtain the mean and standard deviation information, and FREQUENCY to obtain the frequency data, the data were compiled for interpretation. The data obtained were used to develop the tables presented in this paper.

CHAPTER 4

RESULTS AND ANALYSIS

The results of this study are presented in three sections: (1) demographic data, (2) counselor perceptions toward vocational education, and (3) counselor reactions to the students represented in the case studies.

Demographic Data

For this study, 264 Montana high school guidance counselors were surveyed. A total of 128 usable instruments were returned from the first mailing, and 32 usable instruments were returned from the second mailing, for a total of 160 (60.6%). It must be noted that all data and analysis in this paper are generalized to counselors, not schools. There were many schools in the survey from which more than one counselor responded. In all cases the response was from an individual counselor and may well have been replicated by another counselor employed within the same school.

A point of interest is the number of schools which have only one guidance counselor serving the student population. Table 1 presents the number of counselors in school situations relative to the size of the guidance counseling staff.

Table 1. Total number of counselors serving the high school population.

No. of Counselors in School Population	No. of Respondents	Percent
1	78	48.8
2	27	16.9
3	3	1.9
4	17	10.6
5	5	3.1
6	9	5.6
7	1	0.6
8	8	5.0
No response	12	7.5
Total	160	100.0

The data in Table 1 indicate that of the counselors responding, 78 (48.8%) were employed as the only counselor in their school. The other counselors were employed in schools that have between 2 and 8 counselors serving the high school population. Twelve (7.5%) of the counselors did not respond to this question.

In addition to the number of counselors serving the high school populations, it is also of interest to note the distribution of responding counselors relative to class of school in which they serve. Data in Table 2 show the classes of schools served by the responding counselors.

Table 2. Class of schools represented by counselors responding to the questionnaire.

Class of School	No. of Respondents	Percent
AA	45	12.5
A	20	28.0
B	33	21.0
C	62	38.5
Total	160	100.0

As shown in Table 2, 62 (38.5%) of the counselors responding were employed in class C schools. This does not concur with the number of respondents that were the only counselor in their respective high school as presented in Table 1. Thirty-three (21%) of the counselors responding were employed in class B schools. It can be inferred that not all class B schools employ two or more counselors. Some of the class B schools also use only one counselor to serve the high school population. It can also be inferred from the data in Tables 1 and 2 that the larger class A (28%) and class AA (12.5%) schools employ more than one counselor to serve the high school population.

Of particular interest is that a number of the responding guidance counselors not only serve the high school population in their respective schools, but also serve the K-8 population, as presented by the data in Table 3.

Table 3. Grade levels served by counselors responding to the questionnaire.

Grade Levels Served	No. of Respondents	Percent
9-12	73	45.6
7-12	25	15.7
K-12	62	38.7
Total	160	100.0

As can be noted in Table 3, 62 (38.7%) of the counselors serve the K-8 population in their schools in addition to the high school grade levels.

To certify as a counselor in the state of Montana, guidance counselors must have an undergraduate teaching degree and appropriate certification in some teaching specialty, with three years of teaching experience. In addition, they are required to hold a counseling certificate which may or may not represent a masters degree in counseling. Using this information as a basis, a question was incorporated into the survey instrument to address this issue. The areas of teacher certification for the responding counselors are shown in Table 4.

As shown in Table 4, only 26 (16.2%) of the counselors had teacher certification in industrial arts/vocational agriculture, home economics, or business/office education. These

are the only subject areas that were represented by the responding counselors that could be considered vocational education. It should also be noted that the subject areas of social studies (21.3%) and English (15.6%) were the largest groups represented among the counselor respondents. Twenty-five (15.6%) of the counselors were certified in some area other than those represented in Table 4, noted as the "other" category.

Table 4. Subject areas of teacher certification for counselors responding to the questionnaire.

Area of Certification	No. of Respondents	Percent
Social Studies	34	21.3
English	25	15.6
Science	22	13.7
Physical Education	19	11.9
Business/Office	11	6.8
Mathematics	9	5.6
Ind'l Arts/Vo Ag	9	5.6
Home Economics	6	3.8
Other	25	15.6
Total	160	100.0

The data in Table 5 show the colleges and universities from which the counselors responding to the survey earned their bachelors degree.

Table 5. Colleges and universities where counselor respondents received their bachelors degree.

College or University Conferring Bachelors Degree	No. of Respondents	Percent
Montana State University	30	18.7
University of Montana	29	18.2
Eastern Montana College	27	16.8
Northern Montana College	11	6.9
Western Montana College	7	4.4
No response	7	4.4
Out-of-state school	49	30.6
Total	160	100.0

Adding the responses in Table 5 for the Montana colleges and universities, it can be seen that 111 (69.3%) of the counselors earned their bachelors degree from units of the Montana University System. Forty-nine (30.6%) respondents received their degrees from schools outside the state of Montana. A total of 68 (42.5%) of the counselors responding graduated from Montana State University, University of Montana, Eastern Montana College, or Northern Montana College. These institutions have or have had vocational education programs. Counselors who graduated from these respective programs should have an awareness of the professional pathways open through vocational education, albeit perhaps only a casual informational relationship.

The data in Table 6 indicate where the responding counselors earned their counseling degree or endorsement.

Table 6. Colleges and universities where counselor respondents received their counseling degree or endorsement.

College or University Conferring Counseling Degree or Endorsement	No. of Respondents	Percent
Montana State University	32	20.0
University of Montana	25	15.6
Eastern Montana College	32	20.0
Northern Montana College	30	18.8
Western Montana College	12	7.5
No response	8	5.0
Out-of-state school	21	13.1
Total	160	100.0

The sum of the Montana colleges and universities in Table 6 indicates that 131 (81.9%) of the counselors responding to the survey earned their counseling degree or endorsement from a unit of the Montana University System. Only 21 (13.1%) of the counselor respondents completed the program leading to the masters degree or counseling endorsement in a state other than Montana.

Of significance to this study was the percentage of high school students that will enter a four-year college or university, as noted by the responding counselors for their respective school populations. Respondents reported a percentage of students whom they predict to enroll in a four

year college degree program. These data were condensed into groups by the researcher and are reported in Table 7. The mean and standard deviation data for Tables 7 and 8 are derived from the counselors' original responses.

Table 7. Percentage of students from the current high school population whom counselors expect to enter a four-year college or university.

Percentage of Students Expected to Enter a 4- Year College/University*	No. of Respondents	Percent
0 - 20%	2	1.3
21 - 30%	19	11.9
31 - 40%	31	19.4
41 - 50%	47	29.4
51 - 60%	29	18.1
61 - 70%	19	11.9
71 - 80%	10	6.2
No response	3	1.8
Total	160	100.0

*Mean = 49.44; SD = 14.62

The data in Table 7, as assembled into groups by the researcher, show that the guidance counselors who responded to the survey expect an average of 49.44% of their students to enter a four-year college or university. The data in Table 7 show a well distributed spread of percentages of students whom counselors expect to continue their education in a four-year institution.

The data in Table 8 represent a continuation of the information presented in Table 7. The counselors were first asked the percentage of students they expected to enter a four-year degree program; they were then asked what percentage they thought would complete a four-year degree. Table 8 tabulates the results of the latter question.

Table 8. Percentage of students from the current high school population whom counselors expect to complete a four-year college or university degree.

Percentage of Students Expected to Complete a 4-Year College/ University Degree*	No. of Respondents	Percent
0 - 20%	64	40.0
21 - 30%	41	25.6
31 - 40%	20	12.5
41 - 50%	16	10.0
51 - 60%	6	3.8
61 - 70%	4	2.5
71 - 80%	3	1.9
No response	6	3.8
Total	160	100.0

*Mean = 30.27; SD = 16.40

Data from Table 7 and Table 8 are presented in Table 9 so that comparisons of the perceptions of counselors are possible to ascertain.

Table 9. A comparison of data from Table 7 and Table 8.

Percentage of Students Expected to Complete a 4- Year College/ University Degree	Table 7*		Table 8**	
	No. of Respondents	Percent	No. of Respondents	Percent
0 - 20	2	1.3	64	40.0
21 - 30	19	11.9	41	25.6
31 - 40	31	19.4	20	12.5
41 - 50	47	29.4	16	10.0
51 - 60	29	18.1	6	3.8
61 - 70	19	11.9	4	2.5
71 - 80	10	6.2	3	1.9
No response	3	1.8	6	3.8
Total	160	100.0	160	100.0

*Mean = 49.44; SD = 14.62

**Mean = 30.27; SD = 16.40

When the data in Tables 7 and 8 are compared in Table 9, some interesting facts emerge. As expected from Tables 7 and 8, the mean for estimates of students that will complete a four-year degree (30.27%) is lower than the mean percentage of students that will start a four-year degree program (49.44%). The data in these two tables drift even further apart when a closer statistical comparison is made. The standard deviation of measurement (16.40) of the data shown in Table 8 indicates a wider spread in the responses than the responses shown by the data (14.62) in Table 7.

This shows that the percentages given by the counselors for completion of a four-year degree (30.27) are not clustered as tightly about the mean as the responses given for starting a four-year degree (49.44). Also, when examination is made of the mean and mode of both sets of data, it can be seen that the data in Table 7 are tightly clustered. The mode of the data for starting a four-year degree (41-50%) is within the same group as the mean. The mode of the data for completion of a four-year degree (0-20%) is two groupings below the mean. The mean and mode of the data in Table 8 are skewed to the higher percentages by a factor 10 times greater than the skewness in Table 7. In short, a few very high estimates caused the mean to reflect a rate of completion of a four-year degree higher than that of the actual population. The actual rate of completion of a four-year degree is 25% nationally (Milne, 1982).

Counselor Perceptions Toward Vocational Education

The counselors were surveyed to determine their general perceptions of the role and scope of vocational education. The data shown in Table 10 are compiled from seven statements that address vocational education in the individual high schools.

The data reported show a mean and standard deviation for the responses to each item. The possible responses in all

Table 10. General questions regarding perceptions of guidance counselors toward vocational education in the high school (N = 160).

No.	Perception Statement	Mean	Std.Dev.
(1)	It is important for all high school students to be exposed to basic courses in vocational education.	1.83	.74
(2)	Vocational education is designed primarily for those students not interested or unable to pursue a college education.	3.14	.81
(3)	The end result of vocational education in the high school is to provide entry-level skills leading to employment.	2.77	.67
(4)	The more academically talented students will not be challenged satisfactorily in high school vocational education classes.	3.28	.62
(5)	There is a direct relationship between the math and science curriculums and their application in vocational education.	1.96	.72
(6)	Vocational education teachers in your school encourage the application of math and science in their courses.	1.96	.64
(7)	Talented students that are bored with school can see the direct application of academics in vocational education classes.	2.35	.71

cases were: 1 = strongly agree; 2 = agree; 3 = disagree; and 4 = strongly disagree. A median response for any statement would be 2.5 on this four-point Likert scale (Ferguson, 1981). Any mean from 1.0 to 2.5 indicates that the counselors agreed with the statement. A mean above 2.5 would suggest that the counselors disagreed with the statement. The standard deviation of measurement shows how tightly the responses are clustered about the mean. A lower standard deviation will show that the responses are tightly clustered and that the counselors were in greater agreement about a statement. Conversely, a higher standard deviation would indicate that the counselors were in greater disagreement on a given item.

Inspection of the data shown in Table 10 reveals the strongest agreement shown by the counselor respondents was related to statement 1, i.e., the counselors felt that it is important for all students to be exposed to vocational education. A mean of 1.83 is almost one complete standard deviation (.74) below the middle response of 2.5. The counselors also agreed ($\bar{X} = 1.96$) that there is a direct relationship between the math and science curriculums and their application in vocational education (statement 5). The counselors responded in agreement ($\bar{X} = 1.96$) to the statement, "Vocational education teachers in your school encourage the application of math and science in their courses" (statement 6). The standard deviation for statement

6 (.64) is smaller than the standard deviation for statement 5 (.72), yet both statements show an identical mean. This indicates that in the perceptions of the counselors there is more agreement that teachers in their schools encourage the application of math and science in their courses (statement 6) than it is their view of a direct relationship between the math and science curriculums and their application in vocational education.

Examination of data related to statement 4 (Table 10) shows that the counselors disagreed ($\bar{x} = 3.28$) with the statement, "The more academically talented students will not be challenged satisfactorily in high school vocational education classes." This statement also shows the smallest standard deviation (.62) in Table 10. The counselors also disagreed ($\bar{x} = 3.14$) with statement 2, "Vocational education is designed primarily for those students not interested or unable to pursue a college education." The standard deviation (.81) for this statement is larger, indicating that there are more responses at the lower end of the scale than for statement 4. Therefore, some of the counselors do agree with the statement.

The counselors rated statement 3, "The end result of vocational education in the high school is to provide entry-level skills leading to employment" ($\bar{x} = 2.77$) and statement 7, "Talented students that are bored with school can see the direct application of academics in vocational education

classes" ($\bar{x} = 2.35$) very close to the middle of the scale. This indicates that the counselors are about evenly divided in agreement and disagreement with these two statements.

At the time the survey was delivered to the counselors (March 1988), the Board of Regents of the Montana University System were considering the application of minimum college entrance requirements in the form of specific course areas that must be taken by students while in high school. The proposed standards were widely publicized in the state and there was great concern that vocational education would suffer losses of enrollment at that time.

Relative to that issue, the researcher asked the following question on the survey instrument: "Will the proposed minimum college entrance standards affect the counseling of students that enroll in vocational education courses? If yes, please elaborate." The data in Table 11 show the frequency of response to the above question.

Table 11. Responses to the question: "Will the proposed minimum college entrance standards affect counseling of students that enroll in vocational education courses?"

Response	No. of Respondents	Percent
Yes	105	65.6
No	51	31.9
No response	4	2.5
Total	160	100.0

The data in Table 11 reveal that 105 (65.5%) of the counselors felt that the way they counsel students who enroll in vocational education will change. Fifty-one (31.9%) counselors, or less than one-third of the respondents, felt the way they counsel students will not change if the college entrance requirements as proposed went into force.

The question as supported by the data in Table 11 was followed by a request to elaborate the changes counselors foresaw if they answered "yes" to the question. The complete text of these responses is located in Appendix E. The main themes as reported by the counselors are summarized below (N = number of counselor responses):

- (1) There are simply not enough periods in the day to take both college preparation and vocational education classes (N=35).
- (2) The new requirements will severely limit the electives students may take (N=17).
- (3) Due to scheduling problems, college-bound students will not be able to take advantage of vocational education offerings. This is a crime (N=15).
- (4) Students that have not decided whether to go to college will take the college prep courses to keep their options open (N=5).
- (5) Opportunities for vocational exploration will be reduced (N=6).
- (6) Dropout levels will increase (N=3).

- (7) More students will elect not to pursue a four-year degree (N=10).

The counselors were asked if they felt that a college-bound student would have the opportunity to take more than one vocational education course in the high school years if the proposed standards of the board of regents were applied. The frequency of responses is shown in Table 12.

Table 12. Responses to the statement: "If the college entrance requirements of the Board of Regents are applied, a student that wishes to enter college will have room in his or her schedule to take more than one vocational education course in the four high school years." (N=160)

Response	No.	Percent
Yes	120	75.0
No	36	22.5
No response	4	2.5
Total	160	100.0

The data in Table 12 reveal that 120 (75%) of the counselors felt that a college-bound student would be able to take more than one vocational education course in the four high school years. Only 36 (22.5%) of the counselors felt that if the standards of the Board of Regents are applied it would limit students to one or fewer vocational education courses.

Counselor Reactions to Case Studies

The data in Table 13 show the mean and standard deviation for statements pertaining to the case studies presented to the counselors on the questionnaire. All data are related to the same set of eight questions. (The case studies are displayed in full in Appendix D.)

In abbreviated form, the student case studies represented were:

- (1) An academically talented female student interested in a college preparatory education. The student wishes to take classes in industrial arts and in home economics.
- (2) An academically talented male student interested in completing high school and entering the work force. He wishes to take classes in industrial arts/vocational agriculture and take only the minimum of the non-vocational classes as required by the school.
- (3) An academically average male student unsure of his needs and not certain as to whether or not to attend college. He wishes to take classes in business and industrial arts as scheduling allows.
- (4) An academically below-average female student from a single-parent dysfunctional home. She performs poorly in math and science and seems to have no vocational interest.

Table 13. Means and standard deviations for statements pertaining to case studies.*

No.	Perception Statement	Case #1		Case #2		Case #3		Case #4	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
(1)	I would encourage this student to take classes in vocational education.	1.63	.60	1.48	.55	1.63	.59	1.31	.52
(2)	I would encourage this student to take all the classes pertaining to the minimum college entrance requirements as defined by the Board of Regents.	1.38	.52	1.90	.71	1.92	.66	2.79	.78
(3)	Due to the scheduling difficulties and number of courses offered, the student will have to decide at this point if he/she is going to go to college or take vocational education courses.	3.12	.83	3.19	.80	2.96	.84	2.91	.84
(4)	I would encourage this student to take a variety of vocational education courses as well as the college preparatory courses as scheduling permits.	1.38	.55	1.55	.18	1.55	.60	2.18	.85
(5)	I feel that in this case the student would benefit from the career exploration that is inherent in vocational education.	1.70	.60	1.58	.58	1.58	.60	1.30	.48
(6)	As this student matures, his/her perceptions toward a college education may change; therefore it is important for him/her to take the college preparatory courses.	1.73	.39	1.86	.41	1.88	.61	2.61	.68

Table 13--Continued.

No.	Perception Statement	Case #1		Case #2		Case #3		Case #4	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
(7)	I would encourage this student to take vocational education courses, but not to the exclusion of college preparatory courses.	1.63	.54	1.74	.64	1.79	.61	2.04	.78
(8)	I would encourage this student to take college preparatory courses, but not to the exclusion of vocational education courses.	1.90	.49	1.88	.66	1.94	.67	2.51	.80

*In all four cases the statements were identical for each student described.

The statements in this part of the questionnaire were directed at the placement of the student in classes the counselor recommended. The intent was to determine if the counselor would suggest the student take vocational classes, college preparatory classes, or a mixture of both.

The data in Table 13 will be discussed by individual statements.

Statement 1: The data in Table 13 for statement 1 ("I would encourage this student to take classes in vocational education") show similar means and standard deviations for all four cases. There is a slight difference shown in the mean for case 4 (1.31), whereas the means for cases 1, 2, and 3 (1.63, 1.48, and 1.63, respectively) are all very closely grouped. The standard deviations are very similar (.60, .55, .59, and .52, respectively) for all four cases. This indicates that the respondents agreed, for each of the four student cases presented, that they would encourage the student to take classes in vocational education.

Statement 2: The data in Table 13 for statement 2 ("I would encourage this student to take all the classes pertaining to the minimum college entrance requirements as defined by the Board of Regents") show similar means (1.38, 1.90, and 1.92) and standard deviations for cases 1, 2, and 3, respectively. Examination of the data for case 4 reveals a much higher mean (2.79), suggesting that the counselors responding disagreed with the statement for the student in case 4, but

agreed with the statement for the students in cases 1, 2, and 3. This indicates that the counselors responding would encourage students represented in cases 1, 2, and 3 to take all the classes pertaining to the minimum college entrance requirements as defined by the Board of Regents.

Statement 3: The data in Table 13 for statement 3 ("Due to scheduling difficulties and number of courses offered, the student will have to decide at this point if he/she is going to go to college or take vocational education courses") show very similar means (3.12, 3.19, 2.96, and 2.91) for all cases. The standard deviations (.83, .80, .84, and .84) are also very similar. For this particular statement, the reaction of the counselors was uniform in disagreement for all four students represented in the case studies. This indicates disagreement by the counselors in all four cases that the student will have to decide at this point if he/she is going to go to college or take classes in vocational education.

Statement 4: The data in Table 13 for statement 4 ("I would encourage this student to take a variety of vocational education courses as well as the college preparatory courses if scheduling permits") show similar means and standard deviations for all four cases. There is a slight difference shown in the mean for case 4 (2.18), whereas the means for cases 1, 2, and 3 (1.38, 1.55, and 1.55, respectively) are all very closely grouped. The standard deviations are

scattered (.55, .18, .60, and .85, respectively), indicating no specific clustering of responses. In all cases, however, the counselors indicated that they would encourage the students represented to take a variety of vocational education courses as well as the college preparatory courses if scheduling permits.

Statement 5: The data in Table 13 for statement 5 ("I feel that in this case the student would benefit from the career exploration that is inherent in vocational education") again show similar means (1.70, 1.58, 1.58, and 1.30, respectively) for all four cases. The standard deviations (.60, .58, .60, and .48, respectively) are also very similar for this statement. This indicates that in all four cases the counselors responding felt that the students represented would benefit from the career exploration that is inherent in vocational education.

Statement 6: The data in Table 13 for statement 6 ("As this student matures, his/her perceptions toward a college education may change; therefore it is important for him/her to take the college preparatory courses") reveal similar means (1.73, 1.86, and 1.88) for cases 1, 2, and 3, respectively. Case 4 shows a much higher mean (2.61), which separates it from the first three cases. The counselors felt differently about the student represented in case 4. An examination of the standard deviations reveals some other differences. Cases 1 (.39) and 2 (.41) show rather small

standard deviations when compared to those of cases 3 (.61) and 4 (.68). These data indicate that as the students represented in cases 1, 2, and 3 mature, their perceptions toward a college education may change. Therefore, it is important for students represented in cases 1, 2, and 3 to take the college preparatory courses.

Statement 7: The data in Table 13 for statement 7 ("I would encourage this student to take vocational education courses, but not to the exclusion of college preparatory courses") show similar means (1.63, 1.74, 1.79, and 2.04, respectively) for all four case studies. The standard deviations (.54, .64, .61, and .78, respectively) are also rather similar. In all four cases the counselors responding indicated they would encourage the students represented to take vocational education classes, but not to the exclusion of college preparatory courses.

Statement 8: The data in Table 13 for statement 8 ("I would encourage this student to take college preparatory courses, but not to the exclusion of vocational education courses") show similar means (1.90, 1.88, and 1.94) for cases 1, 2, and 3, respectively, but a higher mean (2.51) for the student represented in case 4. The standard deviations (.49, .66, .67, and .80, respectively) are scattered, indicating that the responses are more tightly clustered for case 1 than for the other three cases. The data for statement 8 indicate that the counselors would recommend students 1, 2, and 3 take

college preparatory courses. The responses for the student represented in case 4 are almost precisely at the midpoint between agreement and disagreement with the statement.

In summation of the data shown in Table 13, it can be said that the means and standard deviations for cases 1, 2, and 3 are similar for each individual statement. The counselors responding to the questionnaire generally responded differently to the statements when they referred to the student represented in case 4.

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS,
AND IMPLICATIONS

The conclusions, recommendations, and implications of this study are presented as they relate to the objectives of the study.

Conclusions

Based on the analysis of the data from the responding counselors, the following conclusions were drawn:

- (1) In the state of Montana, high school counselors with a vocational education preparation are not represented in large numbers.
- (2) The counselors responding do feel that vocational education is appropriate for all students.
- (3) Counselors agree that math and science have a direct relationship with vocational education.
- (4) If the proposed standards of the Board of Regents of the Montana University System are applied, enrollments in high school vocational education will diminish if counselors are not effective in encouraging academically talented students to take college preparatory courses to keep their options open.

- (5) Counselors will not encourage lower achieving students who show no interest in college to take the college preparatory curriculum. For these students the recommendation will be to take courses in vocational education.

Implications

The following implications are offered as a result of the findings of this study:

- (1) If the proposed standards of the Board of Regents, as of March 1988, are applied, fewer talented students will enroll in the vocational education classes across the state.
- (2) If the proposed standards of the Board of Regents are applied, vocational education will continue to be perceived as a "dumping ground" unless there is a greater integration of math and science into the vocational education curriculums.
- (3) Course scheduling will become more difficult, as the higher level academic courses and higher level vocational education courses may conflict. This will present a greater problem for the smaller schools with a small teaching staff. If scheduling does permit a student to take both vocational courses and college preparatory courses, it will require students to give up study halls and take full course loads.

- (4) If the proposed standards of the Board of Regents are applied, counselors will be forced to encourage college-bound students to take the college preparatory classes; thus, in many cases, there will not be room to accommodate vocational education classes.

Recommendations

Based on the findings of this study, the following recommendations are offered:

- (1) If the Board of Regents of the Montana University System is interested in the welfare of all students prepared in the state secondary schools, the Board needs to reconsider the required course areas for college entry as proposed in March 1988.
- (2) Every effort should be made to develop school schedules that eliminate conflict between vocational education classes and college preparatory classes.
- (3) Counselors should make students aware of the possibilities available to talented students other than those requiring a four-year degree. This may be facilitated through workshops or classes stressing the variety of career paths that are available to students.
- (4) Counselors and vocational education teachers need to work together to develop programs that will challenge all students and provide career exploration.

- (5) Counselors, parents, and all school personnel should work toward the removal of any negative stigmas that are attached to vocational education classes.

Recommendations for Further Study

The results of this study suggest the following recommendations for further study:

- (1) A survey of a nature similar to this study should be conducted that would include counselors in states that have rigid college entrance requirements and counselors in states that maintain open admission policies.
- (2) A comparison study should be done that would analyze the responses of counselors in the different sized Montana high schools as to effects of the Board of Regents entrance requirements on their academically talented students as to course selection after the Board of Regents policy has been mandated.

Summary

The data analysis of this study shows that counselors responding are not anti-vocational education for talented students. It appears they would like to encourage students to enroll in the curriculum, but there are barriers.

The counselors are strongly opposed to the possibility of the Board of Regents implementing standards for college entrance (March 1988). They feel this will severely limit

the options of students and lead to decreasing program quality in the vocational areas. For the vocational education programs to attract talented students, counselors and vocational teachers must work together to communicate the possibilities and benefits of high school vocational education to the students.

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APPENDICES

APPENDIX A

GUIDANCE COUNSELOR QUESTIONNAIRE

Question set # 1

Please respond to the following set of questions by circling the number corresponding to the scale that best describes your reaction to the statement.

SA = Strongly Agree A = Agree D = Disagree SD = Strongly Disagree

SA A D SD

- 1 2 3 4 It is important for all high school students to be exposed to basic courses in vocational education.
- 1 2 3 4 Vocational education is designed primarily for those students not interested or unable to pursue a college education.
- 1 2 3 4 The end result of vocational education in the high school is to provide entry level skills leading to employment.
- 1 2 3 4 The more academically talented students will not be challenged satisfactorily in high school vocational education classes.
- 1 2 3 4 There is a direct relationship between the math and science curriculums and their application in vocational education.
- 1 2 3 4 Vocational education teachers in your school encourage the application of math and science in their courses.
- 1 2 3 4 Talented students that are bored with school can see the direct application of academics in vocational education classes

_____ % Given your present high school population what percentage do you anticipate will enroll in a 4 year college or university program?

_____ % What percentage of the high school population do you anticipate will finish a four year degree?

Yes _____ Will the proposed minimum college entrance standards affect
No _____ counseling of students that enroll in vocational education courses?
If yes please elaborate.

Yes _____ If the standards of the board of regents are applied a student in
No _____ your school that wishes to enter college will have room in his/her
schedule to take more than 1 vocational education course.

Please specify the data about your school.

Class of school. AA _____ A _____ B _____ C _____

Number of counselors serving the high school population. _____

Please select the vocational education courses offered in the high school.

_____ Industrial Arts _____ Vocational Agriculture
_____ Home Economics _____ Business/Office
_____ Graphic Arts _____ Nursing
_____ Other (please specify) _____

What is the area of your teaching certification? _____

Where did you receive your Bachelors degree? _____

Where did you receive your counseling degree or indorsement? _____

What grade levels do you serve? _____

Please read the case studies found on the next pages and respond to the statements following. The statements pertain only to the student that is described in the narrative found on the same page. Please specify the number on the scale that best describes your perception about the given statement.

CASE STUDY # 1

Academically talented student interested in a college preparatory education.

This 9th grade student is a bright and very capable student in the upper 20% of her class. The student's primary interest is to attend the state university. Though at this point she is unsure of a degree field. She has expressed an interest in taking some vocational education courses in the areas of industrial arts education and home economics education.

The parents are not college graduates but would like their daughter to earn a college degree. They do recognize that the girl is very bright and mature for her age. They feel that she is capable of making her own decisions regarding classes provided she is given the necessary information on which to base her decision.

Scheduling within the school day will allow her the needed flexibility to take the required English, math, science, and social studies in the 9th and 10th grade. She realizes that as classes get smaller in the 11th and 12th grade scheduling may become more of a problem. She feels that the courses in vocational education would complement her high school education.

SA = Strongly agree
A = Agree
D = Disagree
SD = Strongly disagree

- | SA | A | D | SD | |
|----|---|---|----|--|
| 1 | 2 | 3 | 4 | I would encourage this 9th grade student to take classes in vocational education. |
| 1 | 2 | 3 | 4 | I would encourage this student to take all the classes pertaining to the minimum college entrance requirements as defined by the board of regents. |
| 1 | 2 | 3 | 4 | Due to scheduling difficulties and number of courses offered the student will have to decide at this point if he/she is going to go to college or take vocational education courses. |
| 1 | 2 | 3 | 4 | I would encourage this student to take a variety of vocational education courses as well as the college preparatory courses if scheduling permits. |
| 1 | 2 | 3 | 4 | I feel that in this case the student would benefit from the career exploration that is inherent in vocational education classes. |
| 1 | 2 | 3 | 4 | As this student matures his/her perceptions toward a college education may change. Therefore it is important for him/her to take the college preparatory courses. |
| 1 | 2 | 3 | 4 | I would encourage this student to take vocational education courses but not to the exclusion of college preparatory courses. |
| 1 | 2 | 3 | 4 | I would encourage this student to take college preparatory courses but not to the exclusion of vocational education courses. |

CASE STUDY # 2

Academically talented student not interested in continuing his education after high school.

This 9th grade student is bright and capable, and in the upper 20% of his class. The student's primary interest is to get high school out of the way as fast as possible and enter the work force. He shows signs of being capable of college work but at this point further education is not being considered.

The parents recognize that the boy is very bright and are somewhat disappointed by his feelings toward school. They are encouraged by his interest in the vocational education program at school where he is a junior officer in the vocational education club. He is very skilled with his hands and shows promise of being some type of skilled craftsman. In addition he is very creative and draws beautifully.

The student wishes to take classes in industrial arts/vocational agriculture as his major concentration. In addition he wants to take art classes to increase his ability to draw, paint, and create. He does not wish to take any more math or science than he has to. The parents would like the boy to take more than the minimum amount of academic classes but at the same time do not want him to drop out of school which they do see as a possibility.

SA = Strongly agree
A = Agree
D = Disagree
SD = Strongly disagree

SA	A	D	SD	
1	2	3	4	I would encourage this 9th grade student to take classes in vocational education.
1	2	3	4	I would encourage this student to take all the classes pertaining to the minimum college entrance requirements as defined by the board of regents.
1	2	3	4	Due to scheduling difficulties and number of courses offered the student will have to decide at this point if he/she is going to go to college or take vocational education courses.
1	2	3	4	I would encourage this student to take a variety of vocational education courses as well as the college preparatory courses if scheduling permits.
1	2	3	4	I feel that in this case the student would benefit from the career exploration that is inherent in vocational education classes.
1	2	3	4	As this student matures his/her perceptions toward a college education may change. Therefore it is important for him/her to take the college preparatory courses.
1	2	3	4	I would encourage this student to take vocational education courses but not to the exclusion of college preparatory courses.
1	2	3	4	I would encourage this student to take college preparatory courses but not to the exclusion of vocational education courses.

CASE STUDY # 3

Average student unsure of needs and seeking advice on what path to pursue.

This is an average 9th grade student. He is conscientious about his school work and a pleasant all around student. He does not know what he wants to do when he finishes high school. He does want to take classes in the industrial arts program and in business education. Because of scheduling problems it will come down to a choice between the vocational education classes and the higher math and science classes. The student is unsure of his need to take the academic classes but is reasonably certain that he wants to take business and industrial arts.

The parents have 4 children in the school. The 2 older children have taken the college preparatory route. They do realize though that each of their children are individuals and do not insist that the boy follow in the track of his older siblings.

SA = Strongly agree
A = Agree
D = Disagree
SD = Strongly disagree

SA	A	D	SD	
1	2	3	4	I would encourage this 9th grade student to take classes in vocational education.
1	2	3	4	I would encourage this student to take all the classes pertaining to the minimum college entrance requirements as defined by the board of regents.
1	2	3	4	Due to scheduling difficulties and number of courses offered the student will have to decide at this point if he/she is going to go to college or take vocational education courses.
1	2	3	4	I would encourage this student to take a variety of vocational education courses as well as the college preparatory courses if scheduling permits.
1	2	3	4	I feel that in this case the student would benefit from the career exploration that is inherent in vocational education classes.
1	2	3	4	As this student matures his/her perceptions toward a college education may change. Therefore it is important for him/her to take the college preparatory courses.
1	2	3	4	I would encourage this student to take vocational education courses but not to the exclusion of college preparatory courses.
1	2	3	4	I would encourage this student to take college preparatory courses but not to the exclusion of vocational education courses.

CASE STUDY # 4

Below average student from a single parent, dysfunctional home.

This 9th grade student is in the lower 20% of her class. She does not do well in math or science but is average in English and social studies. She repeated the 6th grade and is therefore older than most of her classmates. She has had an attendance problem, missing 8 days in the first quarter this year.

The girl's mother is a single parent raising three children of which this student is the youngest. The mother works full time during the day and has not been able to come to school to visit with the child's teachers or counselor for various reasons. The girl's older brother dropped out of school in the 10th grade, the older sister finished school and is now in the military.

She has indicated to you that she wishes to finish school and then get a job. An area of vocational interest has not been determined.

SA = Strongly agree
A = Agree
D = Disagree
SD = Strongly disagree

SA	A	D	SD	
1	2	3	4	I would encourage this 9th grade student to take classes in vocational education.
1	2	3	4	I would encourage this student to take all the classes pertaining to the minimum college entrance requirements as defined by the board of regents.
1	2	3	4	Due to scheduling difficulties and number of courses offered the student will have to decide at this point if he/she is going to go to college or take vocational education courses.
1	2	3	4	I would encourage this student to take a variety of vocational education courses as well as the college preparatory courses if scheduling permits.
1	2	3	4	I feel that in this case the student would benefit from the career exploration that is inherent in vocational education classes.
1	2	3	4	As this student matures his/her perceptions toward a college education may change. Therefore it is important for him/her to take the college preparatory courses.
1	2	3	4	I would encourage this student to take vocational education courses but not to the exclusion of college preparatory courses.
1	2	3	4	I would encourage this student to take college preparatory courses but not to the exclusion of vocational education courses.

APPENDIX B

FIRST MAILING COVER LETTER



Montana State University
Bozeman, Montana 59717

Department of Agricultural and Industrial Education
College of Agriculture

March 1, 1988

Dear Montana Guidance Counselor

We are conducting a survey of the perceptions of guidance counselors toward encouraging academically talented students to pursue course work in vocational education. The population of counselors has been drawn from Montana high schools that have some type of vocational education program. As a member of this group you play a vital role in the development of young people and the career path they will eventually follow. For this reason we would greatly appreciate your honest and open responses to the items in this survey. All responses will be held in confidence. The code numbers on the survey are for follow up purposes only and will not be released or recorded in any way after the data are tabulated.

This study is made up of a set of general questions about your feelings toward academically talented students and vocational education. Included are 4 case studies that pertain to students that could be found in any school. The case studies are followed by 8 questions that pertain to the student described on the same page. Please analyze the students as best you can with the information provided and respond as you would if counseling a similar student.

We will look forward to your open remarks regarding the topic and the survey itself on the last page of the survey. When you have completed the questions please staple or tape the instrument and mail it back to us by March 12. The questionnaire is pre stamped and ready to be mailed.

Thank you in advance for your time and support of this collection of vital information. It will be used in conjunction with the development of the standards for college entrance recommendations in the states high schools.

Sincerely

Thomas Hurst

Ken Bruwelheide

APPENDIX C

SECOND MAILING COVER LETTER



Montana State University
Bozeman, Montana 59717

Department of Agricultural and Industrial Education
College of Agriculture

March 30, 1988

Dear Montana Guidance Counselor,

Approximately three weeks ago you were sent a questionnaire and asked to complete it. As of today I have not received your questionnaire.

I am particularly concerned that it may have been misplaced or lost in the mail. Therefore enclosed you will find another copy of the questionnaire for you to complete.

Please be assured that your response will be kept in strict confidence. The code number is for follow up purposes only.

Your response is important to this study. If we are to achieve an accurate representation of the opinions of the counselors in the field we need your reaction to the cases and questions presented.

When you have completed the questionnaire please staple or tape it shut and drop it in the mail.

Thank you for your immediate attention.

Sincerely,

Tom

Thomas Hurst
Graduate Student

Ken

Ken Bruewelheide
Associate Professor

APPENDIX D

STUDENT CASE STUDIES

CASE STUDY #1

Academically talented student interested in a college preparatory education.

This 9th-grade student is a bright and very capable student in the upper 20% of her class. The student's primary interest is to attend the state university, though at this point she is unsure of a degree field. She has expressed an interest in taking some vocational education courses in the areas of Industrial Arts education and Home Economics education.

The parents are not college graduates, but would like their daughter to earn a college degree. They do recognize that the girl is very bright and mature for her age. They feel that she is capable of making her own decisions regarding classes provided she is given the necessary information on which to base her decision.

Scheduling within the school day will allow her the needed flexibility to take the required English, math, science, and social studies in the 9th and 10th grades. She realizes that as classes get smaller in the 11th and 12th grades, scheduling may become more of a problem. She feels that the courses in vocational education would complement her high school education.

CASE STUDY #2

Academically talented student not interested in continuing his education after high school.

This 9th-grade student is bright and capable, and in the upper 20% of his class. The student's primary interest is to get high school out of the way as fast as possible and enter the work force. He shows signs of being capable of college work, but at this point further education is not being considered.

The parents recognize that the boy is very bright and are somewhat disappointed by his feelings toward school. They are encouraged by his interest in the vocational education program at school where he is a junior officer in the Vocational Education Club. He is very skilled with his hands and shows promise of being some type of skilled craftsman. In addition, he is very creative and draws beautifully.

The student wishes to take classes in Industrial Arts/Vocational Agriculture as his major concentration. In addition, he wants to take art classes to increase his ability to draw, paint, and create. He does not wish to take any more math or science than he has to. The parents would like the boy to take more than the minimum amount of academic classes, but at the same time do not want him to drop out of school -- which they do see as a possibility.

CASE STUDY #3

Average student unsure of needs and seeking advice on what path to pursue.

This is an average 9th-grade student. He is conscientious about his school work and a pleasant all-around kid. He does not know what he wants to do when he finishes high school. He does want to take classes in the industrial arts program and in business education. Because of scheduling problems, it will come down to a choice between the vocational education classes and the higher math and science classes. The student is unsure of his need to take the academic classes, but is certain that he wants to take the business and industrial arts.

The parents have four children in the school. The two older children have taken the college preparatory route. They do realize, though, that each of their children are individuals and do not insist that the boy follow in the tracks of his older siblings.

CASE STUDY #4

Below-average student from a single-parent, dysfunctional home.

This 9th-grade student is in the lower 20% of her class. She does not do well in math or science, but is average in English and social studies. She repeated the 6th grade and is therefore older than most of her classmates. She has had an attendance problem, missing eight days in the first quarter this year.

The girl's mother is a single parent raising three children, of which this student is the youngest. The mother works full time during the day and has not been able to come to school to visit with the child's teacher or counselor for various reasons. The girl's older brother dropped out of school in the 10th grade; the older sister finished school and is now in the military.

She has indicated to you that she wishes to finish school and then get a job. An area of vocational interest has not been determined.

APPENDIX E

OPEN-ENDED COMMENTS FROM COUNSELORS

COMMENTS FROM COUNSELORS

QUESTION: Will the proposed minimum college entrance standards affect the counseling of students that enroll in vocational education courses? If yes, please elaborate.

[Those statements followed by asterisks (*) were repeated closely by other respondents.]

Comments:

- (1) Probably, before they enroll in VE courses.
- (2) There simply are not enough periods in the day for students to take a college prep load and have many vo ed courses to choose from. (*****)
- (3) Many required courses conflict with vo ed courses. Vo ed courses suffer also due to lack of funds to provide quality education and result in student turnoff.
- (4) They will have to make sure they meet the requirements so they won't have time to take a vocational class. (*****)
- (5) We need to make sure that a student has enough time in the school year to take all the required courses.
- (6) Students are not taking vo ed courses at our school because of the time needed for foreign language, additional science, etc.
- (7) Some classes must be taken and so others such as vocational are eliminated because of requirements -- such as Life-Long Learning Skills. (*)
- (8) Most students are looking at the college prep requirements and tend to discount the vocational courses as unimportant.
- (9) The student will have to be told that he/she might not meet the minimum college entrance requirements.

Comments from Counselors (cont'd.)

- (10) Our offerings are limited due to cutbacks.
- (11) Basically will affect all students . . . hopefully encouraging them to consider choices other than college.
- (12) I would anticipate put more of an emphasis on vocational education counseling.
- (13) More emphasis on the practical value of vocational ed in conjunction with the academic curriculum.
- (14) I feel there is space for both. It may involve students taking full loads, but I do believe they can, with proper planning, explore both areas. (*)
- (15) Most students assume they are college-bound. This is a false assumption -- but it is tough for most to face reality.
- (16) Limits the number of elective courses they can take. (*****)
- (17) Obviously, students will be tracked in our system to fulfill college entrance requirements. (*)
- (18) Due to scheduling problems, some college-bound students will not be able to take full advantage of our vocational ed program. This is a crime. (**)
- (19) Students who would have taken vocational ed courses previously now cannot fit them into their schedules -- must take courses that get them into college instead. (**)
- (20) If students wish to participate in both programs (vocational ed and college prep), they will have to make definite course selections -- fewer electives.
- (21) Our limited scheduling possibilities will eliminate vocational students -- especially those who decide as juniors that they need college.
- (22) Discourage vocational ed due to no time in schedule to take them. That will not be the case in our school at this time. If it does happen, I will discourage.
- (23) To small degree it may eliminate some.

Comments from Counselors (cont'd.)

- (24) It adds to the number of courses needed by a college-bound student, eliminating the possible vocational choices while in high school. (** -- some smaller schools)
- (25) Those who want voc ed classes might not be able to do both. (*)
- (26) It will force 11th and 12th grades to be more selective and drop out of 3rd and 4th year voc programs. Almost eliminates any two-hour block courses.
- (27) Because students may choose to go to college and have not decided vocational goals yet, when entering 9th grade they will take college prep courses just to keep that option open.
- (28) Already students have found that they cannot choose courses because they are "interested" in them -- they must meet the "requirements." (*)
- (29) Reduces the opportunity for vocational exploration and awareness. It will also reduce course electives. (****)
- (30) Academic classes are many times the area that vocational students have the greatest difficulty.
- (31) Our school is very small and the population is primarily Native American. We do not offer foreign language and no math classes above Algebra II. Few students would qualify for entrance into the State University System.
- (32) Students will need to be aware of minimum standards and that ACT test scores are going to be a minimum criteria for acceptance -- shortly.
- (33) Time factor of 7 period day for academic prep plus time to do more challenging vo tech courses.
- (34) Because of our scheduling, not all students will be able to enroll in more than one, possibly two, voc ed courses. They will miss the opportunity to pursue business classes, such as computers. (**)

Comments from Counselors (cont'd.)

- (35) In some cases students will have to decide early that they will not go on to college. There is room for some vocational classes for college-bound students, but not wide exposure.
- (36) Almost same standards as our high school grad requirements and should be same minimum state-wide.
- (37) Depending on the choice of student's electives -- if vo ag will fit in or voc ed.
- (38) In small schools, only so many teachers/classes available.
- (39) The required courses will limit time for electives. I agree with the core academic courses (math, science, social studies) but need more flexibility on the visual and performing arts and English.
- (40) The new proposals are very restrictive. Some departments are very curtailed because of these proposals.
- (41) They will have to be aware of what to take and why.
(*)
- (42) Vocational and music programs will be most severely damaged. We already see a difference in the quality of students in our advanced business courses.
- (43) We have a 7-period day, so we are still able to do right by our voc ed programs.
- (44) The proposed standards will bar many of our students from going directly from high school to a 4-year college. Alternative programs for those students must be emphasized.
- (45) Students feel pressure to enroll in "academic core area" coursework anyway. Minimum requirements will exacerbate that.
- (46) Marginal students who want to enter college and are unable to attain the required ACT scores will have to look at alternatives in education or look out-of-state.

Comments from Counselors (cont'd.)

- (47) I feel that the imposed standards are going to create a higher level of dropouts. Not only affecting vocational education, but all post H.S. education.
- (48) Most of the non-college-bound students in our school are not science and math oriented. I will encourage them to take additional math -- in case they should ever decide that a 4-year college is what they want.
- (49) Vocational techs -- usually do have better help for math and science classes. Therefore background H.S. classes aren't as needed.
- (50) We don't have a large enough staff to allow for pursuit of both disciplines.
- (51) Most students will opt to not attend a four-year college.
- (52) It will increase the number entering vocational education careers out of high school.

APPENDIX F

PROPOSED STANDARDS AT TIME OF STUDY

**PROPOSED COLLEGE AND UNIVERSITY
MINIMUM ENTRANCE STANDARDS
AS OF FEBRUARY 1988***

The policy requires the following:

- (1) Three years of mathematics which shall include Algebra I, Geometry and Algebra II.
- (2) Four years of English: In each year the content of the courses shall have an emphasis upon the development of written and oral communication skills and literature.
- (3) Three years of Social Studies:
 - World History
 - American Government
 - Government, Economics, or other third-year course
- (4) Two years of laboratory science selected from Earth Science, Biology, Chemistry or Physics.
- (5) One year in the visual or performing arts.
- (6) Two years of one foreign language or two additional years of courses selected from items (1) through (5) above.

*Reported in: Bob Albrecht, Admissions Task Force Report, 10 March 1988, Board of Regents, Montana University System, Helena, MT.