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ABSTRACT

A followup study collected data from and concerning 1981 high school graduates and early leavers from 19 schools throughout Oregon in order to determine the effects of vocational training on employment and further education beyond high school. Data from 1,296 former students, 672 of whom had taken at least one year of vocational cluster courses, were analyzed along with the responses of 65 vocational education teachers to a vocational education program features survey. Approximately half of the former vocational education students were working full-time, 19 percent were employed part-time and 30 percent were enrolled in school. Among the former nonvocational students, 41 percent were employed on a full-time basis, 21 percent had part-time jobs, and 41 percent were enrolled in school. Five percent of each group were unemployed. Wages did not differ between former vocational and nonvocational students; however, females in both groups earned significantly less than their male counterparts. Less than 10 percent of respondents in each group were dissatisfied with their current job. Fifty-nine percent of the vocational graduates and 40 percent of the nonvocational graduates judged their vocational courses to be closely or somewhat related to their current job, with approximately half of the respondents in each group wishing they had taken more vocational classes while in high school. (This paper includes 31 tables and a copy of the student survey instrument.) (MN)

OREGON HIGH SCHOOL FOLLOW-UP STUDY

STATEWIDE FINDINGS

Prepared for the
Oregon Department of Education
Division of Vocational Education
and the
Washington County Education Service District

By

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The coding of data was performed at NWREL by Charline Nemeth and Hans Go. The analysis of data was performed by Sharon Owen while the formating of tables and integration of our statistical analysis program was completed by Doug Hicks with the assistance of Tom Owen. Jolly Butler deserves credit for editing this report and Charline Nemeth for typing it.

EXECUTIVE SUMMARY

Purposes for the Study

In 1984, the Oregon Department of Education contracted with the Washington County Education Service District to conduct a follow-up study of 1981 high school graduates and early leavers from 19 schools throughout Oregon, contacted three years after leaving high school. The study, carried out by Northwest Regional Educational Laboratory (NWREL) was designed to determine the effects of vocational training on young people's success in employment or further education beyond high school. Comparisons were made not only between former students enrolled in vocational cluster programs and nonvocational students but also among students at various intensities of participation in vocational education. Information about former students was obtained from a mail survey or telephone interview together with an analysis of each respondent's high school transcript and permanent record. An assessment of key features of vocational programs in operation in the participating schools in 1980-81 was obtained from the vocational staff in these schools.

In addition to addressing the issues of vocational education, the follow-up study was expanded to examine the reactions of former students to increased high school graduation requirements in science and mathematics.

Former Students

Data from a total of 1296 former students are included in this report. Of this number, 672 students had taken at least one year of vocational cluster courses. The remainder were identified as nonvocational students although many had taken one or more vocational education classes. Females comprised 53 percent of the vocational education students and 45 percent of the nonvocational students. The 19 participating schools represented all five geographic regions of the state and reflected the state's distribution of large, medium and small high schools.

Instruments Used

The High School Follow-up Survey developed for this project was a 42-item form designed to be used as a mailed questionnaire or as the basis for a telephone interview. In addition to the 42 items asked of all students, several schools identified three or four unique questions asked only of their students. The common questions covered the former student's occupational status, relevance of high school training to a current job or educational program, career goals and factors influencing them, types of education beyond high school, types of vocational courses studied in high school and reasons for taking vocational education, relationship between the vocational program and current job or educational program, assessment of characteristics of the high school vocational program, attitudes toward increased high school science and math graduation requirements and assessment of these two areas of the individual's high school experience.

A Transcript/SERVE Report form was completed on each former student by the school secretary or other appointed person. The SERVE report contains data that are submitted to the Oregon Department of Education on vocational cluster students. The data collection form records the former student's grade point average; Scholastic Aptitude Test scores; attendance records for junior and senior years, grades and credits received in specific vocational cluster areas in sophomore, junior and senior years; number of math and science courses taken by type of course; average math and science grade and student's sex. For vocational cluster students, additional information was recorded about the cluster studied, whether the student participated in Cooperative Work Experience and/or various vocational student organizations, any handicap the student may have had and the student's race.

In addition, the Vocational Education Program Features Survey was completed at participating schools by 65 teachers in business and office occupations, agriculture, and trade and industry areas. It contained 25 program features covering areas used in accrediting vocational programs (e.g., active program advisory committees) as well as items found in school effectiveness studies (e.g., the presence of clearly stated objectives understood by staff, students and participating employers).

Responsibilities

Staff from the 19 participating schools and the Oregon Department of Education were closely involved in all phases of the study. Department staff reviewed and approved the research design and instruments, monitored the data collector training, provided SERVE data for the participating schools and reviewed the findings and report. The participating schools appointed a study coordinator, collected student data and prepared local reports on their school findings. The NWREL staff designed the study and instruments, conducted a review of the related literature, prepared a detailed coordinator and data collector guide, trained the data collectors, analyzed data for each school and aggregated it at the district and state level, provided tables and findings to schools and prepared the statewide report. The Washington County Educational Service District served as fiscal agent for this contract.

Findings

Current Status

Approximately half of the former vocational education students are currently working fulltime and 19 percent parttime. Thirty percent are enrolled in school. Among the former nonvocational students, 41 percent are working fulltime, 21 percent parttime and 41 percent are enrolled in school. Five percent of each group were currently unemployed and an additional seven percent were not working and not seeking employment.

Those working

Former vocational students were most frequently employed in marketing, health and services. Nonvocational students were most often in

professional jobs, marketing and services. Of those former students currently working, most were earning between $4.00 and $7.00 per hour. Wages did not differ between former vocational and nonvocational students but females were earning signficantly less than were males. Nineteen percent of the vocational and 13 percent of the nonvocational students had worked at their present job for more than two and one-half years. Male vocational graduates were more likely to have worked in their current job more than 30 months. Former students averaged two job changes since leaving high school with seven percent having had five or more job changes.

The vast majority of participants reported being satisfied with their job with less than 10 percent being dissatisfied. Former vocational and nonvocational graduates were about equally satisfied with their present job. Females in both groups expressed slightly more satisfaction than did males.

There were 59 percent of the vocational graduates and 40 percent of the nonvocational graduates who judged their vocational courses to be closely or somewhat related to their current job. Approximately half of the vocational and nonvocational students indicated they wished they had taken more vocational classes while in high school wnile less than five percent wished they had taken fewer such classes.

Those in Postsecondary Education

Since leaving high school, approximately three-quarters of both the vocational and the nonvocational students participated in postsecondary education at least for a while. Of those former vocational students attending school at the time of the survey, the largest percentage were enrolled in Oregon community colleges (27 percent for males and 32 percent for females). Of the nonvocational students, 21 percent of the males and 18 percent of the females were in Oregon community colleges. About 15 percent of the students attend Oregon State University while another 12 percent attend the University of Oregon. Approximately 13 percent of the survey participants were attending non-Oregon private or public colleges and universities.

Students are attending postsecondary education primarily to receive a degree, to obtain a broad education and to obtain or improve job-related skills. Very few are enrolled to make more money in their current job, because they couldn't find a job, because of a special interest or to satisfy parents. Half of the students are very satified with their postsecondary education and only 10 percent are unsatisfied. Over half of the students rated high school math and English as very helpful (in contrast to somewhat helpful or not helpful) in preparing them for further education. Half of the vocational students also rated their vocational courses as very helpful while over half of both groups who took foreign languages rated them as not helpful to their further education.

The most common college major for both former vocational and nonvocational students (about 10 percent of each group) was business. Health and liberal arts were mentioned next most frequently by both groups. Liberal arts was a major for four percent of the former vocational graduates and five percent of the nonvocational graduates.

Perceptions of High School Vocational Education

Why do students take vocational classes in high school? Vocational cluster students took such classes most commonly to prepare for a job and to explore different occupations. Nonvocational cluster students had the same expressed reasons plus the desire to try something new. Motivation to prepare for a job was particularly common among female vocational education students while the desire to try something new was especially true for nonvocational cluster males.

While in high school the heaviest concentrations of vocational cluster students were in the areas of clerical, secretarial, accounting, metals, drafting and mechanical. However, nonvocational students were also enrolled in each vocational area.

Former students were asked to rate the quality of certain dimensions of their vocational courses. Rated highest were the quality of instruction, hands-on applications, teaching of technical skills and the depth of content. Rated lowest were information about vocational programs available after high school and coordination of courses with related community college classes. Vocational organizations or out-of-class experiences most often engaged in were Cooperative Work Experience, Future Business Leaders of America (FBLA), Distribution Education Clusters of America (DECA), Junior Achievement and CETA (now the Job Training Partnership Act). Forty-five percent of the vocational students felt such participation was very useful and only 12 percent considered it not useful.

Using procedures developed at the National Center for Research in Vocational Education, student's transcripts were analysed to determine the actual vocational credits received in each area for each of their last three years of high school. Based on five concepts, students were classified into five patterns of vocational participation in descending order of intensity: concentrators (5 percent), limited concentrators (39 percent), concentrator explorers (5 percent), explorers (19 percent) and incidental (32 percent). Agriculture, electrical and metals showed the highest percentage of concentrators and limited concentrators while child care and services were more heavily loaded with explorers and incidentals. Vocational organizations like Future Farmers of America (FFA) drew almost exclusively on concentrators and limited concentrators while DECA and FBLA had a range of patterns represented.

When considering only former vocational cluster students who were currently <u>working</u> fulltime, concentrators had a signficantly higher rating than the other four groups in how helpful they felt their high school education and their vocational classes were in preparing them for their present job. When considering only former vocational cluster students who were currently <u>attending postsecondary</u> school fulltime, concentrators again rated higher than the other groups in how useful their high school vocational education courses were to their current education.

Career Goals

When asked "what type of job do you expect to hold when you are 30 years old?," the most frequently cited jobs were in marketing, service, professional and health. Twelve percent of the nonvocational students aspired to profession positions, while seven percent of the vocational students indicated likewise.

Important to consider in revising career and vocational programs is the issue of when students first made their career selection. Approximately 20 percent of the respondents three years out of high school indicated they were still undecided, while 7 percent had decided even before high school. Over 40 percent did not decide until working or attending school after high school graduation. These findings suggest that the career choices students make while in high school must be regarded by staff as tentative and likely to change.

In addition to understanding when students make their career choices, it is also important to learn what it is that influences career choices and redirections while young people are in high school. The most frequent responses selected by students were changing interests, work experiences and the influence of parents or friends. Career interest surveys and career education class materials were seldom identified as reasons for changing career goals while in high school.

Vocational Program Features Survey Findings

As part of this project, 1981 teachers in business and office occupations, agriculture and trade and industry were surveyed to determine ratings on 25 program features considered important for quality vocational programs.

The 65 teachers in the survey represented 14 of the 19 high schools in Oregon which participated in this three year follow-up study. These teachers represented three agriculture programs, 39 business and office occupations programs and 36 trade and industrial programs.

Areas rated as most successful by the teachers were: instructor participation in relevant activities to upgrade their technical skills and knowledge; appropriate occupational experience of instructors; vocational curriculum reflecting up-to-date skills; knowledge and attitudes required for employment in a specific occupation field; and clearly stated program objectives understood by staff, students and participating employers.

Areas rated as least successful by teachers were: use of an annual student follow-up system for program improvement; provision of comprehensive vocational counseling and guidance to all students; use of occupational and labor market data to plan and improve vocational programs; the perceived low status of vocational education by some students; and available information about apprenticeship programs.

Vocational teachers were also asked what percentage of their students participated in a vocational student organization. Replies indicated students of 32 percent of the teachers participated in no programs while 13 percent of the teachers had over half of their students participate. On the average, 11 percent of the students participated. We also found that for 35 percent of the teachers no students participated in state vocational competitions while eight percent of the teachers had over half of their students participate. On the average, five percent of the students participated in state vocational competitions.

There was a fairly even split in vocational programs in terms of one- or two-hour time blocks. Forty-eight percent used a one-hour block while the rest had a two-hour block.

Math and Science

Because of national and statewide interest in increasing high school graduation requirements, we asked former students to indicate how many years of math and science should be required of all high school students during grades 9-12. A third of the students recommended three years of math and a quarter recommended four years of math. About 20 percent recommended three years of science and 10 percent four years of science. Responses did not differ significantly between former vocational and nonvocational students.

Students were also asked whether they wished they had taken more math and science while in high school. More math classes were desired by 60 percent of the former vocational and 52 percent of the nonvocational students. More science classes were desired by 38 percent of each group.

RECOMMENDATIONS

Approximately three-quarters of the young people in this study reported attending some form of postsecondary education sometime during their three years since high school. The percentage was about the same for both former vocational and nonvocational students. This figure is higher than in previous studies which have looked only at young people currently enrolled in formal educational programs. In future years, it is likely that an even larger percentage of graduates will attend some form of education beyond high school. A key implication is that high schools should aim to prepare all students to be successful in education beyond high school, not simply those considered to be academically oriented.

The myth that high scool students enroll in vocational education to avoid taking courses in math and science seems to be destroyed by these findings. For example, vocational students in this study took only a half unit less of math as nonvocational students (2.4 versus 2.9 credits), received about the same grades (2.5 versus 2.6) and wished they had taken more math in high school (60 percent versus 52 percent). A difference does occur, however, in the type of math taken.

For example, only four percent of the vocational students took calculus while 10 percent of the nonvocational students took it; and 21 percent of the vocational students took pre-algebra while only 15 percent of the nonvocational students took that course. We recommend that greater attention be given in high school to applying math in the vocational classes and to using some work-related applications in the math classes. Some courses, especially in the electronics area, might allow both math and vocational credit.

Vocational courses were perceived as useful not only by students considered "vocational cluster" students but also by nonvocational students who took them. This suggests that greater attention be given to the benefits of nonvocational students enrolled in vocational education. A common criterion traditionally applied to secondary vocational programs has been the proportion of vocational graduates who entered jobs directly related to their area of training. This may no longer be an appropriate criterion since labor market charges greatly influence the number of people able to enter certain jobs. In this study the students considered "vocational concentrators" showed the greatest relationship between their training and their current job.

Two areas of vocational education rated the lowest by students were the provision of information about vocational programs available after high school and the coordination of high school courses with related community college classes. These weaknesses have also been cited by secondary teachers. This suggests the need to provide better information to the high school teachers and counselors so they in turn can share it with students. Periodic meetings between secondary and postsecondary staff would also help to encourage this understanding and provide a basis for joint planning of programs.

To gain the maximum power from these findings, it is recommended that schools and districts use these findings as a basis for staff inservice training. They could also be used by administrators and staff in revising vocational programs and by school boards in developing policies as part of high school improvement efforts.

OREGON HIGH SCHOOL FOLLOW-UP STUDY FINDINGS

I. INTRODUCTION

This report contains a description of the procedures used and findings resulting from a three-year high school follow-up study of 1981 graduates and early leavers from 19 schools throughout Oregon. The initial study was designed to determine the effects of vocational training on young people's success in employment or further education after high school. The study was designed to provide a more comprehensive picture of vocational education by comparing perceptions of former vocational education graduates and early leavers with those of former nonvocational graduates and early leavers. The study was later expanded to add more nonvocational students in order to address the issue of expanded high school graduation requirements in science and mathematics. It was also expanded to describe and analyze key features of vocational programs in operation in the participating schools in the 1980-81 school year. This study was conducted by the Northwest Regional Educational Laboratory through the Washington County Education Service District in response to a request for proposal by the Oregon State Department of Education.

Prior to this 1984 study, NWREL had developed a comprehensive model for assessing vocational education in Oregon (Owens, 1981). This model built upon existing evaluation data in the state as well as new data to be collected from high school students, staff, parents, employers, advisory councils and former students. The present study helped to provide needed information from former high school students contacted three years after leaving school. Such information is essential for helping to identify strengths and weaknesses in the high school experience and for suggesting areas for improvement. This study was designed so that individual school data (and district data in the case of Portland, Salem and Springfield) would be reported by NWREL to local staff for their use in preparing reports to their local school boards, while the aggregated state data could be used by the Department of Education and others for providing new insights into secondary vocational education within the state.

Section II of this report describes the data collection instruments, procedures and study limitations. Section III contains the findings from the follow-up survey, the student transcript/SERVE report analysis, and the Vocational Education Program Features survey. Special analyses performed on the statewide findings are contained in Section IV while Section V reports the recommendations. Copies of the three instruments are in the appendices.

II. METHODOLOGY

Instrumentation and Procedures

The High School Follow-up Survey developed for this project is a 42-item form designed to be used as a mailed questionnaire or as a telephone interview. In addition to the 42 items asked of all students, several schools identified three or four unique questions asked only of their students. The common questions covered the former students' occupational status; relevance of high school training to a current job or educational program; career goals and factors influencing them; types of education beyond high school; types of vocational courses studied in high school and reasons for taking vocational education; relationship between the vocational program; and the current job or educational program; assessment of characteristics of the high school vocational program; attitudes toward increased high school science and math graduation requirements; and assessment of these areas of the high school experience.

A Transcript/SERVE Report form was completed on each former student by the school secretary or other appointed person. The SERVE report contains data on vocational cluster students that is submitted to the Oregon Department of Education. The data collection form records the former student's grade point average; Scholastic Apptitude Test scores; attendance records for junior and senior year; grades and credits received in specific vocational cluster areas in sophomore, junior and senior years, number of math and sciences courses taken by type of course; average math and science grade and student's sex. For vocational cluster students, additional information was recorded about the cluster studied, whether the student participated in cooperative work experience and/or various vocational student organizations, any handicap the student may have had and the student's race.

In addition, the Vocational Education Program Features Survey was completed by 65 teachers in business and office occupations, agriculture and trade and industry areas. It contained 25 program features covering areas used in accrediting vocational programs (e.g., active program advisory committees) as well as items found in school effectiveness studies (e.g., the presence of clearly stated objectives understood by staff, students and participating employers).

The student survey was designed to cover areas identified in the project proposal. The initial draft, deliberately long, was distributed to coordinators from the participating schools and the Department of Education. A meeting was held in Salem to review the draft, determine which were considered the more important items and identify changes needed in any items.

A revised and shortened survey was prepared and pilot-tested with young adults in the Portland Metropolitan area. The revised instrument and student Transcript/SERVE form were used in training sessions held with data collectors. These training sessions were held in the Portland, Salem and Eugene areas. The instruments were again revised for final printing by NWREL and distribution to the participating schools. The NWREL staff also provided consultation to schools by telephone during the actual data collection phase.

In addition to the instruments, NWREL developed a detailed eighteen-page data collector's guide and a six-page data coordinator's guide. These guides covered directions for selecting students, suggestions for locating and contacting students, a student contact log, mail survey procedures, draft cover letter, directions for telephone interviewing and suggestions for handling special problems that might arise. These detailed materials, plus the several-hour data collector training sessions including simulated telephone interviews, helped assure standardization of procedures across the 19 schools and increased reliability of the findings.

The coding of open-ended items on the questionnaire and course credits on the transcript was performed by two NWREL staff under the direction of Dr. Owens. After initial practice and discussion of problem areas, a 92 percent agreement on coding was reached by the two coders.

Study Limitations

Although the majority of planning, coordination and data collection activities involving NWREL and the 19 participating schools went smoothly, this study, like any other, encountered some difficulties. The initial design called for collecting follow-up data both from high school graduates and from early leavers (those who left school before their expected graduation date). Despite efforts to locate records and addresses of early leavers, six high schools did not include data from this group, and across the 19 schools only 42 early leavers completed surveys. The small number of early leavers reporting information should be considered when viewing percentages or other statistics for this group. A second limitation was the low return rate from mailed surveys to former students, despite a follow-up postcard and second mailing of the survey to students. The response rates ranged from 25 percent to 90 percent across the 19 schools. Because of staff turnover, some schools did not attempt to reach former students until the summer, often a difficult time of year to reach people. Other problems included the inability to locate current addresses or telephone numbers for some former students. A few schools decided to use only telephone interviews to collect the data rather than using mailed surveys.

Reports from three participating schools indicated that the SERVE report data we received from the Oregon Department of Education contained incorrect information about students' race; therefore, we did not include such data in this report.

III. FINDINGS

The research design called for selecting a cross representation of schools reflecting regions of the state and school size: large (over 1500 students), medium (900-1500 student :) and small (fewer than 900 students). Table 1 shows the distribution of the 19 schools by these design characteristics. The coastal area and central and eastern sections of the state were somewhat underrepresented due to the fact that several schools that were originally recruited later declined to participate. A good balance by size of schools was achieved.

TABLE 1

DISTRIBUTION OF PARTICPATING SCHOOLS BY SIZE AND REGION

Regions	School Size[1]		
Regions	Large	Medium	Small
Portland Metro Area	Benson	Lincoln	Vocational Village
		Cleveland	
	Gresham		
Willamette Valley		North Salem	Creswell
	South Salem	McKay	Pleasant Hill
		McNary	
		Springfield	
		Sprague	
		Thurston	
Coast		Marshfield	Neah-Ka-Nie
South	Medford		
		Eagle Point	
Central and Eastern			Pilot Rock

[1] Size was based on total school enrollment for 1980-81 with large schools having an enrollment of over 1500 students, medium schools 900-1500, and small schools less than 900 students.

Responses from a total of 1,296 former students are included in this report. Approximately 12 surveys were returned too late to be included in this analysis. Of the 1,254 students for whom information about sex, graduation and high school program status was provided, 637 were male and 617 were female. Table 2 shows the distribution of students by sex and high school program status. Table 3 contains the number of follow-up participants by school and type. The vocational cluster areas of the high school vocational students are shown in Table 4. The largest percentage of the students came from clerical (17 percent), accounting (13 percent), secretarial (12 percent), marketing (11 percent), mechanical (8 percent), and metals (8 percent).

TABLE 2

DISTRIBUTION OF RESPONDENTS BY SEX

	Voc Ed Graduates	Voc Ed Early Leavers	Non Voc Ed Graduates	Non Voc Ed Early Leavers	Total
Males	296	8	320	13	637
Females	335	7	269	6	617
Totals	631	15	589	19	1254

TABLE 3

NUMBER OF FOLLOW-UP PARTICIPANTS BY SCHOOL AND TYPE

School	Voc Ed Graduates	Voc Ed Early Leavers	Non Voc Ed Graduates	Non Voc Ed Early Leavers
Benson	48	1	0	0
Cleveland	39	1	17	0
Lincoln	33	0	0	0
Vocational Village	0	7	0	0
McKay	39	2	36	0
McNary	45	2	23	2
North Salem	36	2	29	2
South Salem	36	4	36	0
Sprague	39	0	53	0
Creswell	22	0	9	1
Eagle Point	23	0	22	0
Gresham	35	0	36	0
Marshfield	38	0	27	0
Medford	90	1	159	9
Neah Ka-Nie	9	0	14	2
Pilot Rock	10	0	4	2
Springfield	41	3	72	0
Pleasant Hill	19	0	0	0
Thurston	47	0	63	1
	649	23	600	19

[1] The type of student was not reported in eight cases.

TABLE 4

ENROLLMENT IN VOCATIONAL CLUSTER FOR VOCATIONALLY CERTIFIED STUDENTS

	Number	Percent
Agriculture	18	3
Marketing	63	11
Health	21	4
Food Service	13	2
Accounting	79	13
Clerical	99	17
Secretarial	70	12
Mechanical	45	8
Construction	37	6
Electrical	26	4
Metals	46	8
Child Care	34	6
Clothing	3	1
Home Management	0	0
Drafting	3	1
Graphics	20	3
Service	9	2
Forestry	3	1

[1] Percentages may not total exactly to 100 percent due to rounding off percentages.

Current Work Status

As shown in Table 5, the majority of former vocational students (those enrolled in state approved vocational cluster courses) are employed full time, while the number of former nonvocational students is about equally split between current enrollment in school and full time employment. Five percent of former students reported being unemployed but actively seeking work.

TABLE 5

CURRENT WORK STATUS OF FORMER STUDENTS

	VOC ED GRADUATES		VOC ED EARLY LEAVERS		NON VOC ED GRADUATES		NON VOC ED EARLY LEAVERS	
	N	%	N	%	N	%	N	%
Employed Full Time	311	47	8	50	244	41	5	26
Employed Part Time	122	19	3	19	125	21	4	21
Enrolled in School	194	30	2	13	246	41	3	16
Military Service	47	07	1	06	48	08	5	26
Laid off, Seeking Work	15	02	1	06	11	02	0	0
Not Working, Seeking Work	36	05	0	0	28	05	3	16
Not Working, Not Seeking Work	49	07	3	19	41	07	3	16

N=number of students, %=percentage of former students. The percentages add up to more than 100 percent because some former students are both employed and enrolled in school.

Table 6 shows vocational and non-vocational graduates separated by participants' sex. The percentage of female graduates entering military service was less than three percent compared to 13 percent for males. On the other hand, there were about twice the number of females as males currently not working and not in school. The category of jobs currently held by respondents is shown in Table 7. The largest single category for vocational graduates was "marketing" while the largest categories for nonvocational were "professional," "marketing" and "services."

TABLE 6

CURRENT WORK STATUS OF FORMER STUDENTS BY PARTICIPANTS' SEX

	Percent [1]			
	Vocational Graduates		Non-Vocational Graduates	
	Males (N=297)	Females (N=335)	Males (N=320)	Females (N=269)
Employed Fulltime	48	47	43	38
Employed Parttime	17	21	19	25
Enrolled in School	32	30	43	40
Military Service	14	1	13	3
Laid Off, Seeking Work	3	2	2	1
Not Working, Seeking Work	4	7	3	8
Not Working, Not Seeking Work	5	11	6	9

[1] Percentages may total more than 100 because some respondents are both employed and in school; N=number of respondents in each group.

TABLE 7

CATEGORY OF JOB CURRENTLY HELD BY RESPONDENTS

	VOC ED GRADUATES		VOC ED EARLY LEAVERS		NON VOC ED GRADUATES		NON VOC ED EARLY LEAVERS	
	N	%	N	%	N	%	N	%
Agriculture	6	01	0	0	6	01	2	11
Marketing	68	10	1	06	56	09	1	05
Health	47	07	2	13	42	07	0	0
Food Service	14	02	1	06	10	02	0	0
Accounting/Bookkeeping	37	06	0	0	21	03	0	0
Clerical	23	04	0	0	11	02	0	0
Secretarial	30	05	1	06	11	02	1	05
Mechanical	19	03	1	06	10	02	1	05
Construction	5	01	0	0	8	01	0	0
Electricity, Electronics	21	03	0	0	22	04	2	11
Metal	13	02	0	0	5	01	2	11
Child Care	2	00	1	06	4	01	0	0
Clothing	0	0	0	0	2	00	0	0
Home Management	1	00	0	0	0	0	0	0
Drafting	7	01	0	0	0	0	0	0
Graphic Arts	11	02	0	0	14	02	0	0
Service	48	07	2	12	50	08	0	0
Forest	4	01	0	0	5	01	0	0
Professional	39	06	0	0	57	10	1	05
Military	8	01	0	0	9	01	1	05
Homemaker	29	04	1	06	21	03	0	0
Other	58	09	1	06	60	10	2	11
Not Considered	60	09	2	12	39	06	3	16
Vague Response	34	05	0	0	24	04	0	0

Of those students currently working, most were earning between $4.00 and $7.00 per hour. Table 8 shows the hourly earnings for all employed respondents while Table 9 depicts earnings by participants' sex for only those 802 graduates who were currently working fulltime. As past studies have shown, males are earning higher salaries than females regardless of whether or not they were vocational cluster students in high school. Table 10 shows the number of hours worked per week. It is interesting to note that while the national average of hours worked per week has been decreasing, 20 percent of the Oregon respondents are working over 40 hours a week.

TABLE 8

RESPONDENTS' GROSS HOURLY EARNINGS

	VOC ED GRADUATES		VOC ED EARLY LEAVERS		NON VOC ED GRADUATES		NON VOC ED EARLY LEAVERS	
	N	%	N	%	N	%	N	%
Less than $3.35	22	03	0	0	9	01	2	11
$3.35 - 3.99	79	12	5	31	77	13	3	16
$4.00 - 4.99	122	19	2	12	115	19	1	05
$5.00 - 6.99	128	20	1	06	98	16	2	11
$7.00 - 8.99	44	07	2	06	32	05	1	05
$9.00 - 10.99	23	04	1	06	29	05	0	0
$11.00 - 12.99	11	02	0	0	8	01	0	0
$13.00 - 14.99	2	00	0	0	2	00	0	0
$15.00 or more	6	01	1	06	5	01	0	0

Percentages here in the following tables are based on the total number of students per group. Some students were not employed or did not report their earnings.

TABLE 9

SELF REPORTED HOURLY EARNINGS FOR GRADUATES CURRENTLY WORKING FULLTIME

	Percent			
	VOC ED GRADUATES		NON-VOC ED GRADUATES	
Hourly Earnings	Males (N=207)	Females (N=221)	Males (N=213)	Females (N=161)
Less than $3.35	3	6	3	3
$3.35-3.99	12	26	13	31
$4.00-4.99	21	34	32	29
$5.00-6.99	31	25	25	27
$7.00-8.99	16	5	10	6
$9.00-10.99	9	1	11	3
$11.00-12.99	4	1	4	0
$13.00-14.99	1	0	1	0
$15.00 or more	2	1	2	1

TABLE 10

NUMBER OF HOURS PER WEEK WORKED BY EMPLOYED RESPONDENTS

	VOC ED GRADUATES		VOC ED EARLY LEAVERS		NON VOC ED GRADUATES		NON VOC ED EARLY LEAVERS	
	N	%	N	%	N	%	N	%
1 - 9 Hours	12	02	3	19	17	03	1	05
10 - 19 Hours	38	06	0	0	39	06	0	0
20 - 29 Hours	67	10	1	06	56	09	2	11
30 - 40 Hours	215	33	3	19	171	28	4	21
Over 40 Hours	140	21	5	31	113	19	4	21

The length of time respondents have worked in their present job is shown in Table 11 for both high school graduates and early leavers. The early leavers tend to be more likely than graduates to have been in their present job less than six months. When comparing graduates, males (especially those in vocational education) are more likely to have worked in their current job more than 30 months as shown in Table 12. Overall, 19 percent of the vocational and 13 percent of the nonvocational students had worked at their present job for more than two and one-half years.

TABLE 11

LENGTH OF TIME RESPONDENTS HAVE WORKED IN THEIR PRESENT JOB

	VOC ED GRADUATES		VOC ED EARLY LEAVERS		NON VOC ED GRADUATES		NON VOC ED EARLY LEAVERS	
	N	%	N	%	N	%	N	%
Less than 6 Months	110	17	4	25	110	18	5	26
6 - 12 Months	93	14	2	12	97	16	1	05
12 - 18 Months	56	09	2	12	44	07	1	05
18 - 24 Months	43	07	1	06	37	06	1	05
More than 30 Months	122	19	1	06	77	13	2	11

TABLE 12

LENGTH OF TIME MALE AND FEMALE RESPONDENTS HAVE WORKED IN THEIR PRESENT JOB

	Percent			
	VOC ED GRADUATES		NON-VOC ED GRADUATES	
Length of Time Worked	Males (N=207)	Females (N=221)	Males (N=213)	Females (N=161)
Less than 6 Months	21	28	26	32
6 - 12 Months	15	24	26	23
12 - 18 Months	12	12	10	12
18 - 24 Months	9	10	7	13
14 - 30 Months	12	7	8	8
More than 30 Months	31	20	24	13

The vast majority of participants reported being satisfied with their job with less than 10 percent being dissatisfied, as indicated in Table 13. Former vocational and non-vocational graduates were about equally satisfied with their present job. Females in both groups expressed slightly more satisfaction than did males. About 60 percent of both groups felt their high school education was very helpful or moderately helpful in preparing them for their present job.

TABLE 13

RATINGS OF GRADUATES' SATISFACTION WITH THEIR PRESENT JOB

	Percent			
	VOC ED GRADUATES		NON-VOC ED GRADUATES	
Ratings	Males (N=222)	Females (N=230)	Males (N=224)	Females (N=171)
Very Satisfied	46	51	46	52
Somewhat Satisfied	44	42	45	41
Unsatisfied	10	7	9	7

When asked to rate how useful various high school subjects were in terms of their present job, former vocational students felt that vocational courses (selected by 53 percent of the students), English (49 percent) and math (47 percent) were most useful. Nonvocational students rated math (49 percent), English (43 percent) and vocational courses (33 percent) as most useful. At least half of the former students in both groups felt foreign languages, social studies and science were not useful in terms of their present job. (See Appendix A, question 11).

Career Goals

In terms of reporting the type of job they would like to hold when they are 30 years old, approximately 18 percent of the former students indicated they still are undecided (16 percent for vocational and 20 percent for nonvocational students as shown in Appendix A, question 14). Of those expressing a preference, the largest number preferred jobs in marketing (126 students), service (100), professions (97) and the health field (91). Nine percent of the former vocational students and twelve percent of the nonvocational students expressed interest in professional jobs. Approximately 45 percent did not make a career decision until after high school while about 15 percent made the decision prior to their junior year. While in high school, work experiences, parents, and friends were important in influencing these career goals. One sixth of vocational students cited vocational classes as having influenced their decision.

Education Beyond High School

In terms of education beyond high school, 75 percent of the vocational and non-vocational groups have attended postsecondary school at least once. Table 14 shows that 30 percent of the vocational high school graduates reported they are currently attending Oregon Community colleges. For the non-vocational graduates, about the same number of respondents were attending Oregon State University as were attending all Oregon community colleges combined. Non-Oregon colleges are drawing about the same percentage of former vocational and nonvocational students.

TABLE 14

PERCENT OF MALE AND FEMALE RESPONDENTS CURRENTLY ATTENDING SCHOOLS

	Percent			
	VOC ED GRADUATES		NON-VOC ED GRADUATES	
Schools	Males (N=128)	Females (N=149)	Males (N=164)	Females (N=127)
Oregon Community Colleges	27	32	21	18
Non-Oregon Community Colleges	0	0	1	0
Portland State University	5	3	5	2
University of Oregon	13	11	12	16
Oregon State University	11	16	21	17
Other Oregon Public Colleges	16	17	17	19
Oregon Private Colleges	14	11	13	13
Non-Oregon Public Colleges	9	4	7	7
Non-Oregon Private Colleges	6	5	4	9

Fifty-one percent of the vocational and 61 percent of the nonvocational students attend full time. Interestingly, four percent of the former

vocational and five percent of the nonvocational students are enrolled in a liberal arts field. Reasons for attending postsecondary education are primarily to receive a degree, to obtain a broad education and to obtain or improve job related skills. Very few are enrolled to make more money in their current job, because they couldn't find a job, as a special interest or to satisfy parents. Table 15 shows the number of vocational and non-vocational graduates selecting various reasons for attending postsecondary education.

TABLE 15

NUMBERS OF MALE AND FEMALE GRADUATES INDICATING VARIOUS PURPOSES FOR ATTENDING POSTSECONDARY EDUCATION

	VOC ED GRADUATES		NON-VOC ED GRADUATES	
	Males	Females	Males	Females
Purposes				
To Improve Job Skills	81	111	87	54
To Train for a New Job	85	90	88	63
Make More Money on Current Job	25	26	20	8
To Obtain a Broad Education	99	113	127	101
Special Interest or Hobby	42	52	46	50
To Receive a Degree	97	135	131	106
To Satisfy Parents	28	38	37	35
Could Not Find a Job	6	15	8	15

Half of the students are very satisfied with their postsecondary education and only 10 percent are unsatisfied as shown in Table 16. Eighty percent felt their overall high school education was somewhat or very helpful and less than five percent felt it was not helpful as shown in Table 17. Over half of the students rated high school math and English as very helpful to their postsecondary education. Half of the vocational students also rated their vocational courses as very useful while over half of both groups rated foreign language as not useful to their further education as shown in Table 18. Students were directed to omit ratings for any courses they did not take so there were far fewer students rating foreign languages.

TABLE 16

PERCENTAGE RATINGS OF SATISFACTION WITH POSTSECONDARY EDUCATION

	Percent			
	VOC ED GRADUATES		NON-VOC ED GRADUATES	
	Males	Females	Males	Females
Ratings	(N=208)	(N=254)	(N=238)	(N=205)
Very Satisfied	46	45	51	53
Somewhat Satisfied	49	47	38	36
Unsatisfied	5	8	11	12

10. SCIENCE COURSES	Number of Students Taking Courses	
	Voc Ed	Non-Voc Ed
Physical Science	254	220
General Science	130	105
Science (low level)	30	22
Biology	407	379
Advanced Biology (2nd year)	15	35
Chemistry	143	226
Advanced Chemistry (2nd year)	4	15
Physics	59	99
Advanced Physics (2nd year)	5	2
Astronomy	9	17
Geology	6	14
Applied Science	21	20
Marine Science	23	25
Earth Science	19	24
Integrated Science	5	1
Environmental Science	15	29
Anatomy and Physiology	2	5
Aerospace Science	3	1
Special Interests Science	4	10
Research/Seminar	3	3
11. TOTAL UNITS OF SCIENCE TAKEN	1.9	2.4
12. AVERAGE GRADE IN SCIENCE	2.55	2.63

PERMANENT FILE

		VE	NVE
Student's sex (circle one number)	1 = Male	45	53
	2 = Female	51	45

Race: 1 = White, 2 = Black, 3 = Indian, 4 = Asian, 5 = Hispanic, 6 = Not specified, 7 = Other _____

Data considered questionable and thus not reported.

FOR VOCATIONAL STUDENTS ONLY (from SERVE label)

		Number	Percent of Voc Ed. Students
Cooperative Work Experience (shown on 6th set of data on SERVE label)	No	420	70
	Yes	184	30
Disadvantaged (shown on 9th set of data on SERVE label)	Academic	4	
	Economic	3	
	Limited English	1	
	None	93	
Handicapped (shown on 10th set of data on SERVE label)	Mentally retarded	0	
	Hard of hearing	0	
	Deaf	0	
	Speech impaired	0	
	Visual handicap	.2	
	Seriously emotially disturbed	0	
	Orthopedically impaired	0	
	Other	.5	
	Specific learning disability	1	
	None	98	

Cluster Code (11th set of data on SERVE label) ____ ____

Vocational student organization (13th set of data on SERVE label)	#	%
DECA	37	6
FBLA	38	6
FFA	11	2
HERO	0	0
VICA	32	5
HOSA	6	1
Not a member	468	79

Weighting factor (14th/last digit on SERVE label)	#	%
No weight	98	17
1.5	199	34
1.0	138	23
1.5	111	20
2.0	41	7

APPENDIX B

TRANSCRIPT/PERMANENT FILE/SERVE RECORDING FORM
Class of 1981 High School Followup

TRANSCRIPT

		VE	NVE
1.			
2.	OVERALL/CUMULATIVE GPA:	2.85	2.98
3.	SAT SCORES: Verbal	40.79	44.23
	Math	44.48	48.86
4.	1979-80 (Jr.) No. of Days Absent	10.42	9.24
	No. of Days Present	164.11	164.75
	1980-81 (Sr.) No. of Days Absent	10.07	9.76
	No. of Days Present	164.55	164.17

5. GRADUATED? 1. Yes ____ 2. No ____

6. VOCATIONAL EDUCATION COURSES

Area	1978-79 No. of Students VE	1978-79 No. of Students NVE	1979-80 No. of Students VE	1979-80 No. of Students NVE	1980-81 No. of Students VE	1980-81 No. of Students NVE
1. Agriculture	19	20	24	7	23	1
2. Marketing	14	2	35	15	79	5
3. Health	39	2	12	10	29	3
4. Food Service	16	19	20	20	26	16
5. Accounting	33	18	77	39	113	26
6. Clerical	85	78	118	57	129	33
7. Secretarial	82	32	102	43	113	26
8. Mechanical	30	36	40	32	50	17
9. Construction	33	27	32	21	48	15

6. VOCATIONAL EDUCATION COURSES (Continued)

Area	1978-79 No. of Students VE	1978-79 No. of Students NVE	1979-80 No. of Students VE	1979-80 No. of Students NVE	1980-81 No. of Students VE	1980-81 No. of Students NVE
10. Electrical	15	11	28	11	30	11
11. Metals	35	23	45	17	52	11
12. Child Care	5	8	25	19	39	11
13. Clothing	30	18	22	12	15	10
14. Home Management	5	0	6	5	3	4
15. Drafting	19	6	18	23	15	18
16. Graphics	10	23	18	14	28	9
17. Service	1	0	1	1	5	1
18. Forestry	4	1	3 (58)	2	4	0

7. MATHEMATICS COURSES

	Number of Students Taking Courses: Voc Ed	Non-Voc Ed
General Math 9-12	157	128
Basic Math	62	57
Intro (Pre-Algebra)	133	90
Algebra I	358	318
Intermediate Algebra	96	49
Geometry	286	332
Intermediate Geometry	20	19
Informal (Applied Geometry	1	0
Technical Math I	13	24
Technical Math II	3	11
Trigonometry	61	91
Analytic Geometry	14	4
Probability and Statistics	1	5
Analysis	11	39
Calculus	23	58
Algebra 2	109	179
Other Math Courses	115	119
8. TOTAL UNITS OF MATH TAKEN	2.4	2.9
9. AVERAGE GRADE IN MATH	2.49	2.58

APPENDIX C

VOCATIONAL EDUCATION PROGRAM FEATURES SURVEY

This survey is intended for teachers in business and office occupations, agriculture and those in trade and industry who were involved with their high school vocational program in the 1980-81 school year. The purpose of the survey is to obtain program characteristics data that we can correlate with student follow-up outcome data for students leaving high school in 1980-81. Your individual and school ratings will be kept confidential. Across the state we will be determining which program features are most important to contributing to successful student outcomes three years after high school. Your honest responses will be important in providing a better basis for determining priorities for improving vocational programs. Remember to rate the program features <u>as they existed in 1980-81</u> not as they presently exist.

If you have taught in more than one of the three cluster areas of interest (agriculture, business and office, or trade and industry) please fill out a separate survey for each one.

Please return the completed survey to your school vocational coordinator.

THANKS!

1. Your school _____

2. Program area: (Circle one number) Number

AGRICULTURE 3

BUSINESS AND OFFICE OCCUPATIONS

SECRETARIAL 15
CLERICAL 13
BOOKKEEPING 11

TRADE AND INDUSTRY OCCUPATIONS

CONSTRUCTION 7
ELECTRICITY/ELECTRONICS 4
INDUSTRIAL MECHANICS 10
MACHINE 4
METALS 11

3. Were you involved in one of the above vocational programs in your high school during the 1980-81 school year?

YES 64

NO (If no, please omit the rest of this survey and give it to your vocational coordinator 1

4. Please rate the following items on a five point scale by circling: 1=Strongly Agree, 2=Agree, 3=Undecided, 4=Disagree and 5=Strongly Disagree. Circle 6 = Not Applicable if an item did not apply to your program in 1980-81.

	Percentage						Mean
	SA	A	U	D	SD	NA	
1. The cluster area I checked above provided enough supporting courses to prepare students well for job entry into this area.	32	52	8	8	0	0	1.92
2. Courses taught in this career cluster provide a heavy emphasis on applied basic skills (i.e., math, science and English).	17	57	14	12	0	0	2.22
3. Courses taught in this career cluster were well articulated with vocational courses taught in the local community college.	27	48	13	7	5	0	2.15

	Percentage						Mean
	SA	A	U	D	SD	NA	
4. The vocational curriculum reflected up-to-date skills, knowledge and attitudes required for employment in this occupational field.	33	61	5	2	0	0	1.75
5. The curriculum was of sufficient length and content for developing competencies needed for employment.	35	48	5	11	0	0	1.92
6. The equipment used in this career cluster reflected equipment used by local employers.	28	46	12	15	0	0	2.13
7. There was close staff supervision of students enrolled in cooperative work experience programs.	38	32	20	11	0	7	2.04
8. Employers were involved in an active program advisory committee.	34	48	8	5	2	5	1.88
9. Vocational staff were active in helping to place students in jobs for which they have been trained.	28	45	15	10	0	3	2.07
10. Students are encouraged to participate actively in vocational student leadership organizations (such as DECA, FBLA, FFA or VICA).	29	40	10	3	0	12	2.02
11. Leadership development activities were integrated into the curriculum.	15	38	18	16	1	4	2.46
12. Vocational classes were small enough to provide adequate learning opportunities for all students.	24	55	3	15	3	0	2.18
13. Instructors had appropriate occupational experience in their program area.	44	52	3	15	3	0	1.63
14. Instructors participated in relevant activities to upgrade technical skills and knowledge (conferences, current work experience in the occupational area, etc.).	47	47	5	2	0	0	1.61
15. The program had clearly stated objectives understood by staff, students and participating employers.	34	57	6	2	0	2	1.75
16. The program was systematically evaluated in relation to its stated objectives.	21	50	23	7	0	0	2.15

	Percentage						Mean
	SA	A	U	D	SD	NA	
17. An annual student follow up system was used for program improvement.	8	25	21	29	8	9	3.05
18. Occupational and labor market data were used to plan and improve vocational programs.	8	46	25	12	5	5	2.58
19. Students were provided specific information about postsecondary training programs in related vocational areas.	25	63	12	0	0	0	1.88
20. Comprehensive vocational counseling and guidance were provided to all students.	9	39	29	18	5	0	2.71
21. Students were provided a broad understanding of the work environment in this occupational field.	28	60	6	5	0	0	1.87
22. Vocational students in our high school generally enjoyed a high status within the student body.	22	33	21	13	11	0	2.57
23. The administration, school board and community provied adequate resources for a quality program.	20	45	14	17	3	0	2.38
24. Adequate information was available about apprenticeship programs	11	40	23	13	1	7	2.50
25. Vocational programs were readily accessible to all students including handicapped, women, minority, disadvantaged, and limited English speaking students	36	44	9	11	0	0	1.95

26. Approximately what percentage of students in your occupational cluster participated in a vocational student organization? _____
(Write in the percentage; put 0 if none participated)
Median 10.5%, None = 32%, Over 50 = 13%

27. Approximately what percentage of students in your occupational cluster entered state vocational competitions? Median 5%, None = 35%, Over 50 = 8%

28. Was your program on a one hour block or two hour block basis?

ONE HOUR 48%
TWO HOUR 52%

Thanks for your participation in this survey.

APPENDIX D

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TABLE 17

PERCENTAGE RATINGS OF HELPFULNESS OF HIGH SCHOOL EDUCATION IN PREPARING RESPONDENTS FOR FURTHER EDUCATION

	Percent			
	VOC ED GRADUATES		NON-VOC ED GRADUATES	
Ratings	Males (N=216)	Females (N=264)	Males (N=295)	Females (N=203)
Very Helpful	38	35	29	27
Somewhat Helpful	41	45	52	54
Slightly Helpful	18	16	17	16
Not Helpful	4	3	1	3

TABLE 18

PERCENTAGE RATINGS OF USEFULNESS OF HIGH SCHOOL SUBJECTS TO FURTHER EDUCATION

		Percent			
		VOC ED GRADUATES		NON-VOC ED GRADUATES	
	Ratings	Males	Females	Males	Females
Mathematics	Very Helpful	60	49	62	63
	Somewhat Helpful	33	40	31	28
	Not Helpful	7	12	7	9
English	Very Helpful	51	62	55	60
	Somewhat Helpful	42	31	39	33
	Not Helpful	7	7	7	7
Science	Very Helpful	33	25	40	35
	Somewhat Helpful	45	40	44	38
	Not Helpful	22	35	16	27
Social Studies	Very Helpful	19	17	22	21
	Somewhat Helpful	52	51	46	51
	Not Helpful	30	33	32	28
Vocational Courses	Very Helpful	49	51	19	28
	Somewhat Helpful	37	33	46	38
	Not Helpful	14	16	35	34
Foreign Language	Very Helpful	15	19	16	12
	Somewhat Helpful	26	31	26	31
	Not Helpful	60	50	59	48

Major fields of study for responding college/university students are shown in Table 19. Mentioned most often by both former vocational and nonvocational students was business (15 percent of the vocational graduates and 21 percent of the nonvocational). Business in the most popular field of intended study by students nationwide according to recent High School and Beyond findings. Health and liberal arts were mentioned next most frequently by both groups.

TABLE 19

MAJOR FIELDS OF STUDY FOR RESPONDENTS ATTENDING COLLEGES OR UNIVERSITIES

	VOC ED GRADUATES		VOC ED EARLY LEAVERS		NON VOC ED GRADUATES		NON VOC ED EARLY LEAVERS	
	N	%	N	%	N	%	N	%
Major								
Agriculture	0	0	0	0	4	1	0	0
Marketing	12	2	0	0	11	2	0	0
Health	36	5	1	6	29	5	0	0
Food Service	4	1	0	0	2	0	0	0
Accounting/Bookkeeping	17	3	0	0	9	1	0	0
Clerical	7	1	0	0	3	0	0	0
Secretarial	9	1	0	0	2	0	0	0
Mechanical	9	1	0	0	8	1	0	0
Construction	1	0	0	0	6	1	0	0
Electricity, Electronics	18	3	0	0	15	3	0	0
Metal	4	1	0	0	3	0	0	0
Child Care	3	0	0	0	3	0	0	0
Clothing	0	0	0	0	0	0	0	0
Home Management	2	0	0	0	1	0	0	0
Drafting	5	1	0	0	1	0	0	0
Graphic Arts	0	0	0	0	3	0	0	0
Service	16	2	0	0	20	3	1	5
Forest	1	0	0	0	3	0	0	0
Liberal Arts	27	4	0	0	29	5	0	0
Business	66	10	2	0	52	9	0	0
Other Majors	96	15	2	12	140	21	2	11

High School Vocational Participation

The next section of the survey related specifically to respondents' high school vocational education. The first question asked whether students

had taken at least one semester of vocational cluster courses while in high school. Eighty-six percent of the vocational group and fifty percent of the nonvocational group had done so.

Table 20 shows the number of former vocational and nonvocational students who indicated in the survey that they had received training in various vocational areas. It is interesting to note that nonvocational students were enrolled in each vocational area. The heaviest concentration of vocational students was in the areas of clerical, secretarial, accounting, metals, drafting and mechanical.

TABLE 20

VOCATIONAL COURSES TAKEN BY FORMER VOCATIONAL AND NONVOCATIONAL HIGH SCHOOL STUDENTS

	Number of:	
	Vocational Students	Nonvocational Students
Agriculture	32	24
Marketing	85	26
Health	90	60
Food Service	51	37
Accounting	143	63
Clerical	173	67
Secretarial	158	73
Mechanical	108	55
Construction	85	37
Electrical	69	38
Metals	125	54
Child Care	70	44
Clothing	59	53
Home Management	23	37
Drafting	110	78
Graphics	50	32
Service	7	3
Forestry	24	13

Fifty-nine percent of the former vocational students reported their current job is closely related (28 percent) or somewhat related (31 percent) to their high school vocational courses. Approximately half of the vocational and the nonvocational students indicated they wished they had taken more vocational classes while in high school while less than five percent wished they had taken fewer such classes.

Former students were asked to rate the quality of certain dimensions of their vocational courses (see Appendix A, question 31 for tabulated

responses). Rated highest were the quality of instruction, hands-on applications, teaching of technical skills and the depth of content. Rated lowest were information about vocational programs available after high school and articulation with related community college classes. Vocational organizations or out-of-class experiences most often engaged in were Cooperative Work Experience, FBLA, DECA, Junior Achievement and CETA. Forty-five percent of the vocational students felt such participation was very useful and only 12 percent considered it not useful.

Students who had taken vocational classes in high school (whether as officially recognized vocational cluster students or not) were asked to state the main reason for taking those classes. As indicated in Table 21, vocational cluster students took such classes most frequently to prepare for a job and to explore different occupations. The majority of nonvocational students had the same expressed reasons plus the desire to try something new. Motivation to prepare for a job was particularly strong among female vocational education students. The desire to try something new was especially true for non-vocational cluster males. Understanding students' reasons for taking vocational courses can be especially important to consider in developing recruiting strategies for vocational classes.

TABLE 21

MAJOR REASON FOR TAKING HIGH SCHOOL VOCATIONAL EDUCATION CLASSES

	Percent			
	VOC ED GRADUATES		NON-VOC ED GRADUATES	
Reasons	Males	Females	Males	Females
Don't Remember	5	3	5	6
Prepare for Job	34	48	18	28
Prepare for Further Education	11	17	13	17
Explore Different Occupations	27	16	22	21
Try Something New	9	7	24	18
No Specific Reason	14	9	19	10

Former students were asked to judge the relationship of their high school vocational courses to their current job. As shown in Table 22, there were 59 percent of the vocational cluster students and 40 percent of the non-vocational cluster students who judged their vocational courses to be closely or somewhat related to their current job.

TABLE 22

RELATIONSHIP OF CURRENT JOB TO HIGH SCHOOL VOCATIONAL COURSES

	VOC ED GRADUATES		NON VOC ED GRADUATES	
	N	%	N	%
Closely Related	123	28	41	17
Somewhat Related	138	31	55	23
Not Related	180	41	140	59

In addition to understanding when students make their career choices, it is also important to learn what influences career choices and redirections while young people are in high school. The two most frequent responses selected by students were changing interests, work experiences, and the influence of parents or friends. As shown in Table 23, career interest surveys and career education class materials were seldom identified as reasons for changing career goals while in high school.

TABLE 23

REASONS FOR CHANGING CAREER GOALS IN HIGH SCHOOL

	VOC ED GRADUATES		VOC ED EARLY LEAVERS		NON VOC ED GRADUATES		NON VOC ED EARLY LEAVERS	
	N	%	N	%	N	%	N	%
Career Interest Survey	26	04	1	06	27	04	2	11
Career Educ Class Materials	55	08	2	12	34	06	0	0
Vocational Classes	103	16	1	06	35	06	0	0
Other Classes	36	05	1	06	39	06	2	11
Teacher or Counselor	74	11	2	12	44	07	1	05
Work Experiences	127	19	4	25	98	16	3	16
Parents or Friends	114	17	2	12	89	15	3	16
Changing Interests	139	21	3	19	122	20	2	11
Other Reasons	30	05	0	0	28	05	1	05

Career Goals

When asked "what type of job do you expect to hold when you are 30 years old?" the most frequently cited jobs were in marketing, service, professional and health. Twelve percent of the non-vocational students aspired to professional positions while seven percent of the vocational students indicated likewise.

Important to consider in reviewing career and vocational programs is the issue of when students first made their career selection. Approximately 20 percent of the respondents three years out of high school indicated they were still undecided while seven percent had decided even before high school. As shown in Table 24, over 40 percent did not decide until working or attending school after high school graduation. These findings suggest that the career choices students make while in high school must be regarded by staff as tentative and likely to change.

TABLE 24

TIME AT WHICH RESPONDENTS DECIDED ON A CAREER GOAL

	VOC ED GRADUATES		VOC ED EARLY LEAVERS		NON VOC ED GRADUATES		NON VOC ED EARLY LEAVERS	
	N	%	N	%	N	%	N	%
Still Undecided	96	15	6	37	114	19	4	21
Before High School	43	07	0	0	40	07	1	05
Freshman Year in High School	20	03	0	0	12	02	1	05
Sophomore Year in High School	35	05	0	0	23	04	0	0
Junior Year in High School	60	09	1	06	24	04	0	0
Senior Year in High School	94	14	1	06	63	11	3	16
School after High School	135	21	3	19	146	24	3	16
Work after High School	121	18	5	31	125	21	5	26
Other Time	15	01	0	0	18	03	1	05

Math and Science

Because of national and statewide interest in increasing high school graduation requirements, former students were asked to indicate how many years of math and science should be required of all high school students during grades 9-12. Table 25 shows the results. A third of the students recommended three years of math and a quarter recommended four years of math. About 20 percent recommended three years of science and 10 percent four years of science.

TABLE 25

PERCENT OF RESPONDENTS RECOMMENDING VARIOUS NUMBER OF YEARS OF MATH AND SCIENCE TO REQUIRE FOR HIGH SCHOOL GRADUATION

	Percent	
	Vocational Students	Nonvocational Students
Years of Math		
0	0	0
1	5	3
2	35	31
3	33	37
4	26	29
Years of Science		
0	2	1
1	27	18
2	47	44
3	15	24
4	10	13

Table 26 shows the percentage of students who wished they had taken more math, science and vocational education classes while in high school. The pattern for vocational and nonvocational students appears the same with the strongest interest in more math and vocational education and less interest in science.

TABLE 26

PERCENTAGE OF FORMER STUDENTS WISHING THEY HAD TAKEN MORE MATH, SCIENCE AND VOCATIONAL EDUCATION WHILE IN HIGH SCHOOL

	Vocational Students	Nonvocational Students
More Math Classes	60	52
More Science Classes	38	38
More Vocational Education Classes	52	55

Former students also rated certain aspects of their math and science courses. The quality of instruction, depth of content and relevance to education after high school were rated as good for science and math while the relevance of science to their jobs was rated as fair. Ratings are shown in Appendix A. (Page i).

Transcript and SERVE Report Data Findings

In order to increase study validity, former student self-reports were obtained and transcripts analyzed. The SERVE Report (data collected by the Oregon Department of Education on "official" vocational cluster students) data were also analyzed for the former students in our study. The overall high school grade point average (on a scale ranging from A=4 to F=0) for vocational education students was 2.85 and for nonvocational educational students 2.98. Likewise, the verbal and math SAT scores, student attendance records and math and science grades were only slightly higher for nonvocational students.

Program Features Survey Findings

A survey of 1981 teachers in business and office occupations, agriculture, and trade and industry in 1981 was conducted to determine ratings on 25 program features considered important for quality vocational programs.

The 65 teachers in the survey represented 14 of the 19 high schools in Oregon which participated in this three-year follow-up study. These teachers represented three agriculture programs, 39 business and office occupations programs and 36 trade and industrial programs.

Areas rated as most successful by the teachers were:

- Instructor participation in relevant activities to upgrade their technical skills and knowledge
- Appropriate occupational experience of instructors
- Vocational curriculum reflecting up-to-date skills, knowledge and attitudes required for employment in a specific occupation field
- Clearly stated program objectives understood by staff, students and participating employers

Areas rated as least successful by teachers were:

- Use of an annual student follow-up system for program improvement
- Provision of comprehensive vocational counseling and guidance to all students
- Use of occupational and labor market data to plan and improve vocational programs
- The status of vocational students in the high school student body
- Available information about apprenticeship programs

Vocational teachers were also asked what percentage of their students participated in a vocational student organization. Replies indicated that 32 percent of teachers had no students participate in the programs, while 13 percent of the teachers had over half of their students participate. On the average, 11 percent of the students participated. For 35 percent of the teachers, no students participated in state vocational competitions, while eight percent of the teachers had over half of their students participate. On the average, five percent of the students participated in state vocational competitions.

There was a fairly even split in vocational programs in terms of one- or two-hour time blocks. Forty-eight percent used a one-hour block while the rest had a two-hour block.

IV. SPECIAL ANALYSIS

In analyzing patterns of participation by the high school vocational education population, procedures established by researchers at the National Center for Research in Vocational Education (NCRVE) at the Ohio State University (Campbell, Orth and Seitz, 1981) were followed. The NCRVE researchers developed patterns of participation based on five scores: intensity, diversity, continuity, supportive diversity and proximity. These five concepts are based on a theoretical framework carefully developed at NCRVE.

The intensity score is the number of Carnegie credits in a vocational specialty in which at least .6 of the total vocational credits were earned. Of the 634 vocational students whose transcripts were analyzed, 37 percent did not have a dominant specialty that accounted for .6 or more of their total vocational credits. Fifteen percent had a score of 1, 18 percent a score of 2, 10 percent a 3, 13 percent a 4, four percent a 5, and four percent a score of 6 to 9.

The diversity score is the number of areas in which a full unit or more of vocational credit was earned. Eight percent had less than a full unit of credit in a single area. Thirty-eight percent had a diversity score of 1, twenty-seven percent had 2, 14 percent had 3, nine percent had 4, five percent had 5 to 7 vocational areas represented.

The continuity score is the number of grade levels in which a vocational specialty was pursued. Seventeen percent had no specialty. Thirty-three percent had studied their specialty for one year, 34 percent for two years, and 16 percent for three years.

A supportive diversity score is the number of nonspecialty credits that are taken that were considered to be career-related to the specialty as judged by NCRVE. For example in agriculture, accounting, bookkeeping and typing, courses were judged to be related. In this case, the specific courses that NCRVE considered supportive were broadened to include clerical, secretarial and marketing as supportive courses. Sixty-five percent of the students did not have supportive courses. Twenty-three percent had one supportive class, nine percent had two supportive classes, and three percent had three or four supportive classes.

The final measure used by NCRVE is proximity. A proximity score of 3 is awarded for a vocational specialty taken in both 11th and 12th grades, 2 points for credits in only 12th grade, 1 point for credits in only 11th grade, and 0 for all others. In Oregon, 19 percent of the vocational students got a score of 0, five percent a 1, 33 percent a 2, and 43 percent a 3.

Scores on the above dimensions of participation reveal a wide diversity of students recognized by the Oregon Department of Education as being official vocational cluster students. For example, a third of the students did not have a single specialty area that accounted for at least

six-tenths of their vocational credits, while twenty-one percent had four or more Carnegie credits in a single vocational specialty. Using cluster and discriminate analysis techniques, NCRVE researchers combined five concept scores to develop five patterns of participation in vocational education. These procedures have also been applied in analyzing data from the National Longitudinal Study of High School Graduates. Vocational education students were grouped into five patterns of participation: concentrators, limited concentrators, concentrator/explorers, explorers and incidental. Table 27 indicates the percentage of students in each category from the 1979 and 1980 National Longitudinal Survey New Youth Cohort (Campbell, Orth and Seitz, 1981). Compared with the national sample, Oregon has less concentrators, concentrator/explorers and incidental but more limited concentrators and explorers.

TABLE 27
COMPARATIVE DISTRIBUTION OF VOCATIONAL STUDENTS IN THE NATIONAL LONGITUDINAL SURVEY (NLS) AND THE OREGON STUDY

	Percentage	
	NLS (N=3054)	Oregon (N=592)
Concentrator	14	5
Limited concentrator	23	39
Concentrator/explorer	13	5
Explorer	2	19
Incidental	48	32

The percentage of male and female vocational cluster and non-vocational cluster students who were classified into each profile is shown in Table 28. The highest percentage of the concentrators and limited Concentrators are vocational cluster males.

TABLE 28

PERCENTAGE OF GRADUATES IN EACH VOCATIONAL PATTERN

	Vocational Cluster Graduates		Non-Vocational Cluster Graduates	
	Males (N=304)	Females (N=342)	Males (N=333)	Females (N=275)
Concentrator	6	4	1	0
Limited Concentrator	41	33	8	6
Concentrator Explorer	4	5	4	8
Explorer	15	22	12	13
Incidental	34	36	75	73

Table 29 shows the mean scores of the vocational students on the five concepts as organized by their pattern of participation profile. The scores are very similar to the National Longitudinal Study (NLS) patterns. For example, concentrators averaged six vocational credits over a three year period in the NLS study and 5.6 vocational credits over a three year period in the Oregon study. Explorers in both studies took courses in three or more differnet areas but did not achieve any level of specialization.

TABLE 29

MEAN PROFILE SCORES OF VOCATIONAL STUDENTS ON PROGRAM PARTICIPATION CHARACTERISTICS

	Concentrator (N=32)	Limited Concentrator (N=242)	Concentrator Explorer (N=30)	Explorer (N=121)	Incidental (N=222)
Intensity	5.6	3.1	1.6	0	.7
Diversity	1.3	1.8	2.4	3.9	1.1
Continuity	2.9	2.1	2.0	1.0	.8
Supportive Diversity	.3	.5	1.0	.9	.2
Proximity	3.0	2.8	1.6	1.4	1.3

Based on the above discussion, it is interesting to see the way in which these five patterns of participation are distributed across the cluster areas in Oregon. As shown in Table 30, some programs like agriculture, electrical and metals are heavily loaded with concentrators and limited concentrators while others like child care are heavily loaded with explorers and incidentals.

TABLE 30

NUMBER OF PARTICIPANTS AT VARIOUS LEVELS OF PARTICIPATION IN EACH VOCATIONAL CLUSTER AREA

	Concentrator	Limited Concentrator	Concentrator Explorer	Explorer	Incidental
Agriculture	3	10	1	1	3
Marketing	0	24	3	20	16
Health	0	5	1	4	11
Food Service	0	2	0	2	9
Accounting	4	21	2	20	32
Clerical	4	41	6	14	34
Secretarial	9	26	6	14	15
Mechanical	1	20	5	5	14
Construction	3	20	1	2	11
Electrical	4	15	0	3	4
Metals	2	27	0	7	10
Child Care	1	8	1	13	11
Clothing	0	1	1	1	0
Drafting	0	0	0	2	1
Graphics	0	8	0	3	9
Service	1	1	0	0	7
Forestry	0	3	0	0	0

The same five profiles were applied to the analysis of student participation in vocational organizations. As shown in Table 31 organizations like FFA draw almost exclusively on concentrators and limited concentrators while DECA and FBLA have a range of patterns represented.

TABLE 31

NUMBER OF STUDENTS IN VOCATIONAL ORGANIZATIONS SHOWN BY THEIR LEVEL OF PARTICIPATION IN VOCATIONAL EDUCATION

	Concentrator	Limited Concentrator	Concentrator Explorer	Explorer	Incidental
DECA	0	17	0	10	9
FBLA	6	20	2	7	3
FFA	3	7	0	0	1
VICA	1	13	1	1	16
HOSA	0	3	0	1	2

Using NCRVE's five classifications of vocational students, differences these groups displayed on certain outcome measures were examined by using only the 302 former state-certified vocational cluster high school students who are currently working full time. An analysis of variance for the 302 former students indicated significant differences ($F=4.72$, $p<.01$ between these levels of vocational students in terms of their rating of how helpful they felt their high school education was in preparing them for their present job. The concentrators had significantly higher ratings on this outcome than did the other four groups as shown by a Duncan multiple range test ($p<.05$). The other four groups were not significantly different from each other. The same pattern of results occurred but with even higher levels of significance ($F = 17.9$, $p<.001$) when the questions focused more specifically on how useful high school vocational courses were in preparing them for their present job. Again, the concentrators felt their vocational courses were signficantly more useful than did the other groups.

A second set of comparisons was run for state certified vocational cluster students currently attending postsecondary school fulltime. The analysis of variance indicated significant differences among groups ($F = 6.87$, $p<.001$) when they rated the usefulness of their high school vocational education courses to their current education. Again the concentrators rated the usefulness of the high school vocational courses significantly higher than the other groups.

In addition to using the Program Features Survey to describe the conditions present in the vocational progams at the participating high schools in 1980-81, it was also intended to explore the relationship between program feature ratings and the outcome measures of former vocational education students. This second objective involved determining first if these were significant differences in program feature ratings between vocational clusters and also between schools. The 65 teachers completing the survey represented a wide variety of vocational clusters (Appendix C). An additional complicating factor is that many teachers taught in more than one specialty. For example, some teachers taught secretarial, clerical and bookkeeping. Therefore, only two categories of vocational clusters were used: (1) business and office occupations and (2) trade and industry occupations. An analysis of variance was run and indicated no significant differences between the program features ratings of teachers in these two occupational areas. Although an analysis of variance showed that there was a significant difference ($F=4.86$, $p<.001$) in program ratings by school, the small number of teachers responding at some of the 14 schools made it undesirable to judge the program characteristics by responses of so few staff.

RECOMMENDATIONS

Approximately three-quarters of the young people in this study reported attending some form of postsecondary education sometime during their three years since high school. The percentage was about the same for both former vocational and nonvocational students. This figure is higher

than previous studies which have focused only at young people currently enrolled in formal educational programs. In future years, it is likely that an even larger percentage of graduates will attend some form of education beyond high school. A key implication is that high schools should aim to prepare all students to be successful in education beyond high school, not simply those considered academically oriented.

The myth that high school students enroll in vocational education to avoid taking courses in math and science seems to be destroyed by these findings. For example, vocational students in this study took approximately the same number of units of math as nonvocational students (2.4 versus 2.9 credits), received about the same grades (2.5 versus 2.6) and wished they had taken more math in high school (60 percent versus 52 percent). A difference does occur, however, in the type of math taken. For example, only 4 percent of the vocational students took calculus while 10 percent of the nonvocational students took it, and 21 percent of the vocational students took pre-algebra while only 15 percent of the nonvocational students took that course. We recommend that greater attention be given in high school to applying math in the vocational classes and to using some work-related applications in the math classes. Some courses, especially in the electronics area might allow both math and vocational credit.

Vocational courses were perceived as useful not only by students considered "vocational cluster" students but also by nonvocational students who took them. This suggests that greater attention be given to the benefits of nonvocational students enrolled in vocational education. A common criterion traditionally applied to secondary vocational programs has been the proportion of vocational graduates who entered jobs directly related to their area of training. This may no longer be an appropriate criterion since labor market conditions greatly influence the number of people able to enter certain jobs. In this study the students considered vocational concentrators showed the greatest relationship between their training and their current job.

Two areas of vocational education rated the lowest by students were the provision of information about vocational programs available after high school and the coordination of high school courses with related community college classes. These weaknesses have also been cited by secondary teachers. This suggests the need to provide better information to the high school teachers and counselors so they in turn can share it with students. Periodic meetings between secondary and postsecondary staff would also help to encourage this understanding and provide a basis for joint planning of programs.

To gain the maximum power from these findings, it is recommended that schools and districts use these findings as a basis for staff inservice training. They could also be used by administrators and staff in revising vocational programs and by school boards in developing policies as part of high school improvement efforts.

APPENDIX A
N-1296*

OREGON HIGH SCHOOL FOLLOW-UP SURVEY

Directions. Most items on this survey require only that you circle a number to give your answer. If a question does not apply to you or you prefer not to answer, please skip it and go on to the next question. Mark only one answer to each question unless directed otherwise.

OCCUPATIONAL DATA

	Number			
	VE Grads	VE EL	Non VE Grads	Non VE EL
1. Current work status: (Circle all that apply)				
EMPLOYED FULL TIME (30 or more hours per week) . .	310	8	244	5
EMPLOYED PART TIME (less than 30 hours per week) .	122	3	125	4
ENROLLED IN SCHOOL	194	2	246	3
MILITARY SERVICE	47	1	48	5
LAID OFF BECAUSE OF ECONOMY, BUT ACTIVELY SEEKING WORK	15	1	11	0
NOT WORKING BUT ACTIVELY SEEKING WORK.	36	0	28	3
NOT WORKING AND NOT ACTIVELY SEEKING WORK BECAUSE OF SCHOOL, HEALTH PROBLEMS, ETC. .	49	3	41	3

IF YOU ARE NOT WORKING, PLEASE GO TO QUESTION 10.

2. What is the title of your current job? _____

_____

3. What are the main things you do on your job? _____

_____

4. In what county is your current job located? (If out of Oregon, what state?)

_____

	VE	NON VE		VE	NON VE
5. How many hours per week do you work?					
1-9	15	18 . . .	20-29	68	58
10-19.	36	39 . . .	30-40	218	175
			OVER 40 hours	145	117

*Responses to this survey are based on 1296 former students for whom we had complete survey and transcript data. Approximately 631 were voc ed graduates, 15 were voc ed early leavers, 589 were non-voc ed graduates and 19 were non-voc ed early leavers.

6. What are your gross hourly earnings? (Answer either in terms of hourly, weekly or monthly earnings)

	VE	NVE		VE	NVE		VE	NVE
LESS THAN 3.35	22	11	$5.00-6.99	128	100	$11.00-12.99	11	8
$3.35-3.99	84	80	$7.00-8.99	45	33	$13.00-14.99	2	2
$4.00-4.99	124	116	$9.00-10.99	24	29	$15.00 OR MORE	7	5

or

What are your total gross weekly earnings? _____

or

What are your total gross monthly earnings? _____

7. How long have you worked in your present job? (Number of students)

	VE	NVE		VE	NVE
LESS THAN 6 months	114	115	18-24 months	44	38
6-12 months	95	98	24-30 months	42	31
12-18 months	58	45	MORE THAN 30 MONTHS	123	79

8. How satisfied are you with your present job? (Percent)

	VE	NVE
VERY SATISFIED	49	48
SOMEWHAT SATISFIED	43	44
UNSATISFIED	9	8

9. Overall, how helpful do you feel your high school education was in preparing you for your present job?

	VE	NVE
VERY HELPFUL	23	16
MODERATELY HELPFUL	40	44
SLIGHTLY HELPFUL	23	28
NOT HELPFUL	14	13

10. Have you held a full time job at any time since high school?

	VE	NVE
YES, I AM CURRENTLY WORKING FULL TIME	52	45
YES, ALTHOUGH I'M NOT CURRENTLY WORKING FULL TIME, I HAVE DONE SO IN THE PAST	32	32
NO, I HAVE NOT HAD A FULL-TIME JOB	17	24

11. Please rate how useful the following high school subjects are/were to you in terms of your present job (or your most recent job since high school). Rate each subject as (1) Very Useful, (2) Somewhat Useful, or (3) Not Useful to your job. Omit ratings for any courses you did not take.

	VERY USEFUL		SOMEWHAT USEFUL		NOT USEFUL	
	VE	NVE	VE	NVE	VE	NVE
MATH (1181)	47	49	42	39	11	12
ENGLISH (1176)	49	43	38	43	13	13
SCIENCE (1162)	12	19	33	32	56	50
SOCIAL STUDIES (1151)	9	10	37	40	55	50
VOCATIONAL COURSES (1039)	53	33	29	36	19	31
FOREIGN LANGUAGE (840)	8	7	17	25	75	68
OTHER (246)	72	57	11	11	17	32

	VE	NVE
0	27	23
1	16	14
2-4	50	55
5+	7	8

12. How many times have you changed jobs since leaving high school? (Write in the number) Mean 1.91 2.11

CAREER GOALS

13. What type of job do you expect to hold when you are 30 years old? Please list a specific job title.

Don't know VE 10% NVE 8%

Marketing 126, Service 100, Prof. 97, Health 91 7% of VE grads want prof. jobs when 30 VS 12% for NVE.

14. If you have a career goal, when did you decide? (Circle the most appropriate number.)

	VE	NVE
STILL UNDECIDED.	16	20
BEFORE ENTERING HIGH SCHOOL.	7	7
DURING FRESHMAN YEAR OF HIGH SCHOOL.	3	2
DURING SOPHOMORE YEAR OF HIGH SCHOOL	6	4
DURING JUNIOR YEAR	10	4
DURING SENIOR YEAR	15	11
WHILE ATTENDING SCHOOL AFTER HIGH SCHOOL . . .	22	26
WHILE WORKING AFTER LEAVING HIGH SCHOOL. . . .	20	22
OTHER.		

15. If you selected or changed your career goals while in high school, please indicate what things helped you to decide? (Circle one or more numbers)

	VE	NVE		VE	NVE
CAREER INTEREST SURVEY .	26	27	WORK EXPERIENCES . .	127	98
CAREER EDUCATION			PARENTS OR FRIENDS .	114	88
CLASS/MATERIALS. . . .	55	34	MY CHANGING INTERESTS	139	122
VOCATIONAL CLASSES	36	39	OTHER (Please list).	30	28
OTHER HIGH SCHOOL CLASSES	36	39			
HIGH SCHOOL TEACHER OR COUNSELOR	23	44			

EDUCATION BEYOND HIGH SCHOOL

16. Since high school, have you attended any schools or colleges? (45)

	VEG	NVEG
YES.	76	78
NO (If no, please go to question 26)		

17. Do you attend school?

	VE	NVE
FULLTIME (12 or more hours per week)	51	61
PART TIME.	8	7
DO NOT CURRENTLY ATTEND.	41	32

18. What is(are) the name(s) of the school(s) you are now attending? _____

	VE	NVE
19. What is your major? Liberal Arts	8.0	8.7

20. What is your grade point average in the school most recently attended?

	VE	NVE		VE	NVE
LESS THAN 2.0. . .	1	1	3.0 - 3.4 . . .	35	37
2.0 - 2.4.	7	5	3.5 - 4.0 . . .	19	21
2.5 - 2.9.	26	25	DON'T KNOW. . .	6	4

NOT APPLICABLE. . . . . .

21. Name the other schools you have attended since high school in the order in which you attended them. Next to each school indicate your major (such as industrial mechanics or psychology) and whether you completed the program.

NAME OF SCHOOL	MAJOR	COMPLETED PROGRAM	
		YES	NO
_____	_____	___	___
_____	_____	___	___
_____	_____	___	___

22. Which of the following are/were purposes for attending education beyond high school? (Select one or more)

	VE	NVE		VE	NVE
TO IMPROVE JOB RELATED SKILLS	199	140	SPECIAL INTEREST OR HOBBY	93	94
TO TRAIN FOR A NEW JOB	180	150	TO RECEIVE A DEGREE . .	236	237
TO MAKE MORE MONEY IN MY CURRENT JOB.	53	29	TO SATISFY PARENTS. . .	68	72
TO OBTAIN A BROAD EDUCATION.	214	228	COULDN'T FIND A JOB . . .	24	23
			OTHER REASON (Please list) _____	34	41

_____

23 How satisfied are/were you with your education after high school? (62)

	VE	NVE
VERY SATISFIED	46	52.
SOMEWHAT SATISFIED	47	37
UNSATISFIED.	7	11
Mean	1.62	1.59

24. How helpful do you feel your overall high school education was in preparing you for further education?

	VE	NVE
VERY HELPFUL	37	29
SOMEWHAT HELPFUL	42	52
SLIGHTLY HELPFUL	17	17
NOT HELPFUL.	4	2

25. Please rate how useful the following high school subjects are/were to you in terms of your further education. Rate each subject as Very Useful, Somewhat Useful, Not Useful. Omit ratings for any courses you did not take.

	VERY USEFUL		SOMEWHAT USEFUL		NOT USEFUL		MEAN	
	VE	NVE	VE	NVE	VE	NVE	VE	NVE
MATH	55	62	36	30	10	8	1.55	1.46
ENGLISH	57	58	36	36	7	7	1.50	1.49
SCIENCE	28	37	42	42	30	21	2.02	1.84
SOCIAL STUDIES	17	22	51	49	31	29	2.14	2.08
VOCATIONAL COURSES	51	23	34	42	15	35	1.64	2.12
FOREIGN LANGUAGE	17	18	29	29	54	53	2.37	2.34

HIGH SCHOOL VOCATIONAL EDUCATION

26. While in high school did you take at least one semester of vocational cluster courses?

	VE	NVE
YES.	86	50
NO (If no, please go to question 36) . .	14	50

27. What was the major reason you decided to take high school vocational education classes? (Circle one response.)

	VE	NVE		VE	NVE
DON'T REMEMBER	22	16	TO EXPLORE DIFFERENT OCCUPATIONS	114	59
TO PREPARE FOR A JOB .	214	65	TO TRY SOMETHING NEW	46	58
TO PREPARE FOR FURTHER EDUCATION.....3	78	42	OTHER REASON (list_____	38	23
			NO SPECIFIC REASON	22	19

28. In what area were these vocational courses? (Select one or more)

	(N)	VE	NVE		VE	NVE
AGRICULTURE.	32	24	ELECTRICAL	69	38	
MARKETING.	85	26	METALS	125	54	
HEALTH	*	*	CHILD CARE	*	*	
FOOD SERVICE	51	37	CLOTHING	*	*	
ACCOUNTING	143	63	HOME MANAGEMENT. .	23	37	
CLERICAL	173	67	DRAFTING	110	78	
SECRETARIAL.	158	73	GRAPHICS	50	32	
MECHANICAL	108	35	SERVICE.	7	3	
CONSTRUCTION	85	37	FORESTRY	24	13	

*Data for Health, Child Care and Clothing occupations are omitted because coordinators indicated students were confusing the occupational and non-occupational classes in these areas.

29. If you are employed now, is you current job related to your high school vocational courses?

	VE	NVE
YES, CLOSELY RELATED . . .	28	17
YES, SOMEWHAT RELATED. . .	31	23
NOT RELATED.	41	59
mean	2.13	2.42

30. Based on your experience since high school do you wish that you had taken:

	VE	NVE
MORE VOCATIONAL CLASSES. . . .	52	55
LESS VOCATIONAL CLASSES. . . .	3	4
THE SAME AMOUNT THAT YOU TOOK.	45 .	41

31. Please rate the quality of your high school vocational courses in the following areas: (leave blank those items you can't rate)

	VE	NVE	VE	NVE	VE	NVE	VE	NVE	VE	NVE
	Excellent		Good		Fair		Poor		Mean	
QUALITY OF THE INSTRUCTION	45	30	43	50	11	18	2	2	1.69	1.92
DEPTH OF CONTENT	28	14	50	53	20	31	2	2	1.96	2.22
RELEVANCE TO YOUR JOB (if working)	24	16	33	25	27	27	16	32	2.34	2.75
RELEVANCE TO YOUR EDUCATION AFTER HIGH SCHOOL (if applicable).	31	14	34	37	25	28	11	22	2.15	2.59
UP TO DATE EQUIPMENT	29	21	45	50	21	23	6	6	2.03	2.13
HANDS-ON APPLICATIONS.	41	31	31	46	15	15	4	7	1.82	1.99
TEACHING OF TECHNICAL SKILLS .	35	22	44	49	18	24	3	5	1.89	2.12
TEACHING OF JOB-RELATED MATH SKILLS	19	16	45	42	27	26	10	13	2.27	2.43
TEACHING OF JOB-RELATED READING SKILLS	19	14	44	46	28	28	9	12	2.28	2.39
TEACHING OF JOB-RELATED WRITING SKILLS	17	18	45	38	26	29	12	15	2.33	2.42
PROVIDING AN UNDERSTANDING OF HOW TO GET A JOB	29	21	32	32	24	24	16	24	2.27	2.51
PROVIDING AN UNDERSTANDING OF VOCATIONAL PROGRAMS AVAILABLE AFTER HIGH SCHOOL	16	9	36	34	31	30	17	27	2.48	2.74
COORDINATION OF COURSES WITH RELATED COMMUNITY COLLEGE CLASSES	19	10	37	32	24	30	20	27	2.45	2.75

32. When job hunting, are you willing to move away from the community you lived in while attending high school? (35)

	VE	NVE
YES.	74	76
NO	26	24

33. Which of the following did you participate in during high school? (Select all that apply)

	(N)	VE	NVE		VE	NVE
AOFC		1	0	FHA	5	2
CETA WORK PROGRAM.	33	8		FTA	0	0
COOPERATIVE WORK EXPERIENCE	128	43		HERO	1	0
DECA	35	7		HOSA	8	0
FBLA	50	12		JUNIOR ACHIEVEMENT.	33	8
FFA.	21	11		OEA	0	0
				VICA.	29	10

34. How useful was such participation?

	VE	NVE
VERY USEFUL.	45	30
SOMEWHAT USEFUL.	32	31
SLIGHTLY USEFUL.	11	26
NOT USEFUL	12	14
Mean	1.91	2.24

35. Based on your experiences since leaving high school, what suggestions do you have for improving vocational education?

Vocational education students most frequently suggested: improving existing courses (87 students), adding more courses (44), having more job related content (38), better instruction (32), more information on available jobs (30), better counseling (22), more information on how to get a job (16), and more employer involvement (9)

HIGH SCHOOL GRADUATION REQUIREMENTS

As you may already know, people in Oregon are giving a lot of thought to increasing high school graduation requirements. Specifically, some people are proposing that an additional year be required in science and math (currently one year is generally required).

36. How many years of math during grades 9-12 should all students be required to take? (Circle one)

	VE	NVE
0 YEARS OF MATH.	0	0
1 YEAR OF MATH	5	3
2 YEARS OF MATH.	35	31
3 YEARS OF MATH.	33	37
4 YEARS OF MATH.	26	29

37. How many years of science during grades 9-12 should all students be required to take? (Circle one)

	VE	NVE
0 YEARS OF SCIENCE	2	1
1 YEAR OF SCIENCE.	27	18
2 YEARS OF SCIENCE	47	44
3 YEARS OF SCIENCE	15	24
4 YEARS OF SCIENCE	10	13

38. Based on your experience since high school, do you wish that you had taken: (54)

	VE	NVE
MORE MATH CLASSES.	60	52
FEWER MATH CLASSES	2	1
THE SAME AMOUNT THAT YOU TOOK.	38	47

Comments: _____

39. Based on your experience since high school, do you wish that you had taken:

	VE	NVE
MORE SCIENCE CLASSES	38	38
FEWER SCIENCE CLASSES.	10	5
THE SAME AMOUNT THAT YOU TOOK. . . .	53	57

Comments: _____

40. Please rate the quality of your <u>math</u> courses in the following areas:

	VE	NVE	VE	NVE	VE	NVE	VE	NVE	VE	NVE
	Excellent		Good		Fair		Poor		Mean	
QUALITY OF THE INSTRUCTION	26	26	48	49	19	19	7	6	2.08	2.05
DEPTH OF CONTENT	21	22	52	53	22	20	5	5	2.12	2.08
RELEVANCE TO YOUR JOB (if working)	16	16	36	41	34	31	14	13	2.47	2.40
RELEVANCE TO YOUR EDUCATION AFTER HIGH SCHOOL (if applicable)	25	28	39	41	26	22	11	9	2.22	2.12

41. Please rate the quality of your <u>science</u> courses in the following areas:

	VE	NVE	VE	NVE	VE	NVE	VE	NVE	VE	NVE
	Excellent		Good		Fair		Poor		Mean	
QUALITY OF THE INSTRUCTION	27	29	49	48	18	18	6	6	2.03	2.01
DEPTH OF CONTENT	20	20	52	52	21	22	7	6	2.14	2.13
RELEVANCE TO YOUR JOB (if working)	4	6	20	20	31	33	46	41	3.19	3.10
RELEVANCE TO YOUR EDUCATION AFTER HIGH SCHOOL (if applicable)	15	15	31	36	29	28	25	21	2.64	2.53

42. During your senior year of high school did you work for pay outside of your home?

	VE	NVE
YES	77	67
NO	23	33

If yes, approximately how many hours per week did you work?

	VE	NVE
1-9 HOURS	11	18
10-19 HOURS	31	35
20-29 HOURS	38	34
30-40 HOURS	20	13
More than 40 HOURS . . .	1	1