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Linda D. (Linda Darlene) Clark
Western Washington University

Pamela Jull
Western Washington University

Gary (Gary Russell) McKinney
Western Washington University

Carl Simpson
Western Washington University

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EMPLOYER PERSPECTIVES
ON WESTERN GRADUATES

(Report 2000-03)

Carl Simpson, Ph.D.
Pamela Jull, Ph.D.
Gary R. McKinney
Linda Clark

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INTRODUCTION

In 1998, Western Washington University marked its 100-year anniversary. In recognition of the event, the President and Provost's office requested an assessment of the university's progress. The so-called "Centennial Project" included a survey of recent graduates, as well as those who graduated five years prior (the class of 1993).

In addition, researchers at the university undertook a survey of employers in Washington State who were known to have hired Western graduates in order to evaluate how well the university was meeting employer needs. With unemployment low and job skill demands rising, employers are more and more dependent on institutions of higher education to provide adequately trained pool of potential employees. Western sees its obligation to meet the needs of employers, and has laid out this obligation in the university's mission statement, which requires the university to play a part in meeting the economic needs of communities in Washington State. In addition:

"[The University] aims to teach learning skills useful in a rapidly changing and highly technical world and to develop a consciousness of the challenges and responsibilities of living in a diverse and pluralistic society. It strives for graduates who are skilled communicators, able to critically analyze and use information, able to recognize and address the complex issues of the modern world, and who are willing to serve as responsible stewards of natural resources." (<http://www.wvu.edu/depts/president/mission.html>)

Each of these mission statement objectives are addressed in the Centennial Project study. As such, this study serves as a benchmark at Western's 100th anniversary. Although descriptive in nature, this study is also an assessment tool, designed to describe the strengths and weaknesses of Western's preparation of its students for future employment. The strengths of the university described by the Centennial Project reports are to be applauded. The weaknesses reported therein will stimulate reflection and action that will address the needs of students in some particular areas.

The articulation between higher education and future employment is often indirect. General skills, such as writing, speaking, and experience with computer software can apply to many jobs, regardless of the graduate's major field. For graduates in highly technical fields such as engineering, the articulation can be very direct. Nevertheless, the skills that prepare all college graduates for work in diverse fields are quite wide ranging. For example, at a recent conference on training college students to use quantitative reasoning skills in a broad range of applications, an employer and alumnus of a university in Washington State applauded the effort, yet also noted that a key skill of successful employees is simply being able to get along with one's coworkers. Recognizing that college skills can apply to a wide range of work situations, the research design focused on employer evaluation of graduates on both general and specific job-related skills.

This report describes the performance of Western graduates in employment around Washington State. In addition, it describes the quality of the job market Western graduates have entered in recent years, and employer perspectives on employment opportunities and problems in Washington State.

Readers should note that because of the type of sampling used, these findings *cannot* be considered representative of employers in Washington State generally, nor are the results necessarily generalizable to all Western graduates. The results may be somewhat representative of employers of college graduates in Washington State, inasmuch as Western graduates are unlikely to be working disproportionately for these employers relative to other college graduates.

RESEARCH METHODS

In the spring of 1998, the Office of Survey Research (OSR) supplied the Employment Security Department (ESD) with a list of ID's for 1993 Western graduates. The ESD matched Western graduates from a pool of Washington State employees, and were able to provide the industry code, hours worked, wages received, employer name and payroll address from three years of quarterly data beginning in the second quarter of 1995 and ending in the first quarter of 1998. The data provided a low-cost source of employment information, as well as a consistent form of comparison among cohorts.¹ Concurrently, the OSR was conducting a survey of Western alumni from 1993, some of whom provided the name, city and state of their current employer. From these two data sets a two-stage sampling strategy was established. This strategy included contacting:

- 1 Employers of all respondents who provided employer information on the 1993 alumni survey; this group was inclusive because employer data could then also be connected to graduate characteristics not otherwise available. (NOTE: Analysis of alumni descriptions of their employment will be presented in a forthcoming report on Western graduates.)
- 2 A random sample of employers from the ESD list for alumni who did not return employer information on the 1993 alumni survey.

Contacted first were employers of those 1993 alumni survey respondents who had provided employer information. Once that list was exhausted, interviewers contacted employers chosen at random from the list of employers provided by the ESD.

Survey results provided a clear picture of the needs of these employers, as well as their overall view of Western graduates as employees. Of particular importance was the value employers gave to certain work skills, and the degree to which they felt Western graduates were prepared in those skill areas. Moreover, using a sample of Western graduates some five years after leaving Western was advantageous in its own way: enough time had passed for the graduates to have settled into a career path, developed work experience—or completed additional education—applicable to their current work situation.

Readers should note that because of the type of sampling used, these reports *cannot* be considered representative of employers in Washington State generally, nor of employers of Western graduates generally. The results may be somewhat representative of employers of college graduates in Washington State, inasmuch as Western graduates are unlikely to be working disproportionately for these employers relative to other college graduates. The exception to this would be the large proportion of Western graduates who are in education and teaching.

THE EMPLOYER SURVEY INSTRUMENTS

There were two variations of the actual survey instrument. One was administered to human resource (HR) directors (for a larger, organizational perspective), and the other was administered to direct supervisors (for a detailed evaluation of Western graduates' themselves).

The HR manager was the first point of contact in the organization. He or she helped to identify a supervisor of a Western graduate. In smaller organizations, the HR manager and supervisor were often the same person. In these cases, the same person completed both surveys.²⁻³ When phone interviews were not possible, mail out versions of the surveys were sent to facilitators within the organizations. In all, 382 employers were contacted who were identified as being employers of Western graduates.⁴

HR managers were first asked to focus on job characteristics within their organization (salaried positions, benefits included, etc.) They were then asked to rank the importance of particular skills and knowledge to those jobs, then the preparation of Western graduates in those same skills. Finally, HR managers were asked how well the pool of labor provided by college graduates currently meets their hiring needs. In all, 274 HR managers completed the survey—a response rate of 72%.

The survey instrument for direct supervisors focused on specific characteristics of the jobs over which he or she supervised, skills specific to those jobs, and the performance of Western graduates on these skills. In all, 228 supervisors completed the survey, about 60% of all employers contacted. However, direct supervisors could not be identified without a HR manager completing a survey; therefore, since only 274 direct supervisors could be identified, that response rate was about 83%.⁵ Please keep in mind that since small organizations were more likely to have one person as the HR manager and the direct supervisor, small organizations may be over represented among direct supervisor responses.

RESULTS

CHARACTERISTICS OF EMPLOYER ORGANIZATIONS

HR managers were asked to identify their organization in three ways:

- The type of business the organization conducts.
- The size of the organization in terms of number of employees and whether it is a stand-alone operation or one of many offices.
- The quality of jobs in their organization, including the proportion of jobs requiring a four-year degree, turnover rate for those jobs, and how many of those jobs were full time, salaried, and/or included benefits.

Table 1 presents the distribution of the organizations across seven different types of businesses in rank order. The bulk of employers were in sales and service (27%) or education (22.8%).

Table 1. Types of businesses

Type of business	Percent
Sales and Service	27.0%
Educational	22.8%
Technical/Computing	13.5%
Government	11.2%
Health Care	9.4%
Business Services	9.4%
Professional	4.5%
Manufacturing/Construction	2.2%
Total	100.0%

N=267

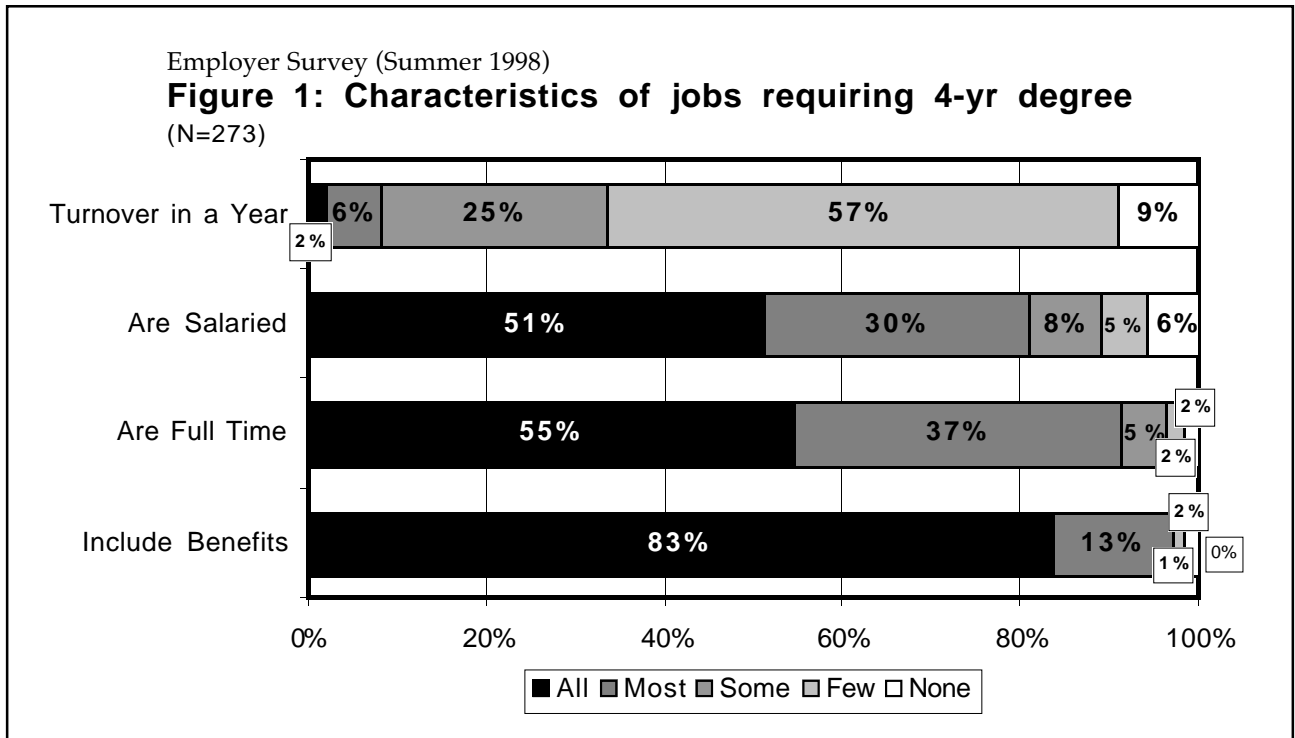
About 38% of businesses contacted were stand-alone organizations of only one office. For such organizations, the number of employees ranged from 2 to 4000, with a median of 50 (average 292). Organizations with more than one site (the remaining 62%) varied in overall size from 7 to 200,000 with a median of 625 (average 6421). The median number of employees in local offices contacted was 83 (average 444).

About a third of the businesses required a four-year degree for over 60% of the jobs in their organizations. Another third required a four-year degree for 25% or less of the jobs. The median proportion of jobs in organizations that require four-year degrees was 50%. There was a weak but significant relationship between the proportion of jobs requiring degrees and the size of the organization: the more employees there were the higher the proportion of jobs requiring a degree ($r=.19$, $p=.015$). This was not true of local offices in multi-office organizations, only of single office organizations and entire organizations.

JOB QUALITIES

Figure 1 shows the rough proportion of those jobs in the organizations that require a four-year degree, and which have certain qualities that differentiate the primary job market from the secondary job market. The primary job market is characterized by low turnover, the provision of benefits, a demand for highly educated workers, full-time work weeks and salaried positions. The secondary job market is characterized by high turnover, no benefits, low education level requirements (and hence skill demand), part time hours and hourly wages. This section shows the extent to which employers of Western graduates tend to fall into the primary or secondary sector.

Jobs requiring a four-year degree were usually salaried (all or most = 81%). These jobs also usually included a benefits package (all or most = 96%), and were full-time positions (all or most = 92%). Turnover in these positions was relatively rare (some, few or none = 92%). The correlation among the four characteristics shown in Figure 1 was quite strong. Nearly all of the employers had some mix of one to three of these characteristics for most of the jobs, with 48% providing a large proportion of jobs that included all four traits.



Size of the organization was strongly correlated with being in the primary job sector. The larger the organization, the more likely there were benefits, and the lower the turnover. Similarly, the more full-time employees there were the lower the turnover. Salaries tended to go along with benefits and full-time employment.

Table 2 shows the predominant areas of employment within organizations surveyed in rank order.⁶ The effects of Woodring College are clear, with a large proportion (about 25%) of employers being schools. Also predominant are business-, math-, and science-related employment. These findings are consistent with Employment Security Department data regarding which industry sectors Western graduates selected for this study are working.

Table 2. Predominant areas of employment within organizations surveyed

Area	N
Education	69
Math, Science, Computer Science and Engineering	65
Business and Accounting	61
Writing and Communications	48
Human and Social Services	33
Other Areas	30
Fine and Performing Arts	3

N=274

Note: 41 human resource managers mentioned two area. See footnote below.

MOST IMPORTANT ATTRIBUTES AND DEFICIENCIES OF NEW HIRES

The survey asked HR managers “What would you say are the most important successful attributes of all new hires in your organization?” This open-ended question yielded a large variety of responses, which were then examined and classified according to six possible categories:

- Personal attributes (for example: enthusiasm, creativity, or reliability);
- Personal abilities (for example: a quick learner)
- Interpersonal skills (for example: a good communicator)
- Education or training;
- Work and technical skills; and
- Others that could not be classified elsewhere (see Table 3).

Table 3. Most important attributes of new hires

Attribute mentioned	N
Personal Attributes	110
Personal Abilities	92
Interpersonal Skills	78
Education and Training	68
Work Related/Technical Skills	24
Other	11

N=256

Note: 127 respondents mentioned more than one attribute

As can be seen in Table 3 above, HR managers were most likely to mention personal attributes as “most important” to the success of a new hire, followed by personal abilities, interpersonal skills, education/training, and work-related or technical skills. In Appendix A, the more detailed table indicates that interpersonal skills, such as being a team player and communicating well, ranked high in HR managers’ reports, as did being flexible, hard working and eager.⁷

The most interesting information gleaned from this table is that the skills educators tend to focus on the most—technical knowledge and training—are not ranked as highly by HR managers as social skills, personality and individual attributes.

HR managers were also asked to identify the most notable deficiencies of new college graduates. Specifically, compared to what HR managers considered important skills, are college graduates actually entering the workplace prepared in those skill areas? Personal attributes and abilities ranked high on this list, but the lack of education or training and technical skills were as often, if not more often, mentioned. (See Table 4.) In Appendix A, the more detailed table indicates that, essentially, new college graduates lack experience.

Table 4. Most notable deficiencies of new college graduates in rank order

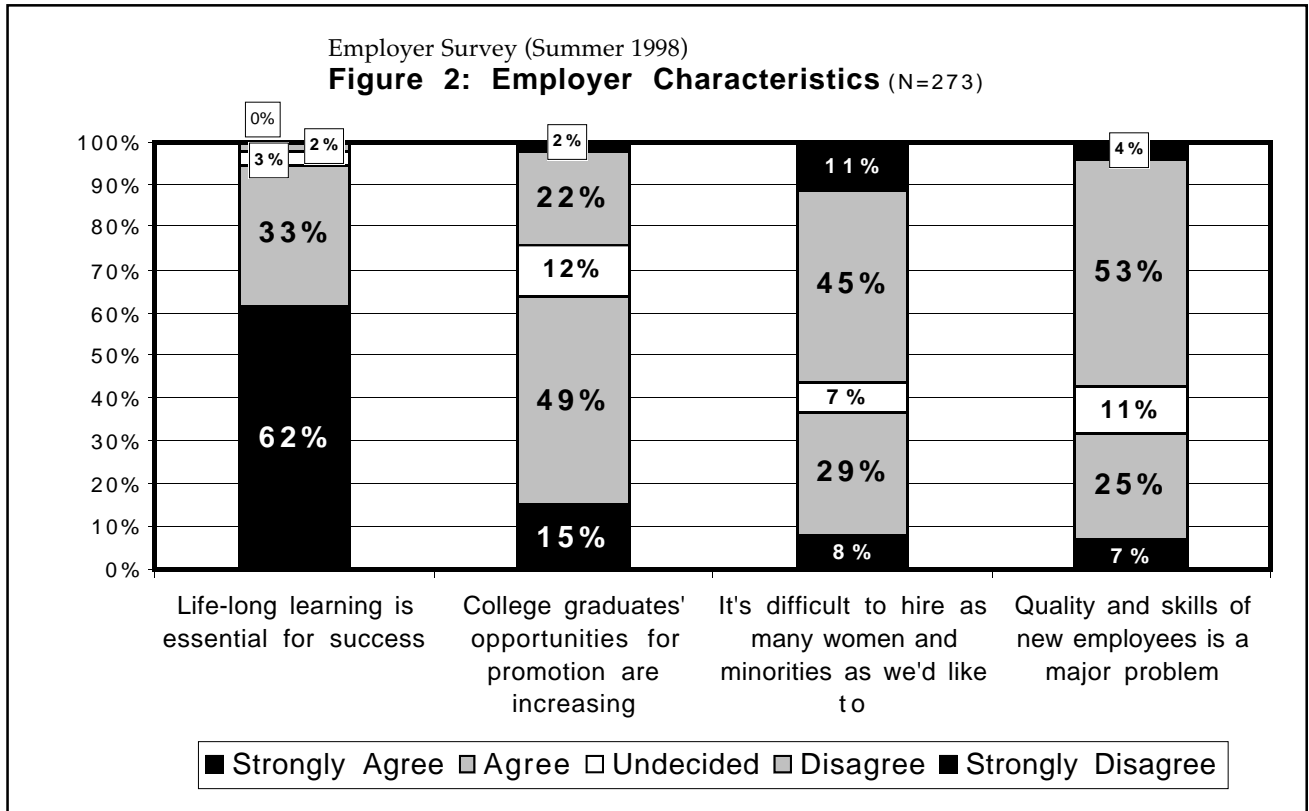
Deficiency mentioned	N
Lacking Education or Training	70
Lacking Personal Attributes	64
Lacking Work Related/Technical Skills	54
Lacking Personal Ability	42
Lacking Interpersonal Skills	26
Other	19

N=233

Note: 42 respondents mention more than one deficiency

HIRING EXPERIENCES

HR managers were asked a series of close-ended questions about their experience in hiring for their organizations. Figure 2, below, shows their responses to the four questions. When asked whether “the quality and skill of new employees was a major problem,” HR managers tended to disagree (52%). On the other hand, nearly a quarter did agree (25%, with another 7% agreeing strongly), suggesting that in some employment areas this issue was indeed important.



Responses to the questions in Figure 2 were not affected by job market (primary or secondary), nor by HR managers' estimation of Western graduates generally. However, employment area (education, business, etc.) did affect responses to the questions about the quality and skill of the employee pool, and the ease of hiring women and minorities.

Most HR managers working in education (72%), and also in math, computer science and engineering (66%), disagreed that the quality and skill level of employees is a problem. This was in contrast to human and social services (50%), business or accounting (43%) and writing or communications (32%). In other words, in writing and business job markets, HR managers would like to see better skill levels in their new hires.

For the most part, HR managers were likely to disagree that hiring of women and minorities was difficult. However, far more HR managers in the employment area of math, science, computer science and engineering agreed, indicating that in these areas women and minorities are not making up as much of the new-hire pools as HR managers might like to see.

Organization size was also significantly related to HR managers' attitudes about increasing opportunities for promotion and their sense of it being difficult to hire women and minorities. Although larger organizations were more likely to think they offer increasing employment opportunities, they were also more likely to think that hiring women and minorities was difficult.

HUMAN RESOURCE MANAGERS ASSESS SKILLS AREAS

The skill areas of Western graduates were assessed for both strengths and weaknesses; in addition, Western graduates were ranked against graduates from other colleges and universities. Very importantly, HR managers ranked the importance of specific skills, then how well Western graduate employees had been prepared in those skills. Finally, the skills rankings were broken down into employment areas such as education, business, etc.

Western graduates: strengths and weakness within skill areas

For HR managers familiar with the Western graduates in their organization and who felt they could comment on this question, work related and technical skills were very commonly noted as a strengths. Some also noted Western graduates' communication skills, their interpersonal skills and their personal, non-technical skills. Technical training and education appears to be the strong suit of Western graduates. (See Table 5).

Table 5. Greatest strengths of Western graduates

Strength mentioned	N
Work-related Technical Skills	61
Communication Skills	20
Interpersonal Skills	8
Personal Skills	8
Miscellaneous Skills	2

N=50
 Note: 49 respondents listed more than one area; 39 mentioned work-related technical skills in their first comment; 22 mentioned such skills as a second strength as well.

The most commonly mentioned weaknesses among Western graduates were a lack of experience or knowledge of professional issues. Also noted were a lack of computer or technological skills, subpar communication skills, and being unrealistic or narrow minded, though the reports were highly idiosyncratic, leaving 21 fairly unique responses classified in the “other” category (see Table 6).

Table 6. Greatest weaknesses of Western graduates

Weakness mentioned	N
Lack Experience/Knowledge of Professional Issues	27
Communication Skills	19
Narrow Minded/Unrealistic	12
Computer and Technological Skills	11
All Other	21

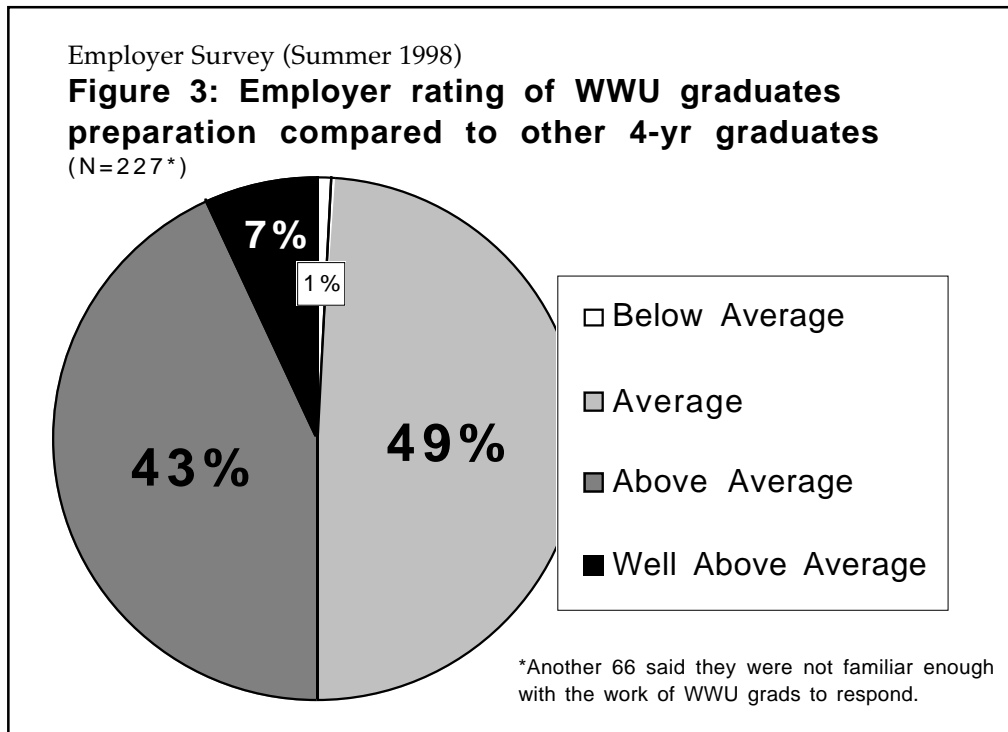
N=81

Note: 8 respondents mentioned more than one weakness.

Source: HRM survey

Western graduates: How well prepared compared to other college graduates

Nearly half of HR managers suggested that Western graduates were above average or well above average compared to peers from other institutions. (See Figure 3.) Just 1% said that Western graduates were more poorly prepared compared to other college graduates.



Western graduates: How well prepared within skill areas deemed most important

A substantial part of the survey was asking HR managers to respond to a series of close-ended questions identifying the importance of various specific skills or attributes for job applicants in their organizations. Once they had identified the importance of a skill, HR managers were asked to comment on the preparation of Western graduates in those skills they had deemed moderately, very or extremely important. Table 7 shows the percent of HR managers rating each skill as being 'extremely' or 'very' important for the job, then the percent rating Western graduates as being 'extremely' or 'very' well prepared in the skills when they were hired.

Table 7. Employer ratings of importance of skills compared to ratings of the preparation of Western graduates in those skills.

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Learn on own	1	93.0%	1	80.3%
Write clearly and effectively	2	89.7%	2	73.0%
Strong verbal communication skills	3	88.1%	8	43.8%
Think analytically and logically	4	87.8%	3	70.1%
Computer skills	5	74.8%	7	56.4%
Specific knowledge and skills in area	6	72.7%	4	64.9%
Career related experience	7	57.0%	6	60.4%
Broad, general education	8	49.8%	5	64.2%

N=269; Source: HRM survey

By comparing the rankings of the skills (column 2) to the rankings of Western graduates (column 4), a relative level of preparation can be noted. The closer the preparation rankings match the importance rankings, the better Western is meeting the needs of Washington employers. For example, 93% of HR managers said that being able to learn on their own was extremely or very important for new hires, and 80% said that Western graduates were very or extremely well prepared to learn on their own. This skill ranked highest on both measures, suggesting that there is good coordination of preparation and employer needs in this area. The same holds true for the second skill, writing clearly and effectively, ranked second both in importance and in Western graduates' preparation.

There are two notable discrepancies in the rankings: 1) Strong verbal communication skills, while ranked third by employers in importance, is the lowest rated skill of Western graduates (eight out of a list of eight). Only 44% of HR managers said that Western graduates were well prepared in this area. 2) Computer skills, while ranked fifth by HR managers in importance, is the seventh place rating of Western graduates—just 56% rated Western graduates well in this area.

Western graduates: Ranked skills within employment areas

Skills as ranked by HR managers were also analyzed by employment areas (education, business, human services, etc.). As described for Table 7, the tables below show rankings by importance and by preparation.

Graduates in education jobs were ranked high on almost all the skills mentioned, including their career-related experience (at 88%, their highest rating, compared to 60% for Western graduates overall), their ability to write clearly, and their specific knowledge and skills. The greatest disparity was for verbal communication skills. Ranked first in importance, HR managers ranked Western education graduates next to last—although with a higher percentage than Western graduates overall (74% vs. 56%). The weakest area for Western’s education graduates was computer skills, although at 56%, they fared about as well as Western graduates overall. (See Table 8.)

Table 8. Importance of skills and preparation of Western graduates:
Education jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Strong verbal communication skills	1	100.0%	7	73.7%
Write clearly and effectively	2	97.1%	4	83.7%
Specific knowledge and skills in area	3	95.7%	2	86.3%
Learn on own, pursue ideas	4	94.2%	5	80.0%
Think analytically and logically	5	87.0%	3	84.0%
Computer skills	6	76.8%	8	56.3%
Career related experience	7	76.8%	1	88.0%
Broad, general education	8	70.6%	6	74.0%

N=68; Source: HRM survey

Graduates in math, science, computer science and engineering jobs were ranked high on their ability to learn independently, and to write clearly. On the other hand, though ranked only sixth in importance, verbal communication skills were ranked last, with only 33% of HR managers indicating that Western graduates were very or extremely well prepared in this area. And although graduates were ranked relatively highly in having a broad, general education, this skill was of relatively low importance to HR managers. Moreover, HR managers ranked computer skills third in importance, but the computer skills of Western graduates fifth, with a substantial disparity (88% vs. 58%). (See Table 9.)

Table 9. Importance of skills and preparation of Western graduates: Math, Science, Computer Science, and Engineering jobs.

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Think analytically and logically	1	96.5%	3	68.6%
Learn on own, pursue ideas	2	93.0%	1	77.1%
Computer skills	3	87.7%	5	57.6%
Write clearly and effectively	4	82.5%	2	74.3%
Specific knowledge and skills in area	5	73.7%	7	45.5%
Strong verbal communication skills	6	60.0%	8	33.3%
Career related experience	7	48.2%	6	54.5%
Broad, general education	8	40.4%	4	58.8%

N=57; Source: HRM survey

Graduates in writing and communication jobs were ranked high on their ability to write clearly, to learn independently, and to think analytically. However, while HR managers ranked verbal communication skills first in importance, they ranked the verbal communication skills of Western's graduates last, with a considerable disparity (100% vs. 36%). In the other skill areas, rankings of importance and employee preparation were mostly copacetic. (See Table 10.)

Table 10. Importance of skills and preparation of Western graduates: Writing and Communication jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Strong verbal communication skills	1	100.0%	8	35.7%
Write clearly and effectively	2	100.0%	1	80.0%
Learn on own, pursue ideas	3	97.4%	2	77.8%
Computer skills	4	84.2%	5	65.4%
Think analytically and logically	5	76.3%	3	74.1%
Broad, general education	6	56.8%	4	70.4%
Career related experience	7	52.6%	7	48.0%
Specific knowledge and skills in area	8	50.0%	6	58.3%

N=37; Source: HRM survey

Graduates in business jobs were ranked high on their ability to learn independently, and in their specific knowledge and skills in their area. Once again, however, the disparity between importance and preparation regarding verbal communication skills was severe (85% vs. 29%). Moreover, while HR managers ranked analytic reasoning highest in importance, they ranked Western graduates poorly in preparation. Unlike other HR managers, HR managers in business did not rank the writing skills of Western graduates as highly. (See Table 11.)

Table 11. Importance of skills and preparation of Western graduates:
Business and Accounting jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Think analytically and logically	1	92.2%	3	51.7%
Write clearly and effectively	2	88.2%	4	44.8%
Learn on own, pursue ideas	3	86.3%	1	73.3%
Strong verbal communication	4	85.2%	8	28.6%
Computer skills	5	78.4%	5	44.8%
Specific knowledge and skills in area	6	54.9%	2	51.9%
Career related experience	7	43.1%	6	40.9%
Broad, general education	8	37.3%	7	37.9%

N=51; Source: HRM survey

Table 12. Importance of skills and preparation of Western graduates:
Human and Social Service jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Learn on own, pursue ideas	1	91.7%	1	92.9%
Strong verbal communication skills	2	85.7%	8	50.0%
Think analytically and logically	3	83.3%	7	50.0%
Write clearly and effectively	4	79.2%	2	85.7%
Specific knowledge and skills in area	5	75.0%	4	69.2%
Career related experience	6	62.5%	5	64.3%
Broad, general education	7	41.7%	3	76.9%
Computer skills	8	33.3%	6	63.3%

N=24; Source: HRM survey

Graduates in human and social services were ranked high on their ability to learn independently, and to write clearly. And while graduates ranked high in general education, employers ranked this skill next to last in importance. Once again, while HR managers ranked verbal communication skills second highest in importance, Western graduates were ranked last in preparation. (See Table 12 on previous page.)

Finally, graduates working in other areas were ranked high on their ability to learn independently, to write clearly, and to think analytically. Yet once again, while verbal communication skills were ranked second in importance, Western graduates ranked last in preparation. And while Western graduates ranked third for their general education, HR managers ranked this item last in importance. (See Table 13 below.)

Table 13. Importance of skills and preparation of Western graduates:
Jobs in other areas

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Learn on own, pursue ideas	1	96.2%	1	84.4%
Strong verbal communication skills	2	93.8%	8	28.6%
Think analytically and logically	3	88.5%	2	77.8%
Write clearly and effectively	4	88.5%	4	77.8%
Specific knowledge and skills in area	5	84.6%	5	73.3%
Computer skills	6	64.0%	6	57.1%
Career related experience	7	61.5%	7	43.8%
Broad, general education	8	38.5%	3	76.5%

N=26; Source: HRM survey

DIRECT SUPERVISORS: SKILLS AREAS ASSESSED

While interviews with HR managers can help evaluate the preparation of graduates directly out of college, observations of direct supervisors offer a different perspective: on a day-to-day basis, how well do graduates' skills mesh with the needs of the job.

Supervisors were asked to describe the field in which their employees worked. These fields were categorized as education, professional, sales and service, government, health, general business, and technical. As was done above with employment areas, data analyses by performed by employment fields.

Below is a table, much like those above, showing direct supervisors' rankings of a set of skills by importance, and the rankings of Western graduates' preparation for those skills. To mitigate the effects of on-the-job training and other influences on their evaluations, supervisors were asked to report the relative abilities of Western graduates *at the time they were hired*.

As noted by direct supervisors, the relationship between the importance of skills and how well Western graduates were prepared in those skills were fairly copacetic. (See Table 14.) One exception was in the area of computer skills: direct supervisors ranked it seventh in importance, but Western graduates tenth in preparation. Also, when broken out by field, verbal skills, too, are seen as a weak area in Western graduates, even though *overall* rankings of verbal skills do not appear as low as might have been expected. The reason for this, apparently, was the fairly high rankings by direct supervisors of Western education graduates.

Table 14. **Supervisor's** ratings of importance of skills compared to ratings of the preparation of Western graduates

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Working cooperatively in a group	1	95.6%	1	84.9%
Learn on own, pursue ideas	2	91.2%	2	83.1%
Defining and solving problems	3	90.3%	3	76.9%
Speak effectively	4	90.2%	5	69.3%
Write effectively	5	86.7%	4	73.6%
Critically analyze Information	6	81.1%	6	69.9%
Computer skills	7	73.0%	10	58.6%
Understand differing philosophies	8	60.2%	8	59.0%
Having career related experience	9	58.0%	9	59.0%
Broad, general education	10	56.2%	7	62.6%
Apply quantitative principles and methods	11	44.4%	11	44.4%
Understand new sci. & tech. developments	12	31.6%	12	38.8%
Apply scientific principles and methods	13	22.8%	13	32.5%

N=228; Source: Supervisor survey

For jobs in education, direct supervisors ranked working cooperatively as the most important skill and Western graduates' preparation as highest in that skill. Writing effectively ranked second and speaking effectively ranked third in importance, while Western graduates were ranked fifth and sixth in preparation. Conversely, direct supervisors ranked independent learning and analytical skills sixth in importance, but Western graduates second in preparation. (See Table 15 on next page.)

Only eight respondents represented jobs in the professional field. These eight direct supervisors ranked writing effectively and learning independently high in importance, while also ranking Western graduates high in preparation in these areas. On the other hand, they ranked speaking effectively and critically analyzing information high in importance, but Western graduates low in preparation. They also ranked having career-related experience tenth in importance, but Western graduates preparation sixth. (See Table 16.)

Table 15. **Supervisor's** ratings of importance of skills and preparation of Western graduates: Education jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Working cooperatively in a group	1	100.0%	1	90.0%
Write effectively	2	100.0%	5	78.4%
Speak effectively	3	97.6%	6	76.2%
Defining and solving problems	4	97.6%	4	80.0%
Critically analyze information	5	95.2%	3	81.6%
Learn on own, pursue ideas	6	95.1%	2	89.7%
Understand differing philosophies	7	90.5%	8	66.7%
Broad, general education	8	85.4%	7	71.8%
Having career related experience	9	75.6%	9	57.9%
Computer skills	10	70.7%	10	43.6%
Apply quantitative principles and methods	11	59.5%	11	38.5%
Understand new sci. & tech. developments	12	45.2%	12	35.3%
Apply scientific principles and methods	13	42.9%	13	33.3%

N=46; Source: Supervisor survey

Table 16. **Supervisor's** ratings of importance of skills and preparation of Western graduates: Professional jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Write effectively	1	100.0%	1	85.7%
Learn on own, pursue ideas	2	100.0%	2	71.4%
Critically analyze information	3	100.0%	8	42.9%
Working cooperatively in a group	4	100.0%	3	71.4%
Speak effectively	5	75.0%	13	12.5%
Defining and solving problems	6	75.0%	4	71.4%
Computer skills	7	62.5%	7	42.9%
Broad, general education	8	62.5%	5	71.4%
Understand differing philosophies	9	50.0%	10	33.3%
Having career related experience	10	50.0%	6	71.4%
Apply quantitative principles and methods	11	50.0%	11	33.3%
Apply scientific principles and methods	12	37.5%	12	25.0%
Understand new sci. & tech. developments	13	25.0%	9	40.0%

N=8; Source: Supervisor survey

For jobs in sales and service, direct supervisors ranking of importance and of Western graduates' preparation was uncannily close. The notable exception was in speaking effectively. Direct supervisors ranked this skill second in importance, but Western graduates' preparation dead last (92% ranked this skill important; only 8% ranked Western graduates as very or extremely well prepared). (See Table 17.)

Table 17. **Supervisor's** ratings of importance of skills and preparation of Western graduates: Sales and Service jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Learn on own, pursue ideas	1	96.0%	1	87.0%
Speak effectively	2	92.0%	13	8.0%
Working cooperatively in a group	3	84.0%	2	87.0%
Defining and solving problems	4	83.3%	4	82.6%
Write effectively	5	80.0%	3	85.0%
Computer skills	6	60.0%	6	68.2%
Critically analyze information	7	56.0%	7	68.2%
Broad, general education	8	52.0%	5	77.3%
Understand differing philosophies	9	44.0%	8	56.5%
Having career related experience	10	44.0%	9	50.0%
Understand new sci. & tech. developments	11	40.0%	10	40.0%
Apply quantitative principles and methods	12	36.0%	11	36.8%
Apply scientific principles and methods	13	16.7%	12	35.3%

N=25; Source: Supervisor survey

For jobs in government, the top four ranked skills—defining and solving problems, working cooperatively, learning independently, and writing effectively—were also the four top ranked areas of preparation for Western graduates. (Of note, however, was that 100% of supervisors identified “defining and solving problems” and “learning on their own” as important skills, while only 71% identified Western graduates as well prepared in these skill.) Once again, poor verbal skills dogged Western graduates. While 92% of direct supervisors rated it important, only 8% thought Western graduates were well prepared. (See Table 18 on next page.)

For jobs in health-related fields and general business, similar patterns were evident. In most areas important skills and preparation in those skill areas were copacetic. Again, the major exception was for verbal communication skills. Direct supervisors ranted verbal skills high, but Western graduates' preparation low. (See Tables 19 and 20.)

Table 18. **Supervisor's** ratings of importance of skills and preparation of Western graduates: Government jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Defining and solving problems	1	100.0%	4	70.6%
Working cooperatively in a group	2	100.0%	1	78.6%
Learn on own, pursue ideas	3	100.0%	3	71.4%
Write effectively	4	92.9%	2	78.6%
Critically analyze information	5	92.9%	6	62.5%
Speak effectively	6	92.9%	13	8.0%
Understand differing philosophies	7	71.4%	7	58.3%
Computer skills	8	64.3%	5	66.7%
Broad, general education	9	57.1%	8	54.5%
Having career related experience	10	57.1%	9	46.2%
Apply quantitative principles and methods	11	42.9%	11	41.7%
Understand new sci. & tech. developments	12	21.4%	10	45.5%
Apply scientific principles and methods	13	7.1%	12	10.0%

N=15; Source: Supervisor survey

Table 19. **Supervisor's** ratings of importance of skills and preparation of Western graduates: Health jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Working cooperatively in a group	1	100.0%	2	76.5%
Speak effectively	2	92.9%	13	5.6%
Learn on own, pursue ideas	3	88.9%	1	88.2%
Defining and solving problems	4	83.3%	3	70.6%
Write effectively	5	83.3%	4	68.8%
Having career related experience	6	77.8%	7	47.1%
Critically analyze information	7	72.2%	6	62.5%
Computer skills	8	61.1%	5	66.7%
Understand differing philosophies	9	52.9%	8	47.1%
Broad, general education	10	44.4%	9	47.1%
Understand new sci. & tech. developments	11	41.2%	10	42.9%
Apply scientific principles and methods	12	35.3%	12	30.8%
Apply quantitative principles and methods	13	33.3%	11	42.9%

N=18; Source: Supervisor survey

Table 20. **Supervisor's** ratings of importance of skills and preparation of Western graduates: General Business jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Working cooperatively in a group	1	96.3%	1	88.0%
Learn on own, pursue ideas	2	88.9%	2	80.8%
Defining and solving problems	3	87.7%	3	76.0%
Speak effectively	4	87.5%	13	11.1%
Computer skills	5	85.2%	7	60.6%
Critically analyze information	6	81.5%	5	62.2%
Write effectively	7	80.2%	4	71.2%
Career related experience	8	50.6%	6	62.3%
Understand differing philosophies	9	49.9%	8	52.9%
Broad, general education	10	44.4%	9	53.6%
Apply quantitative principles and methods	11	43.0%	10	48.5%
Understand new sci. & tech. developments	12	17.3%	11	33.9%
Apply scientific principles and methods	13	8.8%	12	29.8%

N=81; Source: Supervisor survey

Direct supervisors in technical jobs ranked the importance of skills and their impression of Western graduates' preparation in those skills as fairly copacetic. Still, they ranked verbal communication highest (93.8%), and Western graduates' preparation sixth (62.5%), a substantial large gap. (See Table 21 on next page.)

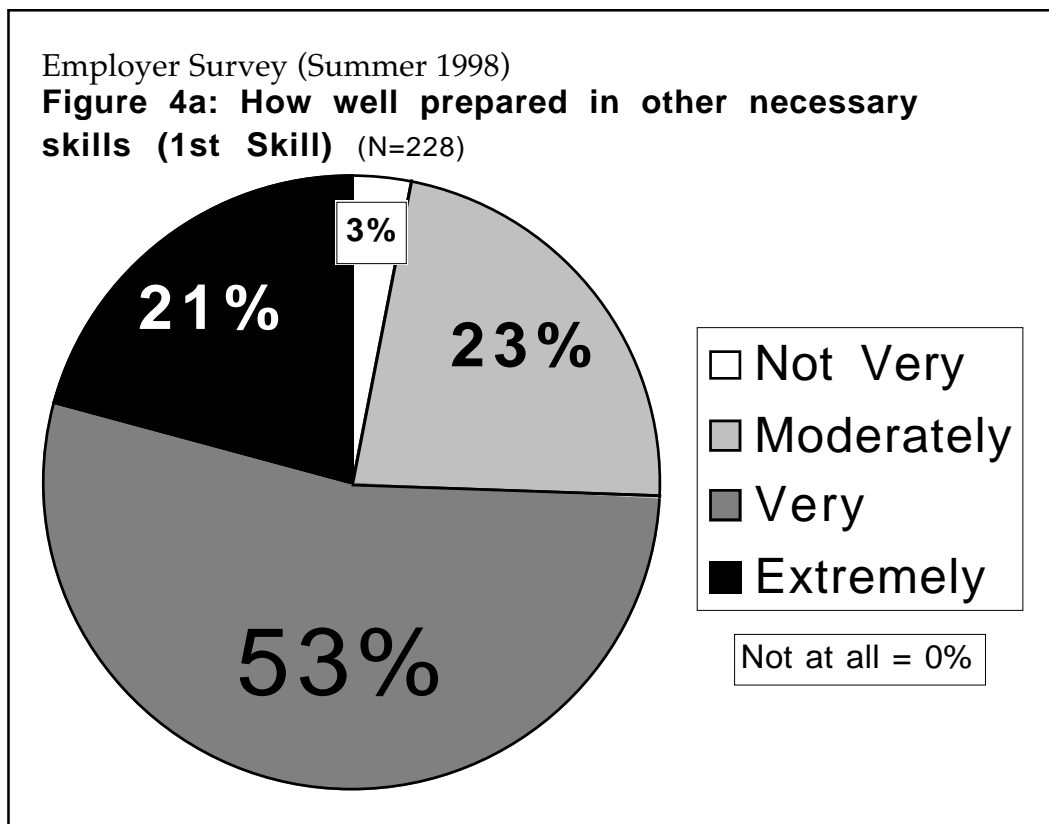
Direct supervisors were also asked to identify two additional skills that were important to the jobs they supervise, and then to rate how well Western graduates were prepared in those skills when first hired. Figures 4a and 4b (starting on the page 20, and continuing on page 21) show that more than 70% of supervisors rated Western graduates as being very or extremely well prepared in each of the skills they listed. Less than 5% said they were not very or not at all well prepared in the skill areas.

Supervisors were further asked what portion of skills Western graduates usually brought to the job they were hired to do. Figure 5 (found on page 21) indicates that 59% of supervisors felt Western graduates brought most of the skills they needed for the job with them, and acquired some skills on the job. Another 38% of supervisors felt Western graduates brought some of the skills they needed for the job with them, but acquired most skills on the job.

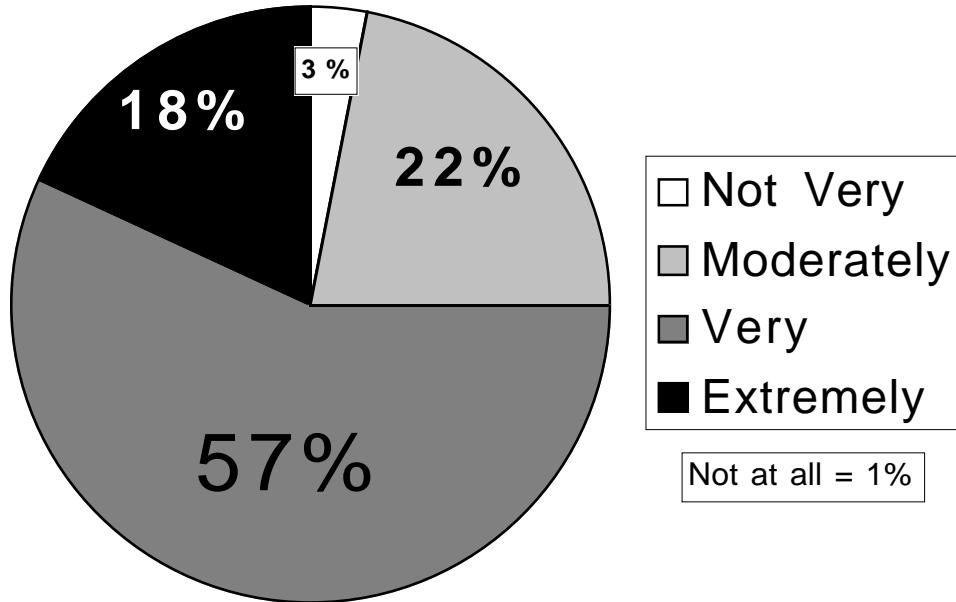
Table 21. **Supervisor's** ratings of importance of skills and preparation of Western graduates: Technical jobs

Skill Area	Importance of Skill		Preparation of WWU Grads	
	Rank	%	Rank	%
Speak effectively	1	93.8%	6	62.5%
Defining and solving problems	2	93.8%	2	75.0%
Working cooperatively in a group	3	93.8%	3	75.0%
Critically analyze information	4	81.3%	1	85.7%
Learn on own, pursue ideas	5	81.3%	4	73.3%
Computer skills	6	75.0%	7	62.5%
Write effectively	7	75.0%	9	57.1%
Apply quantitative principles and methods	8	62.5%	10	53.3%
Understand new sci. & tech. developments	9	60.0%	8	61.5%
Career related experience	10	50.0%	11	53.8%
Broad, general education	11	50.0%	5	70.0%
Understand differing philosophies	12	43.8%	12	42.9%
Apply scientific principles and methods	13	8.8%	13	38.5%

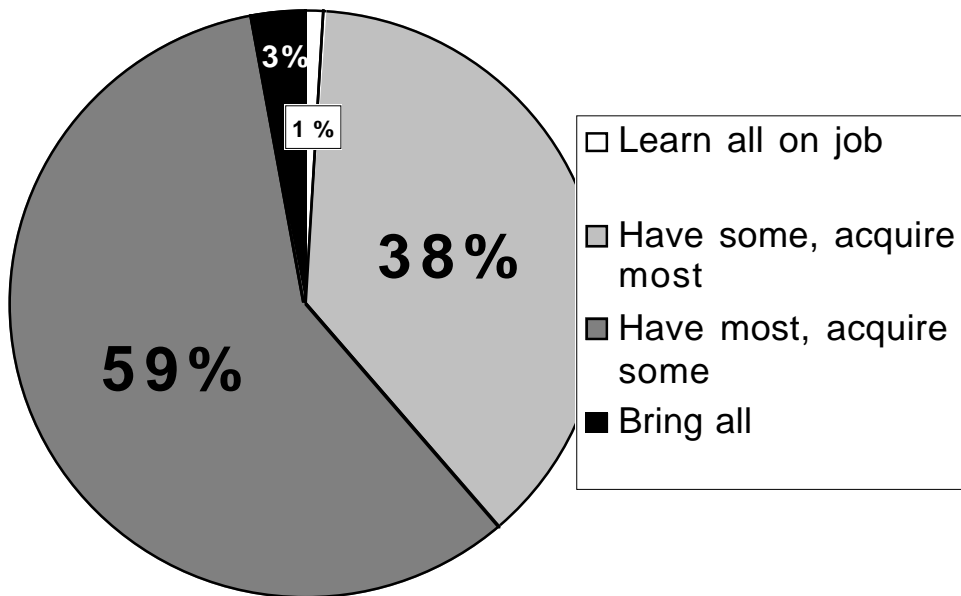
N=16; Source: Supervisor survey



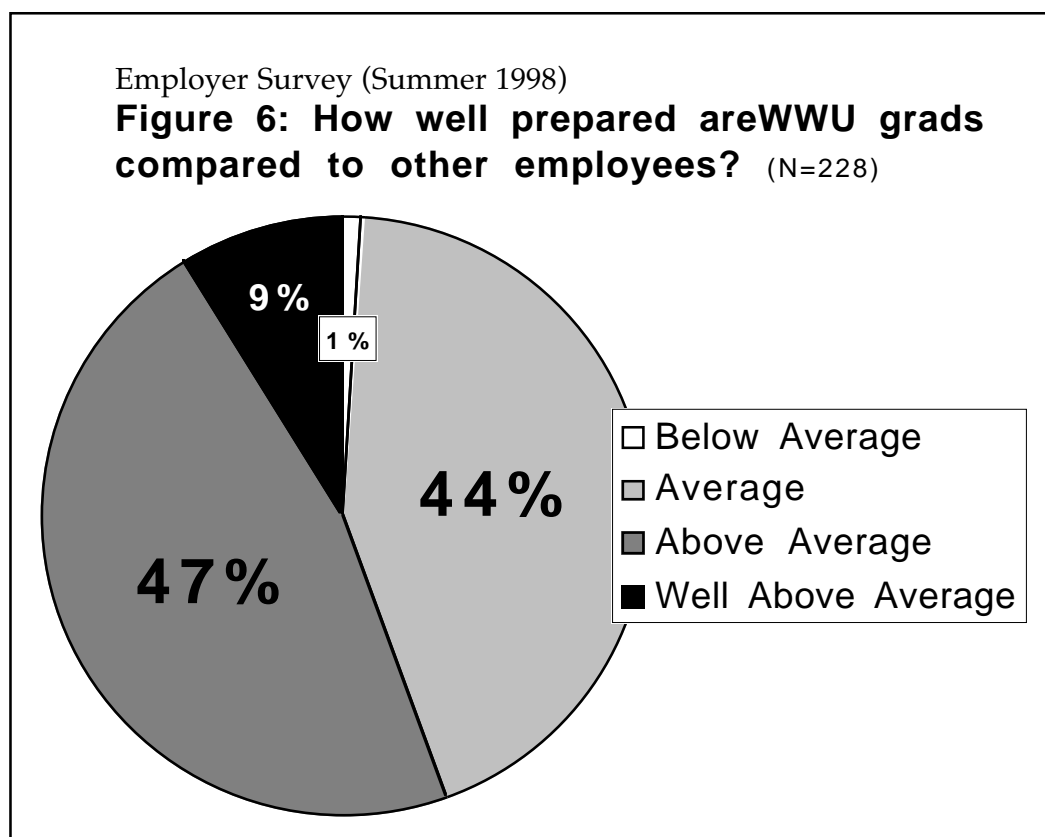
Employer Survey (Summer 1998)
Figure 4b: How well prepared in other necessary skills (2nd Skill) (N=228)



Employer Survey (Summer 1998)
Figure 5: What proportion of skills do WWU grads bring to job? (N=228)



Finally, as were human resource managers, direct supervisors were asked how well prepared, in general, were Western graduates compared to employees who graduated from other colleges and universities. Figure 6 below indicates that 47% of supervisors rated Western graduates above the average college graduate, while another 9% rated them well above average. Another 44% of supervisors rated Western graduates average when compared to other college graduates. Less than one percent of direct supervisors rated Western graduates below average when compared to other college graduates.



SUMMARY AND CONCLUSION

Overall, employers of Western graduates give these employees high marks in general and specific skill performance. Half rate Western graduates' preparation above or well above that of their peers from other institutions. In addition 75% of direct supervisors report that Western graduates are "extremely" or "very" well prepared in skills specific to their jobs.

These employers are highly likely to be hiring graduates into jobs that would be considered part of the "primary" economic job sector—that is, salaried, full-time jobs with benefits and relatively low turnover each year. Most employers see increasing opportunities for promotion in the job market for college graduates and feel that the quality and skills of new hires is not a problem.

The importance of particular job skills varies depending on the type of work a graduate does. For the most part, Western graduates working in different types of jobs are appropriately prepared in those skills according to the employers we surveyed. These employers report that Western graduates excel in cooperative group work, learning independently, defining and solving problems, writing effectively, and thinking analytically and logically. Employers were also likely to give high ratings to Western graduates' breadth of education and their specific knowledge and skills.

However, graduates in jobs that require good verbal communication skills were often rated as being poorly prepared relative to its importance to the job. While 88% of human resource managers said such skills were "extremely" or "very" important, only 44% said Western graduates were "extremely" or "very" well prepared in this area. The rankings vary by type of employment, with employers in writing and communications, business and accounting, human and social services noting the largest discrepancies. Graduates' verbal skills were ranked dead last among all the skills by direct supervisors in all job areas except technical jobs. A typical finding is that while speaking skills might be ranked among the top five skills important for a job, it ranked last in regard to Western graduates' preparation in this skill.

Preparation in computer skills also ranked lower than required for some fields, with 75% of employers saying computer skills were important, but only 56% saying Western graduates were well prepared to use computer skills. This may be partially a function of the sampling method used, where graduates from 1993 served as the starting point for selecting employers. We would expect that Western's advances in electronic communications and training for undergraduates is providing markedly improved skills for recent graduates relative to these more distant grads.

As a benchmark in Western's history, this study shows that the university has done well in meeting its mission of serving the economic needs of Washington State by producing graduates who excel in many of the skill areas required by employers. Western graduates do well in writing, critically analyzing and using information, defining and solving problems and in working with others. As an assessment piece, this study suggests that students are not receiving enough training in clear, verbal presentation of their ideas, and may need more experience in the application of computer skills.

ENDNOTES

¹ We should note that the matching process combining data from Western and ESD is protected by stringent legal limitations designed to assure confidentiality. We wish to thank the Washington State Senate Higher Education Committee for authorizing this research and the Employment Security Department for coordinating the entire process in such a way as to allow this valuable analysis while also fully protecting the privacy of Washington citizens. In particular, we wish to acknowledge the work of Jeff Jacksich of ESD.

² In these instances, an abbreviated version of the supervisor survey was used to avoid redundancies between the human resource manager survey and the supervisor survey.

³ Great care was taken to preserve the anonymity of Western graduates in the supervisor survey. In most cases, a supervisor of a Western graduate was identified without the interviewer knowing who the graduate was. However, in large organizations (and particularly state agencies), interviewers identified Western graduates by name and/or social security number.

⁴ Information from the ES data included the mailing and payroll addresses of the businesses, along with the legal name of the business. Directory assistance was unable to find numbers for several businesses, perhaps because the name listed with the phone company is different than that used for reporting to ES. It may be that larger organizations are more likely to have made such an arrangement, meaning that smaller organizations would be over-represented in the sample. The most difficult employers to reach were those of graduates working for Washington state. Records from ES would identify the Olympia headquarters as the employer, but sometimes there was no way for workers in the Olympia office to identify which regional office the graduate worked for. As a result, the survey likely under reports responses from state employers.

⁵ Some organizations had more than one supervisor respond to the survey. There are fewer than 10 surveys representing a single organization more than once.

⁶ The survey item that this table was derived from did not function as well as planned. Employers were asked how many of the jobs requiring a four-year degree were in each of these fields. However, employers did not interpret these fields as being strongly tied to college majors. Instead, it appears that some thought of the fields as being tied to job duties. So, for example, a respondent might say that "all" of the jobs requiring a four-year degree were in education, but would also say "all" were in writing and communication, since writing and communication skills are used in most teaching jobs. We used some logical inference (type of organization, records about what organization was contacted) to determine which category to put jobs for which employers gave conflicting information.

⁷ These categories were the first step in classifying the remarks of the human resource managers.

APPENDIX A:
Detailed Breakdown of Attributes
from Tables 3 and 4

Detail of Table 3.

Attribute mentioned	N
Team player (team work, interpersonal)	46
Flexibility	39
Communication. skills (listen, speak, write)	35
Hard working (ethic), tenacious	33
Desire to learn (eager)	32
Good personality/positive attitude	26
Initiative/self-motivation	23
Enthusiasm	17
Willingness to continue education	17
Experience, work, internships	14
Works independently (quick learner)	11
Technical/computer skills	11
Commitment/dedication	10
Reliability	10
Expert in field, good education	10
Awareness of policy changes/new tech.	9
Possess common sense/intelligence	6
Creativity	6
Analytical thinking abilities	6
Ambitious	5
Professionalism	4
Self-confidence	3
Writing skills	3
Well organized	2
Focused	2
Listening skills	2
Speaking skills	2
Punctual/ keep up with deadlines	2
Well rounded education	2
Accountability	1
Leadership skills	1
Entrepreneurial skills	1
Sense of humor	1

N=256 Human Resource Mangers

Detail of Table 4

Attribute mentioned	N
Lack of experience	71
Narrow minded/cant see big picture	27
Writing skills	25
Unrealistic expectations (salary, promotion)	19
Poor communication (listen, speak, write)	18
Lack computer skills	11
Incapable of group/team work	10
Lack of work ethic	9
Lazy/lack of work ethic	7
Irresponsible, lack maturity	6
Lack professionalism, dress poorly, poor resume	6
Overall lack of skills	6
Speaking skills	5
Lack of resourcefulness	4
Lack understanding of business related issues	4
Lack of common sense	4
Not flexible	4
Lack of motivation, enthusiasm	4
Incapable of prioritizing	3
Lack management skills	3
Lack management and people skills	3
Lack of technical skills/information	2
Impatience	2
Lack long-term goals/commitment	2
Incapable of handling different situations, problems	2
Resistant to new ideas/change	2
Poor teaching style	2
Listening skills	2
Negative attitude	2
Lack broad education	2
Lack confidence	2
Lack of awareness of new prof. Policies	1
Lack knowledge of cultural differences	1
Lack direction	1
Lack foreign language skills	1

N=233 Human Resource Mangers

APPENDIX B:

Survey Instruments