1968

An Appraisal of Student Opinion Concerning the Department of Technology and Industrial Education

Wesley Earl Bailey
Central Washington University

AN APPRAISAL OF STUDENT OPINION CONCERNING THE DEPARTMENT OF TECHNOLOGY AND INDUSTRIAL EDUCATION

A Thesis

Presented to

the Graduate Faculty

In Partial Fulfillment

of the Requirements for the Degree

Master of Education

---

by

Wesley Earl Bailey

July, 1968

APPROVED FOR THE GRADUATE FACULTY

_____

Ronald M. Frye, COMMITTEE CHAIRMAN

_____

George L. Sogge

_____

Dohn A. Miller

ACKNOWLEDGEMENTS

Without the help of many people this study could not have been completed. Special thanks is due to the many faculty members, students and other college personnel who spent much of their valuable time providing the information requested.

Much appreciation is expressed to my committee: Dr. Ronald Frye, chairman, Mr. George Sogge, and Dr. Dohn A. Miller, for giving of their time, suggestions and criticisms.

Finally, to my wife, Ardella, who served as typist and critic, and to our children, Kerry, Karl, and Kurt, who "sacrified parental attention," goes my deepest gratitude and appreciation.

TABLE OF CONTENTS

CHAPTER PAGE

CHAPTER PAGE

LIST OF TABLES

TABLE PAGE

CHAPTER I

STATEMENT OF THE PROBLEM

The purpose of this research was to study the characteristics of the Technology and Industrial Education Department as perceived by the college student. More specifically, the study was an attempt to answer the following questions:

1. What are some factors that influenced students coming to Central Washington State College?

2. How many students were actively engaged in industrial education at the secondary level or were enrolled in technical school, trades and industrial school, or a community college vocational program before coming to Central Washington State College?

3. What are some student opinions of the Department of Technology and Industrial Education from students enrolled in the classes?

4. What is the student's status in relation to the college?

5. In response to the Information Form, what factors become evident as the student evaluates the classes he is taking in Industrial Education and/or Teacher Education and other departments in regard to: size, assignments, subject matter, methods, practices, equipment, etc.?

6. To what extent will the respondents evaluate the teaching practices as effective and informative?

7. Does the program offered meet the needs of the students and reflect technology?

8. What is the relationship of industrial education to other school curriculum major subject fields?

These questions were answered by the students enrolled in classes within the Department of Technology and Industrial Education at Central Washington State College through the use of an information form.

LIMITATIONS OF THE STUDY

This study was limited to individuals enrolled in classes in the Department of Technology and Industrial Education during the spring quarter of 1968. It should be understood that the information presented here is not factual. The information contains the opinions and impressions of the respondents and should not be construed as fact (7:243).

There were 110 information forms completed by college students, who ranged in class rank from freshmen to graduate students. No attempt was made to test only the Technology and Industrial Education majors and minors. All students enrolled in classes offered by the department responded, regardless of their declared major.

As the information form was of a personal tone, no attempt was made to control the subjective feelings of the students. Instead, the respondents were encouraged to express their own opinions whenever possible. The study was limited insofar as the participating students were able

to analyze and evaluate what is needed by them for a well-rounded program of Industrial Education and Industrial Technology, etc.

Former graduates of the department were not asked to respond to the information form, as time was limited. Such an attempt may possibly have altered results of the survey considerably.

SOURCE OF DATA AND METHOD OF STUDY

Data for the study were obtained through the use of an Information Form administered at the beginning of each class period as approved by the appropriate instructor. The allotted time for completing the form was approximately forty-five minutes.

The Information Form consisted of two parts: an answer sheet, which was a machine-corrected form, to be used by the respondent as he offered his opinions, and a fly sheet, as part two, that enabled the respondent to express his opinions directly on paper in sentence form (see Appendix A).

The forms of part one were tabulated by the testing and counseling center at Central Washington State College. Part two of the Information Form did not lend itself to machine tabulation. It was tabulated by hand directly from the forms. Then the data from the machine and hand

tabulations were analyzed and reported in this research using simple statistical procedures.

REVIEW OF LITERATURE

The reason this research was proposed and conducted was to know and understand the opinions and attitudes of the students enrolled in classes of the Technology and Industrial Education Department in regard to this department, its curriculum, teaching practices, etc., and the college in general, with the knowledge that valuable recommendations and constructive criticisms could be realized and possibly utilized.

Reference will be made to other studies conducted in recent years to evaluate and upgrade college programs. Various techniques, such as the Information Form employed in gaining the data to compile this research, have been used.

In related literature, one such study is that of Roy L. Simmons. In his unpublished Follow-up Study of the Graduates of Central Washington State College with Majors in Industrial Education, he requested his participants to indicate the specific areas in which training was thought to be inadequate and to list any comments and suggestions that were of concern to the undergraduate and graduate program. More training in general administration, electronics, purchasing equipment and drafting received the greater frequency in this study involving 204 respondents. The comments recorded by

Simmons (11:9-12) with the number frequency shown in parentheses are as follows:

Widen the opportunity for classes in the summer for graduates. (8)

More instruction in non-teaching duties such as filing systems, inventory systems, writing specifications for machines and budgeting. (8)

Broaden the field in preparation for teaching industrial subjects. (5)

More instruction in classroom management. (4)

Have students do more testing and exploring of materials and processes. (3)

Offer more industrial background. (3)

Add plastic technology to the program. (3)

Assign students on the job training in industry. (3)

Spend more time on theory. (2)

Drawing should be connected with the drawing in industry. (2)

There is a need for more reference material in industrial education. (4)

More emphasis on milling machine operations. (4)

Help students secure summer jobs in industry. (1)

Spend less time on theory and more time on practical methods. (1)

Teach how to build a test which students can understand.

De-emphasize traditional woodworking and crafts.

My industrial arts training seems better than that of graduates from other institutions in my area.

> Since I have had an opportunity to compare other programs, I have come to appreciate the CWSC program a great deal more. My compliments to the staff.
>
> My career has been very rewarding and comparatively successful because I did attend Central.
>
> I would like to see Central's Industrial Education instructors spend one summer out of three working in industry.
>
> The improvements I saw this summer looked good. I am anxious to see the new building when it is a reality.
>
> Woods and metals are still at the same place they were ten years ago.
>
> Electricity and electronics are over the head of most graduates with the background they were provided with before at CWSC.

From this study it was concluded that "most of the graduates in Industrial Education are quite pleased with their education and training at Central Washington State College" (11:12).

John W. Best states that follow-up information gathered about graduates (such as the information reported above) is important because:

> The study is concerned with what has happened to them, and what has been the impact of the institution and its program upon them. By examining their status or seeking their opinions, one may get some idea of the adequacy or inadequacy of the institution's program. Which courses, experiences or treatments proved to be of value or to be ineffective? Studies of this type enable an institution to evaluate various aspects of its program in the light of actual results (3:120).

Many schools offer industrial technology and industrial education programs that are virtually unknown on the

campus as a whole. Abbott, a graduate student compiling research about the Applied Science and Technology Department at Northern Arizona University, in an information form distributed college wide, concludes that:

> Even of those enrolled in the School of Applied Science and Technology, there was a high degree of ignorance as to the areas that are actually provided in the instructional program here. Those outside the school had little or no concept whatsoever of what areas were offered. One observation made in connection with the study is the fact that if students lack a knowledge of offerings across the campus that is as incomplete as indicated by the lack of knowledge concerning Technical Education at Northern Arizona University, then there is reason to believe that they had a minimum of information on which to select a major (1:1).

Grant Venn in an article of pending Federal legislation states:

> That in theory, industrial arts is not, of course, intended to provide students with a marketable skill. It is said to be a part of general education, not occupational education. It involves study of materials, organizations, tools, processes, and appreciation of industry. The program is aimed to provide a basis for making a vocational choice, but in most instances it is highly unlikely that industrial arts courses do provide a basis for choice among a number of alternative occupations or for the development of real knowledge or appreciation of the organization or problems of industry (12:7).

One of the major problems in industrial education as of late has been that of curriculum and practice. There is more to industrial education than merely making things. As John L. Feirer, editor of the Industrial Arts and Vocational Educational Journal, states:

> Our program must be based on the same sound educational principles as those of science, language arts, social science and mathematics. . . . industrial arts should represent industrial and technological developments. . . . This is the image we must create in the minds of parents, teachers, and adminstrators. We must show these people that our students in the various shops are learning something rather than just making something (2:3).

Bell, Supervisor of Industrial Arts for the State of Washington, also emphasizes the importance of taking a look at the industrial education image:

> We must think not only in terms of how materials are processed, formed, used, protected, etc., but also why the many facets of the industrial environment are brought together in the way they are. We must be sure that the courses we offer will make the best possible use of the student's time and ability. The making of larger and better things does not necessarily permit the student to learn more about industrial and technological developments.
>
> Students should study about the important and fundamental parts of basic industrial materials and technological application which in turn will give greater meaning to their other problems such as planning, designing, cutting, shaping, forming and fastening these materials (2:3).

A study by Charles Keith to investigate and evaluate the Industrial Technology program at Kent State University was based on Information Forms mailed to 49 chairmen of industry technology, 91 graduates of the Kent State University program and 47 industrial supervisors of the graduates. Keith states that an Industrial Technology program should reflect the following:

1. Enrollment in the program should be directly related to the needs of industry.

2. Staff load should permit the maximum contribution of each staff member.

3. The physical plant should provide sufficient space and appropriate up-to-date equipment to meet the requirements of the program (8:4478).

In 1965, H. E. Boaz conducted a study to ascertain the status of four-year teachnology programs with respect to organizational structure, backgrounds, training, and success of their graduates. Information was gathered from college and university publications and information forms sent to 54 technology program supervisors, 219 technology graduates and 177 employers of the graduates. Boaz reached the following conclusions:

1. The four-year technology programs are meeting student and industrial needs and will continue to grow if the necessary publicity and effective counseling is done.

2. Along with placement and follow-up of technology graduates, industries need to be indoctrinated more fully regarding the role of the technology graduate.

3. Technology graduates were successful on their jobs as indicated by salaries, job satisfaction and high employer ratings.

4. Some action towards accreditation of the four-year technology programs should be taken (4:1533).

Another study conducted by Reynolds that included staff, administrators and four institutions participating in curriculum revisions was to analyze the techniques and procedures used to revise the undergraduate curriculum of institutions preparing industrial arts teachers. Some of the conclusions which appeared to be pertinent to this study are as follows:

1. Accurate records of curriculum development should be kept in order to improve the organization and procedures.

2. Curriculum revision should be continuous so that adequate time may be provided to work on various segments and also to provide for maximum involvement of all concerned.

3. A periodic review should be made of the philosophy and objectives of industrial arts and the competencies needed by teachers of the subject.

4. Industrial arts departments should maintain closer contacts with industry through the development of advisory councils representing various phases of industry.

5. Curriculum development is a highly complex process and the procedures should provide for the maximum contribution of talent and knowledge by all concerned (10:3637-8).

IMPORTANCE OF STUDY

H. H. Remmers, in his book Introduction to Opinion and Attitude Measurement, states that:

> Most psychological investigations of attitudes of human subjects are based upon the responses of people. There are errors in sampling to the extent that the drawn sample is not truly representative of the population from which it is drawn and sample statistics will fluctuate in value from true statistics within chance limits. Reliability of sample is related to the factors of size, adequacy and accuracy (9:55-6).

The sampling of attitudes and opinions expressed by the respondents on the Information Form supplied to them was usually of little significance percentage-wise as shown in the tables. However, with regard to certain statements made, if several respondents replied the same, as indicated by a higher number and percent in the tables, this tended to point to either a problem area, indecisiveness, or satisfaction with existing conditions and practices. This information becomes a reliable sampling of great importance to the study when drawn from several respondents.

In addition, "interest indicated by students" is of prime importance in influencing an institution to offer a vocational technical curricula (5:33). If a department is to maintain its status (primarily that of training individuals for the field of education) and strive to improve its image, student evaluation should have an importance.

This research was conducted to gain a greater understanding of student suggestions and criticisms while enrolled in Technology and Industrial Education, as well as to give the administration an opportunity to know and to use the

respondents' opinions in a constructive manner. It was thought that respondents' ideas might help the Technology and Industrial Education Department to enrich its program and to fulfill some student needs through improved teaching and expanded curriculum.

Lastly, the Information Form gave students an opportunity to evaluate the educational system at Central Washington State College. In turn, a follow-up on this evaluation might enable the college to eliminate stumbling blocks the students encounter as they study here at Central Washington State College.

CHAPTER II

A. DATA FINDINGS

The purpose of this chapter is to present the information collected concerning the attitudes and opinions of the respondents who cooperated in this investigation. This includes data representing the distribution of the respondents by:

1. Personal information, major and minor areas distribution, class standing of respondents, reasons given by respondents for attending Central Washington State College, degree of industrial arts training, and areas of possible concern relating to the college.

2. Respondents' attitudes toward classes, instructors, and department curriculum offerings in Technology and Industrial Education, Teacher Education and other departments.

3. Respondents' attitudes and opinions toward teaching, counseling and the philosophy of Technology and Industrial Education, Teacher Education and other departments.

As industrial education "derives its content from industry--a basic element of our culture--and has as its social purpose the greater understanding and better control of the phenomena of industry," (6:10) it is a part of general education not limited to manipulative-construction activities alone. Many phases of industrial life are incorporated in this subject area.

To gain an insight into the breadth of the Industrial Education and Technology program and its functions at Central Washington State College, those students involved in the program gave of their evaluations as reported in the following discussion of the data collected.

Distribution of Respondents by Sex and Age

There were more males than females enrolled in Technology and Industrial Education during the spring quarter of 1968. As shown in Table I, 96.3% of the respondents were male. Three and seven-tenths percent of the respondents were female.

The age distribution for all respondents was from eighteen to forty-eight, with the largest group centering between eighteen and twenty-one years of age (see Table I). Only eight respondents were over thirty-one years old.

TABLE I

DISTRIBUTION OF RESPONDENTS BY SEX AND AGE

Sex	No.	Per cent	Age							
			18-21		22-25		26-30		31 +	
			No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Male	106	96.3	54	49.0	31	28.1	13	11.8	8	7.2
Female	4	3.7	3	2.7	1	0.9	--	--	--	--
Total	110	100.0	57	51.7	32	29.0	13	11.8	8	7.2

Major and Minor Area Distribution

Respondents filling in the Information Form represented fifteen major departments, while twenty-four departments were designated as minor areas. The Technology and Industrial Education Department was represented by 56 (50.9%) declaring majors and 15 (13.6%) declaring minors (see Table II).

The next two major departments represented by those students enrolled in Technology and Industrial Education classes were pre-engineering and physical education with 9 (8.1%). Eight (7.2%) respondents declared mathematics as their minor area.

In Table II there are five major areas that are not supported by minors, and, in turn, there are fourteen minor areas that are not represented by a major area.

Class Standing of Respondents Enrolled in Technology and Industrial Education

Of the students enrolled in Technology and Industrial Education during the spring quarter of 1968, 36 were seniors (32.7%), as shown in Table III. The other four classes were represented by 24 freshmen (21.8%), 23 sophomores (20.9%), 24 juniors (21.8%) and 3 graduate students (2.7%).

TABLE II

MAJOR AND MINOR AREA DISTRIBUTION

Departmental Majors and Minors	Major		Minor		Total	
	No.	Percent	No.	Percent	No.	Percent
Technology and Industrial Education	56	50.9	15	13.6	71	64.5
Pre-Engineering	9	8.1	--	--	9	8.1
Physical Education	9	8.1	6	5.4	15	13.5
Business	7	6.3	3	2.7	10	9.0
Architecture	4	3.6	1	.09	5	3.6
History	4	3.6	3	2.7	7	7.3
Art	3	2.7	7	6.3	10	9.0
Chemistry	3	2.7	3	2.7	6	5.4
Math	3	2.7	8	7.2	11	9.9
Biology	2	1.8	--	--	2	1.8
Economics	1	.09	4	3.6	5	3.6
Sociology	1	.09	4	3.6	5	3.6
Pre-Forestry	1	.09	--	--	1	.09
Recreation	1	.09	--	--	1	.09
French	1	.09	--	--	1	.09
Psychology	--	--	7	6.3	7	6.3
Geography	--	--	5	4.5	5	4.5
Geology	--	--	4	3.6	4	3.6
Crafts	--	--	2	1.8	2	1.8

TABLE II (continued)

Departmental Majors and Minors	Major		Minor		Total	
	No.	Percent	No.	Percent	No.	Percent
Air Science	--	--	1	1.8	1	1.8
Electronics	--	--	1	.09	1	.09
Physics	--	--	1	.09	1	.09
Special Education	--	--	1	.09	1	.09
Traffic Safety	--	--	1	.09	1	.09
Audio-visual	--	--	1	.09	1	.09
Music	--	--	1	.09	1	.09
Physical Science	--	--	1	.09	1	.09
Chinese	--	--	1	.09	1	.09
Philosophy	--	--	1	.09	1	.09
Totals	105	90.95	83	67.40		

TABLE III

CLASS STANDING OF RESPONDENTS ENROLLED IN TECHNOLOGY AND INDUSTRIAL EDUCATION

Class Standing	Number	Percent
Freshman	24	21.8
Sophomore	23	20.9
Junior	24	21.8
Senior	36	32.8
Graduate	3	2.7
Total	110	100.0

Reason Given by Respondents for Attending Central Washington State College

Of the respondents, 91 (82.7%) indicated they "liked the size of the college." Also, 74 (67.2%) of the 110 respondents indicated that Central Washington State College offered the program of their interest (see Table IV).

Forty-eight (43.6%) of the respondents transferred to Central Washington State College for various reasons partially represented in Table IV. It is of interest that 9 (8.1%) of the respondents changed their program of study from engineering to Technology and Industrial Education.

Eighteen (16.3%) of the respondents indicated they came to Central Washington State College because they were

TABLE IV

REASONS GIVEN BY RESPONDENTS FOR ATTENDING

CENTRAL WASHINGTON STATE COLLEGE

Reasons	Yes		No	
	No.	Percent	No.	Percent
Liked the size of the College	91	82.7	18	16.3
Impressed with faculty	18	16.3	91	82.7
Program offered I wanted	74	67.2	36	32.7
Transferred from another college	48	43.6	62	56.3
Changed from Engineering to Industrial Education	9	8.1	101	91.8
Close to my home	36	32.7	74	67.2
Favorable climate	48	43.6	62	56.3
Could obtain housing	44	40.0	66	60.0
Modern library	30	27.2	79	71.8
Ideal location	46	41.8	64	58.1
Good recreation program	33	30.0	77	70.0
Near places of interest	35	31.8	75	68.1
Other reasons	19	17.2	23	20.9
Total	531	419.2	828	752.2

impressed with the faculty. However, 91 (82.7%) indicated they were not especially impressed because they did not know the faculty and therefore could not declare they were impressed.

As representative samples, the following comments were offered by some 19 (17.2%) of the respondents as to why they selected Central Washington State College:

> To be excused from the draft in hopes that the Vietnam situation will be over by the time of graduation. (4)
>
> The Technology and Industrial Education Department was recommended very highly by counselors and administrators. (3)
>
> Because the athletic program offered at Central is outstanding. (2)
>
> Could easily meet entrance requirements. (2)
>
> The cost of education and living at Central is less than other colleges. (4)
>
> Because Central Washington State College has a reputation of being a very good teacher's college.

Degree of Instruction in Shop Practice at Various Levels of Education and Training

A wide range of educational training was representative of the respondents enrolled in Technology and Industrial Education. Of the institutions listed in Table V, the senior high level was indicated by 82 (74.5%) as having received training in shop practices. Seventy (63.6%) indicated they

had received industrial arts training of some degree at the junior high level.

Upon leaving the senior high school, 17 (15.4%) had taken training in a technical school, while 15 (13.6%) attended a trades and industrial school. Twelve (10.9%) reported they were enrolled in a community college vocational program before transferring to Central Washington State College (see Table V).

TABLE V

DEGREE OF INSTRUCTION IN SHOP PRACTICE AT VARIOUS EDUCATIONAL LEVELS

Institutions for Industrial Arts Training	Yes		No	
	No.	Percent	No.	Percent
Junior high level	70	63.6	40	36.3
Senior high level	82	74.5	28	25.4
Technical school	17	15.4	93	84.5
Trades and industrial school	15	13.6	95	86.3
Community college vocational program	12	10.9	98	89.0
Total	196	178.0	354	321.5

Objections to the College in General as Given by the Respondents

In this area, 86 (78.1%) of the 110 respondents felt that the process of class registration was poorly organized. In relation to registration, 67 (60.9%) indicated there was poor communication prior to registration, as shown in Table VI. These two areas seemed to receive the most concern with hope expressed that the procedures will be improved.

Fifty-two (47.2%) of the respondents indicated there was not enough concern for student welfare from the college in general or from faculty members. Lack of faculty interest was voiced by 47 (42.7%) of the respondents as an objection.

In other areas of objections expressed (see Table VI), the number of respondents and percentages revealed little variation.

B. DATA FINDINGS

The following pages contain comments by the respondents with reference to the classes, the faculty, the advisement program, and curriculum offerings of the Department of Technology and Industrial Education, Teacher Education and other departments. Each of the areas will be considered separately by the departments mentioned above.

TABLE VI

OBJECTIONS TO THE COLLEGE IN GENERAL AS GIVEN BY THE RESPONDENTS

Possible Objections	Has been a Problem		Has not been a Problem	
	No.	Percent	No.	Percent
Not enough planned social activities	28	25.4	82	74.5
Could not find housing	18	16.3	92	83.6
Housing inadequate for needs	27	24.5	83	74.5
Poor communication prior to registration	67	60.9	43	39.0
Not enough concern for student welfare	52	47.2	57	51.8
Too many extra-curricular requirements	24	21.8	86	78.1
Difficulty in getting reserve books	46	41.8	64	58.1
No help from library staff	19	17.2	91	82.7
Library regulations hamper study	26	23.6	84	76.3
Library hours not convenient	19	17.2	91	82.7
Too much "red tape" to get in school	26	23.6	84	76.3
Poor organization at registration	86	78.1	24	21.8
Lack of faculty interest	47	42.7	63	57.2
Class offerings not known soon enough	62	56.3	48	43.6
Lack of service from the Placement Office	26	23.6	84	76.3
Total	573	466.2	1075	976.5

Respondents' Attitudes Toward Classes of the Technology and Industrial Education Department

A total of 55 (50%) indicated that "classes are not difficult." But, 65 (59%) disagreed when asked if the "classes are easy." This suggests that the respondents were split on their opinions (see Table VII). Interestingly enough, 34 (30.9%) of the 110 respondents indicated that too much work was required for the amount of credit given. Also, some respondents stated that too much time was required in the laboratory. They evidently prefer more shop theory.

As to the difficulty of tests given, 50 (45.4%) of the respondents disagreed when asked if the "tests are too difficult." At the same time, 35 (31.8%) were undecided on the difficulty of class examinations. Some respondents did state that tests they had taken were very poorly constructed.

Fifty percent of the respondents disagreed when asked if "classes are too large." Here again, 62.7% disagreed when asked if "classes are too small," (see Table VII). From written comments offered by the respondents, it was a general concensus that class size coincided adequately with the space and equipment available.

TABLE VII

RESPONDENTS' ATTITUDES TOWARD CLASSES OF THE TECHNOLOGY AND INDUSTRIAL EDUCATION DEPARTMENT

Classes	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Classes too difficult	3	2.7	55	50.0	30	27.2	18	16.3	4	3.6
Classes too easy	21	19.0	65	59.0	18	16.3	4	3.6	2	1.8
Too much work for the amount of credit	5	4.5	24	21.8	16	14.5	34	30.9	31	28.1
Assignments not clear	13	11.8	43	39.0	20	18.1	27	24.5	7	6.3
Tests too difficult	3	2.7	50	45.4	35	31.8	18	16.3	3	2.7
Assignments too long	2	1.8	45	40.9	20	18.1	34	30.9	9	8.1
Classes too large	10	9.0	55	50.0	21	19.0	19	17.2	5	4.5
Classes too small	20	18.1	69	62.7	17	15.4	4	3.6	0	0.0
Total	77	61.5	406	328.8	177	160.4	158	143.8	61	55.1

Respondents' Attitudes Toward Classes of the Teacher Education Department

Fifty-two percent of the respondents were undecided when asked if "classes are too difficult" in teacher education. Forty-seven (42.7%) disagreed that "classes are too easy," and 48 (43.6%) were undecided on the amount of credit given for a class in proportion to the work required (see Table VIII).

In evaluation of test difficulty, 49 (44.5%) were undecided, but 41 (37.2%) disagreed when asked if "tests given are too difficult." Of the 110 respondents, 40 (36.3%) disagreed that the "assignments are too long." However, many indicated that assigments should be clarified.

Respondents' Attitudes Toward Classes of Other Departments

Respondents indicating that "classes in other departments are too difficult" totalled 36 (32.7%) as shown in Table IX. On this question, 33 (30%) disagreed that "classes are difficult." The same number was representative of the undecided respondents. Fifty-seven (60.9%) stated the "assignments are clear" and 38 (34.5%) thought the length of assignments was appropos. With reference to class size, 54 (49.0%) disagreed that "classes are too small," while 29% thought "classes are too large."

TABLE VIII

RESPONDENTS' ATTITUDES TOWARD CLASSES OF THE TEACHER EDUCATION DEPARTMENT

Classes	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Classes too difficult	9	8.1	39	35.4	52	47.2	8	7.2	2	1.8
Classes too easy	8	7.2	47	42.7	39	35.4	13	11.8	2	1.8
Too much work for the amount of credit	1	.09	18	16.3	48	43.6	28	25.4	15	13.6
Assignments not clear	4	3.6	39	35.4	44	40.0	22	20.0	1	.09
Tests too difficult	2	1.8	41	37.2	49	44.5	16	14.5	2	1.8
Assignments too long	4	3.6	40	36.3	33	30.0	29	26.3	4	3.6
Classes too large	3	2.7	38	34.5	33	30.0	29	26.3	7	6.3
Classes too small	18	16.3	50	45.4	35	31.8	5	4.5	1	.09
Total	49	44.2	312	283.2	333	302.5	150	136.0	34	30.7

TABLE IX

RESPONDENTS' ATTITUDES TOWARD CLASSES OF OTHER DEPARTMENTS

Classes	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Classes too difficult	3	2.7	33	30.0	33	30.0	36	32.7	5	4.5
Classes too easy	17	15.4	56	50.9	26	23.6	8	7.2	3	2.7
Too much work for the amount of credit	2	1.8	24	21.8	29	26.3	32	29.0	23	20.9
Assignments not clear	7	6.3	57	60.9	25	22.7	18	16.3	1	.09
Tests too difficult	1	.09	37	33.6	40	36.3	27	24.5	5	4.5
Assignments too long	3	2.7	38	34.5	35	31.8	28	25.4	6	5.4
Classes too large	3	2.7	33	30.0	30	27.2	32	29.0	12	10.0
Classes too small	24	21.8	54	49.0	23	20.9	3	2.7	6	5.4
Total	60	54.3	332	310.7	241	218.8	184	166.8	61	54.3

Respondents' Attitudes Toward Curriculum and Offerings of Technology and Industrial Education

In the area of curriculum and offerings, there was disagreement with the given statements as shown in Table X. Forty-six (41.8%) respondents especially indicated that a program could be worked out. On the Information Form, 36 (32.7%) suggested that more class offerings should be made available. At the present time, the Technology and Industrial Education Department is working to provide more class offerings. Class arrangements at present tend to make it difficult for graduate students to complete their Master's degree due to limited class offerings.

Thirty-two (29.0%) were undecided about "poor scheduling of classes," whereas 30 (27.2%) agreed poor scheduling has been a problem. Many students indicated a need for more up-to-date equipment (see Table X). Some respondents expressed the thought that a new building should help alleviate this problem.

To the credit of the department, forty-eight (43.6%) of the respondents disagreed that "cost of materials is too high." Some respondents stated that all necessary materials have been available for their use.

The question of how much laboratory time should be allowed for a class puzzled the respondents, from all indications. Forty-seven (42.7%) believed too much time was

TABLE X

RESPONDENTS' ATTITUDES TOWARD CURRICULUM AND OFFERINGS OF TECHNOLOGY AND INDUSTRIAL EDUCATION

	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Cannot get a program worked out	15	13.6	46	41.8	25	22.7	20	18.1	4	3.6
Enough offerings	31	28.1	36	32.7	18	16.3	19	17.2	6	5.4
Poor scheduling of classes	5	4.5	26	23.6	32	29.0	30	27.2	17	15.4
Program does meet my needs	12	10.9	36	32.7	24	21.8	30	27.2	8	7.2
Not enough lab time	9	8.1	47	42.7	14	12.7	26	23.6	14	12.7
Good equipment	26	23.6	31	28.1	15	13.6	29	26.3	8	7.2
Cost of materials too high	8	7.2	48	43.6	23	20.9	21	19.0	10	9.0
Total	106	96.0	270	245.2	151	137.0	175	158.6	67	60.5

spent in the laboratory, as shown in Table X, while 26 (23.6%) indicated that more laboratory time should be made available during the day.

Respondents' Attitudes Toward Curriculum and Offerings of Teacher Education

A definite trend in Table XI is evident as one looks at the "undecided" column, which contains all high percentages except in two areas. "Cannot get a program worked out," received 42 disagreements or 38.1%, from the respondents. This evidently has not been a problem. The second area "good equipment" was rated in the affirmative by 44 (40.0%) of the respondents (see Table XI). On the other hand, 41 respondents (37.2%) were undecided about the quality of the equipment used in teacher education.

Respondents' Attitudes Toward Curriculum and Offerings of Other Departments

Of the 110 respondents, 43 (39%) indicated that they had not had any problem in working out a program in the various departments on campus. However, one notes that 41 (37.2%) of the respondents indicated the program offered did not meet their needs, as revealed in Table XII.

When confronted with the statement "good equipment" used in other departments, 42 (38.1%) were undecided. Also

TABLE XI

RESPONDENTS' ATTITUDES TOWARD CURRICULUM AND OFFERINGS OF TEACHER EDUCATION

Curriculum and Offerings	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Cannot get a program worked out	9	8.1	42	38.1	41	37.2	15	13.6	3	2.7
Enough offerings	9	8.1	22	20.0	38	34.5	31	28.1	9	8.1
Poor scheduling of classes	5	4.5	27	24.5	49	44.5	20	18.1	8	7.2
Program does meet my needs	14	12.7	28	25.4	34	30.9	26	23.6	8	7.2
Not enough lab time	5	4.5	26	23.6	45	40.9	24	21.8	10	9.0
Good equipment	9	8.1	11	10.0	41	37.2	44	40.0	4	3.6
Cost of materials too high	5	4.5	30	27.2	51	46.3	19	17.2	5	4.5
Total	56	50.5	186	150.8	299	268.5	179	162.4	47	42.3

42 (38.1%) were undecided on the amount of laboratory time necessary in relation to the equipment that is available.

Two other areas, closely related, received some attention. Thirty-three respondents (30%) disagreed that "there are enough class offerings," while 37 (33.6%) were undecided about "poor scheduling of classes," (see Table XII).

C. DATA FINDINGS

The next three tables are given to show respondents' opinions with regard to the teaching, counseling, and philosophy of Technology and Industrial Education, Teacher Education and other departments.

Respondents' Attitudes Toward Teaching, Counseling and the Philosophy of Technology and Industrial Education

One of the most outstanding findings here is the percentage that agree that good teaching and effective teaching methods prevail. As indicated in Table XIII, 43 (39%) agree that the teaching is good, while 42 (38.1%) agree that effective teaching methods are used in Technology and Industrial Education.

The respondents indicated that there is a need for more beneficiary counseling in the department as shown by 29 (26.3%) who so indicated this on the Information Form. As for no program advisement, 33 (30%) were undecided, while 30 (27.2%) agreed that program advisement should be improved.

TABLE XII

RESPONDENTS' ATTITUDES TOWARD CURRICULUM AND OFFERINGS OF OTHER DEPARTMENTS

Curriculum and Offerings	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Cannot get a program worked out	9	8.1	43	39.0	29	26.3	20	18.1	9	8.1
Enough offerings	23	20.9	33	30.0	20	18.1	28	25.4	6	5.4
Poor scheduling of classes	3	2.7	28	25.4	37	33.6	27	24.5	15	13.6
Program does meet my needs	10	9.0	27	24.5	22	20.0	41	37.2	10	9.0
Not enough lab time	8	7.2	32	29.0	42	38.1	22	20.0	5	4.5
Good equipment	9	8.1	20	18.1	42	38.1	33	30.0	6	5.4
Cost of materials too high	4	3.6	31	28.1	38	34.5	26	23.6	10	9.0
Total	66	59.6	214	194.1	230	198.7	197	178.8	61	55.0

For a long time students have stated that more information from outside sources encompassing the functions and philosophies of industry should be incorporated. As shown in Table XIII, 43 (39%) believed that more information from outside sources is needed. One must note, however, that available take-home materials are provided by many of the industrial companies. Quite often this material is free for the asking and provides the recipient with some excellent teaching aids. Thirty-seven (33.6%) of the 110 respondents referred to the problem that there were not enough materials to take home. At the same time, whether the faculty should or should not provide more inexpensive teaching aids remains a question unanswered in this research.

When confronted with the question of evaluating the Technology and Industrial Education philosophy, 36 (32.7%) of the respondents were undecided, while 27 (24.5%) agreed that "the philosophy is good."

Respondents' Attitudes Toward Teaching, Counseling and the Philosophy of Teacher Education

In all categories of Table XIV, the respondents recorded the largest numbers and percentages in the undecided bracket. One tends to infer that they perhaps had never really thought about the teacher education department with regard to its philosophy.

TABLE XIII

RESPONDENTS' ATTITUDES TOWARD TEACHING COUNSELING AND THE PHILOSOPHY OF TECHNOLOGY AND INDUSTRIAL EDUCATION

Quality of Teaching and Counseling	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Good teaching	13	11.8	20	18.1	24	21.8	43	39.0	10	9.0
Little beneficiary counseling	7	6.3	26	23.6	26	23.6	22	20.0	29	26.3
Not enough usable material to take home	8	7.2	37	33.6	31	28.1	25	22.7	9	8.1
No program advisement	4	3.6	28	25.4	33	30.0	30	27.2	15	13.6
Good technology and industrial education philosophy	10	9.0	23	20.9	36	32.7	27	24.5	14	12.7
Effective teaching methods	21	19.0	21	19.0	19	17.2	42	38.1	6	5.4
Enough information from outside sources	21	19.0	43	39.0	20	18.1	22	20.0	4	3.6
Total	84	75.9	198	179.6	189	171.5	211	191.5	87	78.7

Of the undecided group, the Technology and Industrial Education philosophy had the largest number, 57 (51.8%) of responses. The next in line was "not enough usable materials to take home," which recorded 48 (43.6%) responses as undecided (see Table XIV).

Respondents' Attitudes Toward Teaching, Counseling and the Philosophy of Other Departments

In Table XV, the respondents agreed the teaching methods were good with 43 (39.0%) so replying. Forty-two (38.1%) indicated that there was good teaching.

Respondents also agreed that there was little beneficiary counseling prevalent in other departments (see Table XV). But 39 (35.4%) were undecided on the problem of program advisement.

"A good technology and industrial education philosophy" was rated high with "undecided," probably because the respondents did not know the philosophy of other departments toward technology and industrial education.

"There is enough information available from outside sources" received 33 (30.0%) disagreements. The respondents indicated they would like more outside information brought into the classroom.

TABLE XIV

RESPONDENTS' ATTITUDES TOWARD TEACHING COUNSELING AND PHILOSOPHY OF TEACHER EDUCATION

Quality of Teaching and Counseling	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Good teaching	11	10.0	20	18.1	45	40.9	28	25.4	4	3.6
Little beneficiary counseling	2	1.8	24	21.8	38	34.5	36	23.6	20	18.1
Not enough usable material to take home	5	4.5	27	24.5	48	43.6	24	21.8	6	5.4
No program advisement	1	.09	28	25.4	45	40.9	21	19.9	15	13.6
Good technology and industrial education philosophy	9	8.1	21	19.0	57	51.8	17	15.4	4	3.6
Effective teaching methods	14	12.7	21	19.0	42	38.1	30	27.2	2	1.8
Enough information from outside sources	12	10.9	26	23.6	39	35.4	29	26.3	4	3.6
Total	54	48.9	167	151.4	314	285.2	185	159.6	55	49.7

TABLE XV

RESPONDENTS' ATTITUDES TOWARD TEACHING COUNSELING AND PHILOSOPHY OF OTHER DEPARTMENTS

	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Good teaching	6	5.6	25	22.7	33	30.0	42	38.1	4	3.6
Little beneficiary counseling	3	2.7	21	19.0	29	26.3	35	31.8	22	20.0
Not enough usable material to take home	5	4.5	29	26.3	44	40.0	23	20.9	9	8.1
No program advisement	1	.09	26	23.6	39	35.4	26	23.6	18	16.3
Good technology and industrial education philosophy	11	10.0	19	17.2	58	52.7	17	15.4	4	3.6
Effective teaching methods	8	7.2	16	14.5	39	35.4	43	39.0	4	3.6
Enough information from outside sources	15	13.6	33	30.0	27	24.5	29	26.3	6	5.4
Total	49	44.5	169	154.2	269	244.3	215	195.1	67	60.6

SUMMARY

Few definite trends occurred in respondents' attitudes as discussed and charted in the tables presented in the foregoing discussion. Interesting to note, to the many statements presented in the Information Form, the majority of the respondents tended to choose the "middle-of-the-road" stand--"undecided."

CHAPTER III

OPINIONS AND RECOMMENDATIONS OF TECHNOLOGY AND INDUSTRIAL EDUCATION AND THE COLLEGE IN GENERAL AS OFFERED BY THE RESPONDENTS

The purpose of this chapter is to present the opinions and recommendations of the respondents with regard to their appraisal of the Technology and Industrial Education Department, Teacher Education and the college in general.

One should keep in mind that the various classes offered in the Department of Technology and Industrial Education have been taught by more than one instructor. An instructor teaching a particular class at the present time may or may not have taught the class in past quarters.

Eighty-six of the 110 respondents endeavored to write comments in the space provided on the Information Form administered spring quarter 1968 in Technology and Industrial Education classes. Most of the written remarks were on the advantages and disadvantages of the Technology and Industrial Education department and the college. In general, as written by the respondents, John W. Best states:

> that researchers must depend upon what the individual says as to his beliefs and feelings. This is the area of opinion. Through the use of questions or by getting an individual's expressed reaction to statements, a

> sample of his opinion is obtained. From this statement of opinion may be inferred or estimated his attitude--what he really believes.
>
> In spite of limitations, the process of opinion measurement has merit, and until more precise measures of attitude are developed, this technique may serve a useful purpose in research (3:5).

The remarks that appear below were chosen as representative samples and appear as they were written on the Information Form. The number in parentheses following each comment signifies the number of respondents who made the same general statement.

Respondents' Remarks Spring Quarter 1968 About Technology and Industrial Education

In my opinion the Technology and Industrial Education Department is about ten years behind, not so much in ideas, but in methods. The faculty does a good job considering what they have to work with. (6)

I feel the faculty is quite competent in their respectful areas, and I feel all are willing to help and give advice when asked. (7)

I feel that the Department of Technology and Industrial Education is very much outdated with modern trends and methods in industry today. (15)

The faculty does an outstanding job giving a good broad curriculum employing several valuable methods of teaching. (3)

Facilities, of course, are abominable, but the new technology and industrial education building will relieve this. (9)

Interpersonal relations is too much of a determinant in grading within the department. (5)

I find it difficult to believe that in a college of this size one course is taught by one instructor. No one is expected to have a compatible philosophy with everyone else. But when one person is allowed to pass judgment as to who he wishes to see teach industrial arts, some revision becomes necessary. (8)

The tension and conflict between the instructor and student is so great that one cannot learn effectively. There is hesitation to ask questions because one is barked at for asking. Why should we be barked at and jumped on for asking or for not doing something that is not quite proper. We are here to learn. (11)

If the program can be changed enough so that it can train teachers to learn the needs of modern industry and then teach them, I feel we would have an outstanding department. (12)

I feel that too much laboratory time is required in this field. Perhaps more time should be spent on theory. (7)

The professors are most courteous and helpful--they know their staff. (4)

The recent trend toward updating and expanding the department is most welcome. The foundations have been reinforced to support a well-structured program. (6)

The program in basic electricity and electronics fulfills a badly needed gap in the education of science majors. (3)

The electronics department seems adequately prepared although I would like to take additional courses not available. (2)

Area of drafting good, but should offer more advanced classes. (3)

Well taught with bearing and emphasis given toward needs of companies for drafting. (4)

Technology and industrial education courses 165 and 365 do not provide enough background for the student in engineering or architecture. (4)

I have learned more useful knowledge in metals than in any other classes in the department. (6)

The equipment supplied in drawing is good, but the expense students undergo to buy supplies is a detriment to many students. (3)

The tests they give are over material and not a test over knowledge we need to teach or work with in industrial arts. The tests are to trick us and not for knowledge we paid our money for. (4)

The whole woods program is geared to the home craftsman. (2)

To date, the department head has done a good job, but much more is needed. (1)

Education degrees in this department should be longer than four years because a program needs to be worked out with industry for better training. (2)

More information could be given on new fasteners and new methods of fabrication of wood and plastics. (3)

As a department, I believe there could be less talk and more needed changes. People in leadership position talk and complain but do little more. (3)

The department is good, except there is very little teacher-student contract concerning a student's progress. (5)

In basic woods we need to quit "piddling around with piddly things." This is fine for one who has never seen a piece of wood before, but give the student a challenge if he wants that challenge. (9)

The equipment in the woodshop is not taken care of and the instructor seems to be just going along. (6)

In general the whole department treats the student as if he were a no acount high school student with no respect to age or background. (3)

The students need more free time in which they can use the department facilities and equipment. (4)

I will not take any woods classes at Central Washington State College until the present methods and philosophy are changed. (2)

The industrial education methods instructor should stay in his office and not teach. All he does is recall names of important people he has known which doesn't relate to the subject at hand. (5)

Respondents' Comments on the College in General

Because a lot of my friends said Central was a nice college and they were going, I decided to attend. (1)

The library appears to be lacking in technology and industrial education information sources. (6)

This still remains a teachers' college, but it should expand in the field of engineering and architecture. (1)

I feel this is a good teachers' college and have heard the same from teachers out in the field. (3)

The most important part of a college to students is to offer the courses the college requires for graduation at all times or at least see if students want the course before registration begins. (3)

One main complaint is course offerings, time and registration--why in the . . . don't they get organized and become an efficient college like most others in the state. (11)

CHAPTER IV

SUMMARY AND CONCLUSIONS

The purpose of this research was to gather information on the Technology and Industrial Education Department, Teacher Education and other departments and the college in general. To obtain the data, an Information Form was distributed in all the Industrial Education classes with instructor approval during the spring quarter of 1968.

The Information Form was designed to collect the opinions and attitudes of students enrolled. One hundred and ten respondents recorded their opinions on the Information Form. Of the 110 respondents participating, 106 were male and 4 were female.

To be more specific, the study was an attempt to answer the following questions:

1. What are some factors that influenced students coming to Central Washington State College?
2. How many students were actively engaged in industrial education at the secondary level or were enrolled in technical school, trades and industrial school, or a community college vocational program before coming to Central?
3. What are some student opinions of the Department of Technology and Industrial Education from students enrolled in the classes?
4. What is the student's status in relation to the college?

5. In response to the Information Form, what factors become evident as the student evaluates the classes he is taking in Industrial Education and/or Teacher Education and other departments in regard to: size, assignments, subject matter, methods, practices, equipment, etc.?

6. To what extent will the respondents evaluate the teaching practices as effective and informative?

7. Does the program offered meet the needs of the students and reflect technology?

8. What is the relationship of industrial education to other school curriculum major subject fields?

Summary

Of the reasons listed by students, 91 (82.7%) indicated they liked the size of the college, and the program of study desired was offered at Central Washington State College. Other favorable reasons given for attending Central Washington State College were to avoid the draft, lower cost factors, excellent teachers' college, and the Technology and Industrial Education Department was recommended very highly by school counselors and administrators.

Of the respondents enrolled in Technology and Industrial Education spring quarter 1968, 74.5 percent stated they were enrolled in industrial arts classes at the secondary level, and some continued their education at other institutions of industrial education, such as a technical school, or a trades and industrial school. Even at these different

institutions of training, the respondents were developing opinions and attitudes which influenced their enrollment at Central.

The respondents' comments were varied on the Information Form, ranging from the college in general to the Department of Technology and Industrial Education, specifically. Some attitudes tended to be very strong as noted in Chapter III.

Respondents enrolled in the Technology and Industrial Education classes spring quarter 1968 were not all majors and minors. Of the 110 respondents, 56 (50.9%) were department majors and 15 (13.6%) were minors. But, fifteen other major departments and twenty-four minor areas were also indicated. Therefore, an excellent representation of students from other departments enrolled in Technology and Industrial Education classes was obtained.

When the respondents were asked if "classes are difficult," there was a wide range of opinions. In reference to the Technology and Industrial Education Department, the respondents' opinions were split--55 (50%) indicated that the classes were not difficult, but 65 (59%) disagreed when asked if "the classes were easy." In Teacher Education and other departments "undecided" was the majority opinion offered.

General agreement prevailed that classes were good size for the amount of space provided. From written comments

offered by the respondents, it was a general concensus that class size coincided adequately with the space and equipment available.

When methods and practice of teaching were to be considered, a greater percent agreed that good teaching and effective teaching methods were prevalent in all teaching areas of the college.

The respondents did indicate there was a definite need for more beneficiary counseling in the Technology and Industrial Education Department. Twenty-nine (26.3%) respondents so agreed. As for counseling in the other departments, the majority of the respondents tended to be "undecided."

Class offerings was an area receiving much criticism. Respondents indicated a need for revision here. Forty-six (51.8%) of the respondents so indicated that a program was difficult to work out, while thirty-six (32.7%) suggested that more class offerings should be made available in the Technology and Industrial Education Department. In Teacher Education and the other departments, there was no concern shown on the Information Form about working out a program. Also, most respondents indicated the class offerings were sufficient.

The field of industrial education has been known to fill the gap in subject matter not provided in other departments. For example, the area of electricity, taught in

Technology and Industrial Education, relates to the science program. Students come to the Technology and Industrial Education Department for such classes that teach subject matter related to the world we live in today.

Conclusions

Insofar as the respondents enrolled in Technology and Industrial Education classes served as a representative group for Technology and Industrial Education, Teacher Education and other departments, and as the 110 respondents expressed their opinions through the use of an Information Form and a reliable sampling resulted, the following conclusions may be drawn from the study:

1. When answering the questions on the Information Form, some participants tended to make inconsistent responses.

2. One can conclude from the information tabulated that the respondents in Technology and Industrial Education desire more beneficiary counseling and program advisement in addition to the present program to eliminate uncertainty and other problems encountered.

3. From comments made by 67 respondents concerning the number of classes offered, it can be concluded that the Technology and Industrial Education Department needs to expand its curriculum to include additional periods of one class and new class offerings.

   (Starting fall quarter of 1968, to fall quarter of 1969, five new classes will be added to the curriculum. They are: 390 Basic American Industries, 432 Analysis Techniques, 492 Industrial Safety, and 531 Administration and Supervision in Industrial Education.)

4. The conclusion may be drawn that a definite need exists for more effective outside contact with industry to know and understand the processes of industry as they relate to teaching.

Problems for Further Study

During the course of this study, several problems were encountered which could warrant further research. They are as follows:

1. An investigation to be conducted to ascertain the best possible counseling and advisement program.

2. A repeat survey to be conducted similar to that used in this research to study the opinions and attitude trends of the enrollees of the Technology and Industrial Education Department.

3. A follow-up study on the improvement of registration procedures.

4. To implement and administer a campus-wide information form to study the image or student impressions of the Technology and Industrial Education Department at Central Washington State College.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Abbott, Bill. "Impression of Technical Education at Northern Arizona University." Unpublished study, Northern Arizona University, Flagstaff, 1968.

2. Bell, Herbert Y. "Industrial Arts News," Industrial Arts in Action. Olympia: State Superintendent of Public Instruction, 1967. 19 pp.

3. Best, John W. Research in Education. Englewood Cliffs: Prentice Hall, Inc., 1959.

4. Boaz, Holland E. "Degree-Level Technology Programs Offered in Industrial Education Departments: Their Status, Accreditation and Acceptance." Doctor Dissertation Abstracts, p. 1533-A. Published Doctor's Dissertation, University of Missouri, 1965. 182 pp.

5. Fisher, Richard E. "Status of and Need for Terminal Vocational-Training Curricula in Senior Colleges and University." Unpublished Doctor's Dissertation. University of Missouri, 1956.

6. A Guide to Improving Instruction in Industrial Arts. Washington, D. C.: American Vocational Association, 1953. 104 pp.

7. Hillway, Tyrus. Introduction to Research. Boston: Houghton-Mifflin Co., 1956.

8. Keith, Charles W. "The Industrial Technology Program at Kent State University, An Appraisal and Recommendations." Unpublished Doctor's Dissertation, Ohio State University, 1964.

9. Remmers, H. H. Introduction to Opinion and Attitude Measurement. New York: Harper and Brothers, 1954.

10. Reynolds, William S. "An Analytical Study of the Basic Procedures Used Revising the Undergraduate Curriculum in Certain Institutions Preparing Industrial Arts Teachers in Northeastern United States. Doctor Dissertation Abstracts, pp. 3637-8. Published Doctor's Dissertation, Cornell University, 1963. 263 pp.

11. Simmons, Roy L. "A Follow-up Study of the Graduates of Central Washington State College with Majors in Industrial Education." Unpublished study, Central Washington State College, Ellensburg, 1968. 12 pp.

12. Venn, Grant. "Pending Federal Legislation Encourages Vocational Innovation," Contact, 2:7, June, 1968.

APPENDIX A

Information Form

DEPARTMENT OF TECHNOLOGY AND INDUSTRIAL EDUCATION

CENTRAL WASHINGTON STATE COLLEGE

ELLENSBURG

It is believed that the most important asset the college has is you, the student. An honest attempt is made to provide satisfactory experiences which are both educationally pleasant and profitable.

This information form is given to you as an effort to get a better understanding of your reactions to the educational system at Central, and, if possible, to eliminate any stumbling blocks which you may have encountered as a college student.

We are also interested in what you may feel are advantages and disadvantages within the Department of Technology and Industrial Education and Central Washington State College in general.

Please fill out the attached information form, expressing your frank and honest opinions. Please make any additional comments which you may desire.

Date _____ Sex _____ Age _____

My status at CWSC is:

Major _____

Minor (s) _____

Rank in college: (Circle) Fr. So. Jr. Sr. Grad.

Working toward _____ degree

Plan to complete degree _____ _____
Term Year

Am not working toward a degree _____
(Check, if so

What, in your opinion, are significant aspects of the total program offered within the Department of Technology and Industrial Education (advantages and disadvantages)? This would encompass the curriculum, facilities, faculty, methods, materials, and machinery or equipment. (Begin below and use the back, if necessary.)

I came to CWSC because:	Yes	No
61. Liked the size of the college	____	____
62. Impressed with faculty	____	____
63. Program offered I wanted	____	____
64. Transferred from another college	____	____
65. Changed from Engineering to Industrial Education	____	____
66. Close to my home	____	____
67. Favorable climate	____	____
68. Could obtain housing	____	____
69. Modern library	____	____
70. Ideal location	____	____
71. Good recreation program	____	____
72. Near places of interest	____	____
73. Other _____	____	____

Did you take courses in industrial arts at the:

74. Junior high level	____	____
75. Senior high level	____	____

Did you take courses in vocational-technical education other than junior high or senior high school:

76. Technical School	____	____
77. Trades and Industrial School	____	____
78. Community College Vocational Program	____	____

GO ON TO THE NEXT PAGE

Mark T on the answer sheet if the following objections have been a problem at our college or F if they have not:

	Objections	Has been a Problem	Has not been Problem
79.	Not enough planned social activities	_____	_____
80.	Couldn't find housing	_____	_____
81.	Housing inadequate for my needs	_____	_____
82.	Poor communication prior to registration	_____	_____
83.	Not enough concern for student welfare	_____	_____
84.	Too many extra-curricular requirements	_____	_____
85.	Difficulty in getting reserve books	_____	_____
86.	No help from library staff	_____	_____
87.	Library regulations hamper study	_____	_____
88.	Library hours not convenient	_____	_____
89.	Too much "red tape" to get in school	_____	_____
90.	Poor organization at registration	_____	_____
91.	Lack of faculty interest	_____	_____
92.	Class offerings not known soon enough	_____	_____
93.	Lack of service from Placement Office	_____	_____

Other complaints _____

_____

Indicate the area which may be a concern by marking the answer sheet as shown. IE = Industrial Education; TE = Teacher Education; OD = Other Departments.

			Strongly Disagree 1	Disagree 2	Undecided 3	Agree 4	Strongly Agree 5
	EXAMPLE: My girlfriend is good looking. 1 2 3 4 5						
A.	Classes too difficult	1. IE 2. TE 3. OD					
B.	Classes too easy	4. IE 5. TE 6. OD					
C.	Too much work for amount of credit	7. IE 8. TE 9. OD					
D.	Good teaching	10. IE 11. TE 12. OD					
E.	Assignments not clear	13. IE 14. TE 15. OD					
F.	Tests too difficult	16. IE 17. TE 18. OD					
G.	Assignments too long	19. IE 20. TE 21. OD					
H.	Little beneficiary counseling	22. IE 23. TE 24. OD					
I.	Cannot get a program worked out	25. IE 26. TE 27. OD					

SD = Strongly Disagree; D = Disagree; U = Undecided;
A = Agree; SA = Strongly Agree

			SD 1	D 2	U 3	A 4	SA 5
J.	Enough offerings	28. IE					
		29. TE					
		30. OD					
K.	Poor scheduling of classes	31. IE					
		32. TE					
		33. OD					
L.	Classes too large	34. IE					
		35. TE					
		36. OD					
M.	Classes too small	37. IE					
		38. TE					
		39. OD					
N.	Program does meet my needs	40. IE					
		41. TE					
		42. OD					
O.	Not enough usable material to take home	43. IE					
		44. TE					
		45. OD					
P.	No program advisement	46. IE					
		47. TE					
		48. OD					
Q.	Good Technology and Industrial Education philosophy	49. IE					
		50. TE					
		51. OD					
R.	Not enough lab time	52. IE					
		53. TE					
		54. OD					

SD = Strongly Disagree; D = Disagree; U = Undecided;
A = Agree; SA = Strongly Agree

			SD 1	D 2	U 3	A 4	SA 5
S.	Effective teaching methods	55. IE					
		56. TE					
		57. OD					
T.	Good equipment	58. IE					
		59. TE					
		60. OD					
U.	Cost of materials too high	121. IE					
		122. TE					
		123. OD					
V.	Enough information from outside sources	124. IE					
		125. TE					
		126. OD					

APPENDIX B

Answer Sheet

NAME _____ (LAST / FIRST / MIDDLE) DATE _____ SEX _____ (M OR F) AGE _____ DATE OF BIRTH _____ CLASS OR GRADE _____

SCHOOL _____ CITY _____ NAME OF TEST _____ INSTRUCTOR _____

IDENTIFICATION NUMBER

BE SURE TO MAKE YOUR MARKS
HEAVY AND BLACK

ERASE COMPLETELY ANY ANSWERS
YOU WISH TO CHANGE

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60

61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
136	137	138	139	140										

IBM 1230 DOCUMENT NO. 827
WHICH CAN BE USED IN LIEU OF
IBM 805 FORM NO 1000 A342

PRINTED IN U. S. A.