To the Graduate Council:

I am submitting herewith a thesis written by James A. Chandler entitled "The Identification of Factors That Contribute to Training Area Selection by First Year Post-Secondary Students in a Technical Institute." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Industrial Education.

Gerald K. LaBorde, Major Professor

We have read this thesis and recommend its acceptance:

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

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THE IDENTIFICATION OF FACTORS THAT CONTRIBUTE TO TRAINING AREA SELECTION BY FIRST YEAR POST-SECONDARY STUDENTS IN A TECHNICAL INSTITUTE

A Thesis

Presented for the

Master of Science

Degree

The University of Tennessee, Knoxville

James A. Chandler

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ABSTRACT

The purpose of this study was to identify factors that contribute to training area selection by first year post-secondary students in a Technical Institute. The data was to answer the following questions: "what factors influence first year students at Tri-Cities State Technical Institute to choose their occupational training area," "are there high school curriculum differences between students in the Applied Science Technologies and the Engineering Technologies at Tri-Cities State Technical Institute," and "why did first year students select Tri-Cities State Technical Institute over other post-secondary institutions."

The data used in this survey were obtained from one-hundred thirty-six students enrolled during the Spring Quarter of 1980 at Tri-Cities State Technical Institute. Forty-one of the respondents were Engineering Technology students and ninety-five of them were Applied Science Technology students.

It was found that a majority of the students were influenced in their choice of training by parent(s), friend(s), or person(s) in the profession. Not many were influenced in their choice by a counselor which does not reflect well on the counseling profession.

There is a great deal of difference between the two groups surveyed in high school math and science courses. This fact could be useful to high school and post-secondary school counselors.

Students need to be made more aware of career opportunities and entrance requirements to these careers during their secondary school years to be better prepared to be successful in that chosen career area.

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CHAPTER I

INTRODUCTION

Numerous and widespread changes have occurred recently in the fields of technical education and vocational-technical education. The concept of comprehensive high schools has brought into existence several new areas of vocational training at the secondary school level. The inception of Area post-secondary schools and Technical Institutes offers the post-secondary students an alternative to a four year college education.

Some four year colleges have restructured their curriculum to include technical programs leading to both a two year associate degree and a four year baccalureate degree.

Holland (1966) said,

> A person's vocational choice, stability, and achievement may be conceived of as involving: (1) his direction of choice (meaning his choice of a particular field or kind of work) and subsequent changes in that direction, and (2) his level of vocational achievement. (p. 42)

Studies have shown that the expected number of trained personnel with less than a four year degree have increased drastically recently, and future expectations predict an even higher increase in demands.

If an institution offering training at these levels is to flourish, it must meet the needs of its students. This obviously includes the best correlation of the following: future expectations, diversity of background, ability, and institutional services.

Statement of the Problem

The purpose of this study was to attempt to identify the factors that contribute to the selection of an occupational training area by first year students at Tri-Cities State Technical Institute.

Questions to be Answered

The following questions were proposed to arrive at a solution of the problem:

1. What factors influence first year students at Tri-Cities State Technical Institute to choose their occupational training area?
2. Are there high school curriculum differences between students in the Applied Science Technologies and the Engineering Technologies at Tri-Cities State Technical Institute?
3. Why did first year students select Tri-Cities State Technical Institute over other post-secondary institutions?

Importance of the Study

If a post-secondary institution is to provide its student populus with the best suited training for future employment potential, it must attempt to gather and compile the maximum data available concerning the needs of its students.

Hoppock (1977) said,

> Occupations are selected to meet personal needs. His theory consists of the following: (1) occupations are chosen to meet needs; (2) occupational choice begins when we first become aware that an occupation can help meet our needs;

> (3) the occupation that we choose is the one we believe will best meet the needs that most concern us; (4) occupational choice improves as we become better able to see how well a prospective occupation will meet our needs; (5) job satisfaction depends on the extent to which the job that we hold meets the needs that we feel it should meet; and (6) occupational choice is always subject to change when we believe that a change will better meet our needs. (pp. 213-214)

Opinions may differ about the components of the theory, but in its entirety, it has been recognized as having valuable concepts.

The public and the industrial communities are becoming much more aware of the benefits of vocational-technical education as an alternative to a four year general college education. This fact can be witnessed by the growth rate of post-secondary two-year institutions offering this type of training and by the increase of technical training in four-year institutions.

Holland and Lutz (1970) determined, "that a student's stated or expressed vocational choice is a good predictor of his future occupation, but vocational guidance and counseling should not cease once a choice is stated" (p. 68).

The one common point that appears almost conclusively in any article dealing with the area of career counseling is the need for more of it. Given this fact the educational community as a whole must strive for improvement, to include administrators, counselors, and teachers.

If the institutions are to survive and continue to grow, they must improve their methods of correlation between students and training areas for compatability.

The counseling department at Tri-Cities State Technical Institute, or any comparable post-secondary institution, must by necessity attempt

to better understand a student's expectations of an occupational training area and the school offering the training as it relates to his job objectives.

The solution also requires more assistance and communications between post-secondary and secondary counselors to allow more students to make their choices while they are still members of the secondary school system.

Limitations

This study was limited to a sample of first year day students in attendance at Tri-Cities State Technical Institute on certain days. There was no attempt to include the first year night students in the data group.

One limitation of the study was that it did not include all the first year students at Tri-Cities State Technical Institute enrolled during the Spring Quarter of 1980. The data group included approximately 136 students out of a possible 387 students.

There was no data gathered at any of the other Technical Institutes in the state; and this could possibly have been a limitation.

Definition of Terms Used

For the purpose of this study, the following definitions were formulated:

First year student. A student who at the beginning of the Spring Quarter 1980, had completed less than forty-five quarter hours of course work.

Day student. A student whose majority of course work is taken between the hours of 7:00 A.M. and 5:00 P.M.

Night student. A student whose majority of course work is taken after 5:00 P.M. and before 11:30 P.M.

Engineering Technology. A student enrolled in Mechanical, Industrial, Instrumentation, or Electronic Engineering Technology.

Applied Science Technology. A student enrolled in any program other than an Engineering Technology.

Organization of the Study

Chapter I - Contains the introduction, a statement of the problem, three questions to be answered to arrive at a solution to the problem, importance of the study, limitations, definitions of terms used, and the organization of the study.

Chapter II - Review of Related Literature.

Chapter III - Methods and Procedures.

Chapter IV - Tabulation and Analysis of Data.

Chapter V - Contains:

A. Summary

B. Conclusions

C. Recommendations.

CHAPTER II

REVIEW OF RELATED LITERATURE

A review of related literature proved inconclusive in finding relationships between: the factors that influence students to choose their occupational training areas, are there basic curriculum differences between students in different training areas, and why students choose one post-secondary institute in preference to another.

It has been determined that for some students, many factors can influence career choices. Other students can only list a few factors that influenced their particular career areas.

Uzzell (1961) determined,

> That there is a definite relationship between respondants' occupational aspirations and their knowledge of occupational models. In addition to models, occupational aspirations were influenced significantly by other sources. Notable among these were mass media and persons in occupations other than those of respondants' choices. (pp. 668-669)

This article even though written in 1961, still has merits when applied to today's times.

Wollman (1975) discovered that,

> To assist potential students in considering and either selecting or rejecting the vocational-technical school as a means to achieve their tentative career objectives, the most frequent activities carried on by guidance workers are (a) providing information about the school program to these persons (school counselors, teachers, employment service counselors) who would be assisting individuals in looking at different educational alternatives; (b) scheduling and conducting tours for secondary students, counselors, teachers, principals, civic groups, parents, and others; (c) providing junior high students with direct observational experiences in the several occupational areas for which training is offered; (d) conducting an

> open house for potential students and their parents; (e) visiting out-of-school youth and encouraging them to examine vocational-technical education; and (f) developing and distributing printed information about the school, its offerings, its students, and its graduates. (p. 678)

If a school's counselors provided all the above mentioned services, the student would definitely have a much easier task in determining the factors that influenced their occupational training area selection.

Musgrove (1967) found that,

> There are some indications that parental attitudes may be of considerable importance in the motivation not only of school children but also of undergraduates. (p. 78)

> When they report the people who are important in their lives, whose opinions they value, whom they do not wish to disappoint in their academic careers, and who would be disappointed if their careers were a failure, some 600 students entering a technological unversity refer to their parents more often than they do to any other category of person. (p. 80)

Root (1977) determined that, "Peer groups are an integral part of the learning systems of classrooms and they matter precisely because children think they do" (p. 25).

Super (1973) said that,

> An occupation makes it possible for a person to play a role that is appropriate to the picture that he has of himself. Some of his ideas were: (1) people differ in abilities, interests, and personalities; (2) on the basis of these characteristics, a person is qualified for a number of occupations; (3) every occupation requires a characteristic pattern of abilities, interests, and personality traits; (4) vocational preferences and skills, the situations in which people live and work, and hence their self-concepts, change with time and experience; (5) the process of selecting an occupation may be summed up in a series of life stages; (6) the nature of an individual's career pattern is determined by his parental socioeconomic level, mental ability, personality characteristics, and by the opportunities to which he is exposed; (7) the process of vocational development is essentially that of developing and implementing a

self-concept; (8) work satisfactions and life satisfactions depend upon the extent to which the individual finds adequate outlets for his abilities, interests, personality traits and values. (pp. 217-219)

Shertzer (1977) said,

(1) people make different occupational choices at different stages of life; (2) occupational decisions and work behavior are influenced by what people learn about themselves and the world of work; (3) various explanations of occupational choice are based upon economics, error and accident, personal needs, personality, developmental stages, and self-concept; (4) study of self is the key to career planning; (5) there are many pathways to enter different occupations; (6) many people who find their work unsatisfactory retrain themselves for a different occupation. (p. 277)

Herr (1970) attempted to,

Accentuate the importance of particular factors such as aptitudes and intelligence; values; occupational prestige, occupational stereotypes, interests and needs; and the self-concept in individual cases and as these combine in interdependent relationships. The principal point for the school counselor is that while any factor can be examined separately, it is only as it is combined with others in the dynamics of human behavior that it is relevant. It is only as the school counselor first conceives of the potential meaning of any factor or any combination of factors that either he or the person he is assisting can clarify its relevance and build from such understandings meaningful plans of action. (p. 49)

Hirschi (1968) said,

The following principles should become a part of a guidance oriented philosophy for all members of the educational team: (1) guidance services are a vital and integrative aspect of the well developed educational program; (2) guidance services should contribute positively and materially to the improvement of the total vocational program; (3) guidance services must always be in terms of the needs, objectives, and the philosophy of a particular community, system, and school; (4) full, enthusiastic administrative leadership and support are needed for healthy, developing, effective guidance programs; (5) guidance services are a definable aspect of the educational program requiring leadership, planning, organization, and coordination in a sequential pattern that

will assure the accomplishment of guidance objectives within an educational framework; (6) guidance services are most effective when well-trained, certified and competent guidance personnel are given leadership responsibilities for their organization and coordination; (7) guidance services must be organized within the framework of existing facilities, curriculum, and staff level of human relations; (8) guidance services are actively and responsibly the concern of the entire educational staff operating on a team work basis; (9) there are some very real dangers in the over-specialization of guidance personnel; (10) the guidance that a staff accomplishes is always done in a setting that begins with a psychological relationship which concerns inself with what happens between a teacher and a young person; (11) a staff team must necessarily include a comprehensive array of extended services and consluting resources; (12) guidance personnel need to stand for and lend tangible support to those value patterns that are the same as or compatible with those held by those whose chief responsibility is to teach; (13) guidance personnel have an obligation to lend structured and continuous assistance to the staff team in helping it learn how its guidance role can best be fulfilled; (14) continuous and meaningful research and evaluation at the practical application level, aimed at the improvement of the guidance function, are vital to the ongoing life of a healthy, developing program of guidance services. (pp. 49-51)

Valdez (1974) said,

The goals of career education are to prepare each individual for work which is attainable, self-actualizing and of benefit to society. As a vital element of career education, counselors can play a key role in assisting individuals to make and carry through reasoned career choices. (p. 89)

Larson (1966) said,

Technical education is a comparatively new addition to the total field of occupational education. However, the rapidly changing complexion of technology, science, industry, and education has focused a great deal of attention on the technician as a "key" person filling the gap which has been gradually widening between the engineer and scientist on the one hand and the skilled tradesman on the other. (p. vii)

Scarpitto (1974) determined that,

Technical education can offer a solution to the problem of college drop-outs if high school guidance departments act

> as a tie between employers, post-secondary schools and high school graduates. Young people who lack the interest or resources to become professionals could be guided toward a technical education post-secondary program for the development of technicians and specialists. Although most school systems already have vocational programs at the secondary level, other programs are needed for high school students seeking well-paying and respectable jobs after only a year or two of college. (p. 90)

Henninger (1959) found that,

> The foremost prerequisite for a successful recruitment program is "satisfied customers." That is, the technical institute must be able to show, by factual data from follow-up studies of its graduates and through outspoken, and spoken out, endorsements, that at least a few respected employers do employ and promote engineering technicians which the institution has produced. (p. 64)

He also determined that,

> To embody the philosophy and objectives of technical institute education, the technical institute must offer curriculums appropriate for the student whom it attracts. This requires that curriculums meet the occupational objectives of its students and at the same time be geared to their aptitudes, interests, and prior achievements. To supplement curriculums and instruction, there must also be appropriate programs of testing, counseling, and guidance. (p. 50).

Weisman (1974) said, "Technical education appears to be playing an increasingly important role in American life. Increasing automation and new technologies, have created more demand for highly skilled technicians" (p. 92).

Sibley (1974) said,

> I am not at all surprised at the current popularity of technical education, in the Southeast as elsewhere. I think it is right in line with the trends of our time. Whether you like it or not, it is a fact that our society has become highly industrialized and highly mechanized. Therefore it is only logical that the skilled technicians will have a definite edge in getting the good jobs. These kids are just being realists. They're responding to the needs of their environment. (p. 93)

From the literature available, it is apparent that technical education has become an important part of the overall educational system. The potential student populus and the industrial community must be made aware not only of this fact, but also of the long term benefits of this type of occupational training.

Studies and research should be instigated to increase our knowledge of students, staff, and success levels of graduates from institutions offering this type of training.

CHAPTER III

METHODS AND PROCEDURES

This chapter deals with the process used to collect the data from the sample group.

The data used in this study was furnished by a sample of first year students at Tri-Cities State Technical Institute.

Population

The students used in this study were first year day students in attendance on a given day during the Spring Quarter 1980 at Tri-Cities State Technical Institute. A first year student was defined as a student who had completed less than forty-five quarter hours of course work at the beginning of the Spring Quarter.

A group of about 136 students was selected from a possible 387 students. These students were selected due to the ease of control of the groups and because of their level of training at the institute.

The data group was sampled while they were in attendance in one of the following courses: Am 204 - 30, Am 304 - 65, Ma 124 - 11, and Ma 214 - 30. If students had not completed their first year, they would be enrolled in one of the above mentioned classes.

The difference between sample size and population size was contributed to off-quarter scheduling, prior transfer credit, and timing of study. There were no indications that a representative random sample was not obtained.

A questionnaire was developed, refined, and then distributed to obtain the desired information from the data group.

Instrumentation

A consent form, indicating yes or no respondance by the data group members, was included in the cover letter (Appendix A) that explained the purpose of the research.

The questionnaire (Appendix B) was developed to answer the questions set forth in reaching a solution to the problem.

After development, the questionnaire was reviewed by a panel of experts for content and clarity. Because the data group was comprised of human subjects, the letter of approval (Appendix C) was obtained from the Committee on Human Research Participation at The University of Tennessee, Knoxville.

Following these approvals, the questionnaires were administered to a small sample group to determine if there were any unclear statements or difficulties with interpretation of any portions of the questionnaire. The final step was distribution of the questionnaire to the data group. The subjects were explained the purpose and content of the questionnaire and reiterated the fact that their anonymity would be protected. After completion of the questionnaires by the data group members, they were collected and the responses were compiled and tabulated.

Sources and Treatment of Data

It was believed the most reliable procedure to obtain the necessary data would be the use of a questionnaire. This questionnaire was

developed and reviewed by several groups before it was distributed. Care was taken to select topics that aided in answering the questions that had been set forth.

The professionally accepted steps were followed to insure the anonymity of the members of the data group. Permission was obtained from the Graduate Research Committee before actual distribution of the questionnaires to the data group.

The questionnaire, which included a cover letter that explained the purpose of the survey and a space to check yes or no in reference to responding, then was given to a small sample group to aid in detection of obvious problems.

The questionnaires were then distributed to the data group, with the explanation that no names were to be used and that no one would be able to determine the identities of the individual respondants.

Following completion of the distribution and the collection process, the responses were totaled. The results of these tabulations are shown in tabular format in Chapter IV.

Limitations

The population studied was limited to first year day students that were in attendance at Tri-Cities State Technical Institute on a particular day. No attempt was made to include any first year night students in the group.

Another limitation placed on the study was that only students from Tri-Cities State Technical Institute were surveyed; no data was obtained from any of the other Technical Institutes in the state.

CHAPTER IV

TABULATION AND ANALYSIS OF DATA

This chapter is a synopsis of the response totals that were obtained from the questionnaire given to the data group. The group consisted of forty-one Engineering Technology students and ninety-five Applied Science students. These terms were defined in Chapter I of this paper.

After completion, the questionnaires (Appendix B) were separated into two groups and the responses totaled and converted to percentages. The tables that follow show both the number of responses and the percentages after they were rounded to one decimal place accuracy.

Table I charts the responses to question four. The overall percentages show there were no large differences in the two groups' responses. One-hundred percent of the Engineering Technology students and 99 percent of the Applied Science students responded to the question.

Table II, which represents the responses to question five, reflects some differences between the two groups' responses. About 4 percent more Applied Science students took a vocational course in high school than did the Engineering Technology students. The same overall percentage of respondants was found in Table II as was in Table I.

Table III contains the response frequencies from question six. About 10 percent more Applied Science students were influenced by their parent(s) than were Engineering Technology students. Close to 15 percent more Applied Science students were influenced by friend(s) than were Engineering Technology students. Just over one-third of the respondants

TABLE I

RESPONSES TO QUESTION NO. 4, "HIGHEST EDUCATIONAL LEVEL OF FATHER OR MOTHER"

Responses	Engr. Tech.		App. Science	
	No.	%	No.	%
Less than high school graduate	11	26.8	26	27.4
High school graduate	15	36.6	38	40.0
Some type of post-secondary school	7	17.1	12	12.6
College graduate	4	9.8	10	10.5
Baccalaureate plus	4	9.8	8	8.4

TABLE II

RESPONSES TO QUESTION NO. 5, "DID YOU TAKE ANY TYPE OF VOCATIONAL COURSE(S) IN HIGH SCHOOL?"

Responses	Engr. Tech.		App. Science	
	No.	%	No.	%
Yes	17	41.5	44	46.3
No	24	58.5	50	52.6

TABLE III

RESPONSES TO QUESTION NO. 6, "IF YOU HAD TO CHOOSE THE PERSON(S) WHO MOST INFLUENCED YOUR CHOICE OF A TRAINING AREA, IT WOULD BE . . . (YOU MAY CHECK MORE THAN ONE RESPONSE)"*

Responses	Engr. Tech.		App. Science	
	No.	%	No.	%
Parent(s)	8	19.5	28	29.5
Friend(s)	6	14.6	28	29.5
Person(s) in the profession	13	31.7	29	30.5
High school teacher(s)	2	4.9	9	9.5
High school counselor(s)	1	2.4	3	3.2
Post-secondary counselor(s)	0	0.0	0	0.0
Other	15	36.6	34	35.8

*Percentages total over 100 percent due to multiple response option.

in both groups marked the response choice of "other." The reason the percentages total more than 100 percent is because of the option of marking more than one response.

Table IV, the results of question seven, showed a difference of percentages in the responses "job availability," "future potential," and "knew a person who worked in that area and knew they liked it." About 12 percent more Engineering Technology students marked both "job availability" and "future potential" while about 13 percent more Applied Science students marked "knew a person who worked in that area and knew they liked it." The percentage totals to this question also are greater than 100 percent due to the option of marking more than one response.

Table V shows the results of question eight. Approximately 6-1/2 percent more Applied Science students responded to the response "remain in the training area you are now enrolled in" than did Engineering Technology students. This difference was split between the other two responses in favor of Engineering Technology students.

Table VI outlines the responses to question nine. Ninety-three percent of the Engineering Technology students showed at least two years of math whereas only 53 percent of the Applied Science students had at least two years of math. There was little difference in the percentage totals for science.

Table VII charts the response totals to question ten. Forty percent of the Applied Science students responded to "an area not listed" and "none"; but 59 percent of the Engineering Technology students marked

TABLE IV

RESPONSES TO QUESTION NO. 7, "IN CHOOSING YOUR TRAINING AREA, YOU CONSIDERED THE FOLLOWING ITEMS . . . (YOU MAY CHECK MORE THAN ONE RESPONSE)"*

Responses	Engr. Tech.		App. Science	
	No.	%	No.	%
Wages	33	80.5	76	80.0
Job availability	32	78.1	63	66.3
Working conditions	22	53.7	47	49.5
Future potential	31	75.6	60	63.2
Level of difficulty of training	6	14.6	14	14.7
Had some friends in that training area	3	7.3	7	7.4
Knew a person who worked in the area and knew they liked it	4	9.8	21	22.1
Counselor suggested the training area	0	0.0	3	3.2

*Percentages total over 100 percent due to multiple response option.

TABLE V

RESPONSES TO QUESTION NO. 8, "IF YOU HAD THE OPPORTUNITY, WITH NO OUTSIDE PRESSURE, YOU WOULD . . ."

Responses	Engr. Tech. No.	Engr. Tech. %	App. Science No.	App. Science %
Remain in the training area you are now enrolled in	34	82.9	85	89.5
Change to another training area within the same technology	3	7.3	3	3.2
Change to a different training area outside the technology you are now enrolled in	4	9.8	6	6.3

TABLE VI

RESPONSES TO QUESTION NO. 9, "YOUR HIGH SCHOOL CURRICULUM INCLUDED THE FOLLOWING . . . (YOU MAY CHECK MORE THAN ONE RESPONSE)"*

Responses	Engr. Tech. No.	Engr. Tech. %	App. Science No.	App. Science %
One year of math	4	9.8	42	44.2
Two years of math	9	21.9	21	22.1
Three years of math	29	70.8	29	30.5
One year of science	7	17.1	28	29.5
Two years of science	13	31.7	33	34.7
Three years of science	15	36.6	26	27.4

*Percentages total over 100 percent due to multiple response option.

TABLE VII

RESPONSES TO QUESTION NO. 10, "YOUR HIGH SCHOOL CURRICULUM INCLUDED THE FOLLOWING . . . (YOU MAY CHECK MORE THAN ONE RESPONSE)"*

Responses	Engr. Tech.		App. Science	
	No.	%	No.	%
Auto Mechanics	1	2.4	7	7.4
Drafting	16	39.0	31	32.6
Building Trades	2	4.9	10	10.5
Home Economics	3	7.3	17	17.9
Nursing	0	0.0	1	1.1
Electronics	6	14.6	5	5.3
Office Occupations	3	7.3	18	18.9
Metal Trades	3	7.3	7	7.4
Cosmetology	0	0.0	1	1.1
Graphic Arts	4	9.8	13	13.7
An area not listed	15	36.6	24	25.3
None	9	21.9	14	14.7

*Percentages total over 100 percent due to multiple response option.

these responses. The total response percentages once again was greater than 100 percent due to the fact of marking more than one response.

Table VIII, which represents the responses to question eleven, show a fairly even comparison all the way through.

Table IX contains the response frequencies to question twelve. The totals from both groups show that the responses "closer to your home," "less expensive fees and tuition," and "classes are smaller and you can get more individual help" were the overwhelming choices. The percentage totals are greater than 100 percent due to the option of marking more than one response.

Table X, the results of question thirteen, shows some large differences in response percentages. "Continue your education at some other institution or in an industrial plant" polled 51 percent of the Engineering Technology students, but only 27 percent of the Applied Science students. Forty-six percent of the Applied Science students marked "continue your education at some future time if your job requires it" while this response was only marked by 29 percent of the Engineering Technology students.

TABLE VIII

RESPONSES TO QUESTION NO. 11, "IF YOU HAD KNOWN IN HIGH SCHOOL, WHAT AREA OF TRAINING YOU WOULD BE IN NOW, YOU WOULD HAVE . . ."

Responses	Engr. Tech.		App. Science	
	No.	%	No.	%
Taken the same courses	13	31.7	24	25.3
Taken different courses	13	31.7	31	32.6
Tried to get a more diversified background	12	29.3	30	31.6
Could not have reached a decision at that time	3	7.3	12	12.6

TABLE IX

RESPONSES TO QUESTION NO. 12, "THIS SCHOOL OFFERS THESE ADVANTAGES FOR YOU VERSUS ANOTHER POST-SECONDARY INSTITUTION . . . (YOU MAY CHECK MORE THAN ONE RESPONSE)"*

Responses	Engr. Tech.		App. Science	
	No.	%	No.	%
Closer to your home	22	53.7	34	35.8
Less expensive fees and tuition	32	78.1	61	64.2
Classes are smaller and you can get more individual help	24	58.5	30	31.6
Offers training not available at other institutions nearby	14	34.2	39	41.1
Can not form an opinion because you do not have information concerning other post-secondary institutions in the area	4	9.8	9	9.5

*Percentages total over 100 percent due to multiple response option.

TABLE X

RESPONSES TO QUESTION NO. 13, "AFTER COMPLETION OF YOUR TRAINING AT TRI-CITIES STATE TECHNICAL INSTITUTE, YOU PLAN TO . . ."

Responses	Engr. Tech. No.	%	App. Science No.	%
Continue your education at some other institution or in an industrial plant	21	51.2	26	27.4
Continue your education at some future time if your job requires it	12	29.3	44	46.3
No plans at this time to continue education beyond Tri-Cities State Technical Institute	8	19.5	27	28.4

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Technical education and vocational-technical education have experienced a rapid rate of growth in the past several years. This rapid growth has brought about some problems, one of which is in the area of counseling.

Many of the high school counselors were not prepared to counsel students other than those desiring the four year college academic training. These counselors, along with new ones, had to reorient their programs to include vocational and technical training into their counseling sessions with students.

Since the inception and growth of post-secondary institutions, many technical educators have voiced concern about the concepts of career planning and career training. If we are to accept the responsibility for training these students, we must be convinced we are at least attempting to provide the best mix between: background, aptitude, expectations, and occupational training.

The purpose of this study was to identify factors that contribute to training area selection by first year post-secondary students in a Technical Institute. The data was to answer the following questions: "what factors influence first year students at Tri-Cities State Technical Institute to choose their occupational training area," "are there high school curriculum differences between students in the Applied Science

Technologies and the Engineering Technologies at Tri-Cities State Technical Institute," and "why did first year students select Tri-Cities State Technical Institute over other post-secondary institutions."

The instrument used to collect the data was a questionnaire. The questionnaire was given to forty-one Engineering Technology students and ninety-five Applied Science students during the Spring Quarter of 1980 at Tri-Cities State Technical Institute.

The study revealed that there are some differences in the reasons given for choosing a particular training area by the two groups.

The results also showed some definite differences in high school curriculums, especially in the number of math courses taken by the two groups.

The study also revealed some interesting facts concerning the reasons given for attending Tri-Cities State Technical Institute.

Information was also obtained concerning the students' views on additional training upon completion of training at Tri-Cities State Technical Institute.

Conclusions

Close analysis of all the data obtained in this study from the one-hundred thirty-six participants resulted in the following conclusions:

1. There are no basic differences in education levels of parents of students from the two groups.
2. Over 6 percent more of the students enrolled in Applied Science Technologies took a vocational course in high school than did the Engineering Technologies students.

3. The majority of students in both groups were influenced in their choice of training area by: parents, friends, or persons in the profession. However, about 36 percent in both groups responded with "other" but this response did not provide any specific information.
4. The majority of students considered the following items in choosing their training area: wages, working conditions, job availability, and future potential. This showed a great deal of prior consideration by the students in both groups.
5. If given the opportunity to change, 83 percent of the Engineering Technologies students and 90 percent of the Applied Science Technologies students indicated they were satisfied with their choices and would not change areas. Ten percent of the Engineering Technologies students indicated they would change to a training area outside the technology in which they are currently enrolled in.
6. There was a difference in the number of years of math the two groups had taken. Ninety-three percent of the Engineering Technologies students had at least two years of math in high school whereas only 53 percent of the Applied Science Technologies students took at least two years of math.
7. Twenty-two percent of the Engineering Technologies students indicated they took no vocational courses in high school; this is different from the 59 percent who responded no to an earlier question about vocational courses. Fifteen percent

of the Applied Science Technologies students said they took no vocational courses in high school, somewhat less than the 53 percent indicating no in response to an earlier question.

8. There was close to a 30 percent response rate to students being able to: take different courses, take the same courses, or trying to get a more diversified background as they relate to courses taken in high school.
9. The overwhelming concensus to the advantages of the school were: closer to your home, less expensive fees and tuition, classes are smaller and you can get more individual help, and offers training not available at other institutions nearby.
10. Over 50 percent of the Engineering Technologies students plan to continue their education at some other institution or an industrial plant whereas 27 percent of the Applied Science Technologies students said they planned to continue beyond Tri-Cities State Technical Institute.

Recommendations

Based on the results of this study, the following recommendations have been deducted:

1. A later study be conducted with some modifications to the original instrument. Question six should be changed in part (g) to request an explanation if that response is checked. Question ten should be changed in part (k) requesting an area if that response is marked.

2. The data group, if control can be maintained, should be expanded to include the entire first year student population at Tri-Cities State Technical Institute to insure the obtained results would not be different from the original study.
3. This study, or a similar one, should be conducted at the other Technical Institutes across the state and the results shared among all the Institutes.
4. The counseling personnel at Tri-Cities State Technical Institute should carefully examine this study and share this information with their counterparts in the secondary school systems.
5. It is recommended that a similar study be done annually and the results compared to increase our understanding of our product—the post-secondary student.

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APPENDICES

APPENDIX A

PLEASE READ CAREFULLY!!

T.C.S.T.I. Student:

The purpose of this study is to provide the instructor listed below with data for a thesis and to assist the school in being more beneficial to you. No information provided by your response to this questionnaire will be seen by anyone other than the instructor compiling this data.

Please do not sign the form or use names in the questionnaire. Following tabulation of responses from the questions, the results will be published in a thesis, but no one will know who the respondants were on an individual basis.

If you have any questions at this point, please feel free to ask. If there are no questions, carefully read the next statements, then check either yes or no. If you check yes, proceed to fill out the questionnaire; if no, leave the questionnaire on your desk. You have the right to withdraw from participation in this survey at any time with no penalty.

Do you wish to respond to this survey, after it's purpose has been explained to you?

_____ Yes _____ No

James A. Chandler
1318 Frank Street
Kingsport, Tenn. 37665
(615)245-6255

APPENDIX B

Directions:

Read each item carefully and then place a check mark(s) in the space(s) provided. There are five questions to which you may check more than one response if needed. When you have finished, turn the questionnaire over and leave it on your desk and the instructor will gather them.

1. Age: a)_____ 18

   b)_____ 19

   c)_____ 20

   d)_____ 21

   e)_____ more than 21

2. Sex: a)_____ Male

   b)_____ Female

3. Your training area is:

   A. Applied Science Technology

      1)_____ Automotive Service Technology

      2)_____ Drafting Design Technology

      3)_____ Electrical Technology

      4)_____ Heavy Truck Maintenance Technology

      5)_____ Industrial Maintenance Technology

      6)_____ Machine Tool Technology

      7)_____ Welding Technology

   B. Associate of Science Degree

      1)_____ Chemical Technology

C. Applied Science-Business Technology

1)_____ Accounting Technology

2)_____ Data Processing Technology

3)_____ Secreterial Science Technology

D. Associate of Engineering Degree

1)_____ Electronic Engineering Technology

2)_____ Industrial Engineering Technology

3)_____ Instrumentation Engineering Technology

4)_____ Mechanical Engineering Technology

4. Highest education level of father or mother:

a)_____ less than high school graduate

b)_____ high school graduate

c)_____ some type of post-secondary school

d)_____ college graduate

e)_____ above four years of college

5. Did you take any type of vocational course(s) in high school?

_____ Yes _____ No

6. If you had to choose the person(s) who most influenced your choice of a training area, it would be: (You may check more than one response)

a)_____ Parent(s)

b)_____ Friend(s)

c)_____ Person(s) in the profession

d)_____ High School Teacher(s)

e)_____ High School Counselor(s)

f)_____ Post-Secondary Counselor(s)

g)_____ Other

7. In choosing your training area, you considered the following items: (You may check more than one response)

a)_____ wages

b)_____ working conditions

c)_____ job availability

d)_____ future potential

e)_____ level of difficulty of training

f)_____ had some friends in that training area

g)_____ knew a person who worked in that area and knew they liked it

h)_____ counselor said you would like the training, and you decided to try it and find out

8. If you had the opportunity, with no outside pressure, you would:

a)_____ remain in the training area you are now enrolled in

b)_____ change to another training area within the same technology

c)_____ change to a different training area outside the technology you are now enrolled in

9. Your high school curriculum included the following: (You may check more than one response)

a)_____ one year of math
b)_____ two years of math
c)_____ three years of math
d)_____ one year of science
e)_____ two years of science
f)_____ three years of science

10. Your high school curriculum included the following: (You may check more than one response)

a)_____ auto mechanics
b)_____ drafting
c)_____ building trades
d)_____ home economics
e)_____ nursing
f)_____ electronics
g)_____ office occupations
h)_____ metal trades
i)_____ cosmetology
j)_____ graphic arts
k)_____ an area not listed
l)_____ none

11. If you had known in high school, what area of training you would be in now, you would have:

a)_____ taken the same courses
b)_____ taken different courses
c)_____ tried to get a more diversified background
d)_____ could not have reached a decision at that time

12. This school offers these advantages for you versus another post-secondary institution: (You may check more than one response)

a)_____ closer to your home
b)_____ less expensive fees and tuition

c)_____ classes are smaller and you can get more individual help

d)_____ offers training not available at other institutions nearby

e)_____ can not form an opinion because you do not have information concerning other post-secondary institutions in the area

13. After completion of your training at Tri-Cities State Technical Institute, you plan to:

a)_____ continue your education at some other institution or in an industrial plant

b)_____ continue your education at some future time if your job requires it

c)_____ no plans at this time to continue education beyond Tri-Cities State Technical Institute

APPENDIX C

THE UNIVERSITY OF TENNESSEE, KNOXVILLE
KNOXVILLE 37916

OFFICE OF THE VICE CHANCELLOR FOR
GRADUATE STUDIES AND RESEARCH

404 ANDY HOLT TOWER

AREA 615
TELEPHONE 974-3466

April 30, 1980

Dr. L. Evans Roth
Vice Chancellor for Graduate
Studies and Research
404 Andy Holt Tower
The University of Tennessee
CAMPUS

Dear Dr. Roth:

James Arthur Chandler, Department of Vocational-Industrial Education, submitted a project entitled "The Purpose of this Study is to Identify Factors that Contribute to Training Area Selection by First Year Post-Secondary Students in a Technical Institute," CRP #1025. The departmental human subjects committee has reviewed and approved this project. In their judgment, this project comes within that section of their approved guidelines which permits the Chairperson of the Committee on Research Participation to give approval to the project on behalf of the Committee.

After reviewing this project, I certify that it does conform to Committee and Departmental guidelines. Therefore, acting on behalf of the Committee, I have approved this project.

The responsibility of the project director includes the following:

1. Prior approval from the Committee must be obtained before any changes in protocol are instituted.

2. Signed consent statements from each experimental subject must be kept for the duration of the project and for at least three years thereafter.

3. The Committee must be informed of any physical or psychological effects on subjects for re-evaluation of the protocol approval.

4. A statement must be submitted (Form D) at 12-month intervals attesting to the current status of the project (protocol is still in effect, project is terminated, etc.).

The Committee wishes the project director success in his research endeavors.

Sincerely,

L. B. Cebik, Chair
Committee on Research Participation

/meg
cc: James A. Chandler
Betty J. Brown

VITA

James Arthur Chandler was born in Sullivan County, Tennessee, October 28, 1945. He received his secondary education in that county, graduating from Lynn View High School in 1963.

Mr. Chandler attended East Tennessee State University, Johnson City, Tennessee following graduation from high school. He transferred to The University of Tennessee, Knoxville, Tennessee and was graduated in 1969 with a Bachelor of Science degree in Mechanical Engineering.

Upon graduation he attended Graduate School in the field of Business Administration. Later he was employed as a Design Engineer at Pharmaseal Laboratories in Johnson City.

Mr. Chandler joined the faculty of Tri-Cities State Technical Institute, Blountville, Tennessee in September of 1975 and is presently employed there as an Assistant Professor in the Mechanical Engineering Technology department.