

Illinois Community College Board

1996 FOLLOW-UP STUDY
OF FISCAL YEAR 1995
OCCUPATIONAL PROGRAM GRADUATES

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Introduction

American businesses are facing increasing numbers of competitors as the shift to an international marketplace occurs. The challenge to remain competitive necessitates that products and services are of high quality and delivered in a cost-effective manner. The skills of our nation's workforce are critical to maintaining a competitive advantage. Numerous state reports and national studies have addressed the widening chasm between skill requirements of the jobs and the capabilities of workers which perform them. Most recently, a survey conducted by the U.S. Census Bureau indicates that business leaders feel one in five American workers is not up to the job. Such concerns afford perfect opportunities for community colleges. As key providers of workforce education, community college programs enable students to acquire the necessary skills to benefit potential or current employers and to help businesses retain a position of leadership in an increasingly global economy.

This report provides information from graduates of selected occupational programs regarding the effectiveness of their community college experience. Data for the report were obtained from responses to a standardized survey. The survey instrument addresses attendance objective, education status, employment status, salary, employment start-up, geographic location of employment, and satisfaction with employment and components of the educational program completed. Such information has implications for colleges as they develop new program proposals and review existing programs. Part I of this report provides an overall summary of survey outcomes. Part II includes an in-depth analysis of survey results according to specific program areas. The Appendices contain data tables derived from the results of the survey. Appendix A presents a summary of responses by college and response rates by program area. Appendix B provides information by survey item, and Appendix C presents data by both college and program.

A total of 2,633 former students who graduated from 33 selected Illinois community college programs in fiscal year 1995 were surveyed in March 1996. For most graduates, this was approximately six to nine months after program completion. Following receipt of the completed surveys, three program areas were eliminated from the statewide analysis due to a low number of responses or a small number of graduates. Excluded from the statewide study were graduates of Fluid Power Technology, Biomedical Engineering-Related Technology, and Major Appliance Installer/Repairer programs. Removing the fifteen selected graduates and their responses resulted in the utilization of 1,578 responses from a pool of 2,618 graduates. Therefore, the survey yielded a usable response rate of 60.3 percent (Table A-1). Table A-2 shows response rates by program.

The majority of graduates (822/1,578) came from programs in two primary broad CIP areas: Criminal Justice and Corrections and Business Information & Data Processing. Graduates from the remaining program areas (N = 756 combined) accounted for 48 percent of the respondents.

Overall results are influenced by differences in program size and in the number of graduates responding to particular questions. Percentages cited throughout the report reflect the number of responses to each question.

Table 1

CIP	OCCUPATIONAL PROGRAM AREAS SURVEYED IN FY 1996
09	COMMUNICATIONS
	Advertising
	Journalism
	Public Relations and Organizational Communications
	Radio and Television Broadcasting
1001	COMMUNICATIONS TECHNOLOGIES
1503	ELECTRICAL & ELECTRONIC ENGINEERING RELATED TECHNOLOGIES
	Computer Engineering Technology
	Electrical, Electronic & Communications Engineering Technology
	Telecommunication Electronic Technology
1504	ELECTROMECHANICAL INSTRUMENTATION & MAINTENANCE
	Biomedical Engineering-Related Technology*
	Computer Maintenance Technology
	Electromechanical Technology
	Instrumentation Technology
	Robotics Technology
	Fluid Power Technology*
	Automated Manufacturing Technology
2003	CLOTHING, APPAREL AND TEXTILE WORKERS AND MANAGERS
	Fashion and Fabric Consultant
2201	LAW AND LEGAL STUDIES
	Paralegal/Legal Assisting
4301	CRIMINAL JUSTICE AND CORRECTIONS
	Corrections/Correctional Administration
	Law Enforcement/Police Science
	Security and Loss Prevention Services
4603	ELECTRICAL AND POWER TRANSMISSION INSTALLERS
	Electrician
4701	ELECTRICAL AND ELECTRONICS EQUIPMENT INSTALLERS &
	Communication Systems Installer and Repairer
	Computer Installer/Repairer
	Industrial Electronics Installer and Repairer
	Major Appliance Installer and Repairer*
4801	PRECISION PRODUCTION TRADES
	Cabinet Maker and Millworker
5107	HEALTH AND MEDICAL ADMINISTRATIVE SERVICES
	Hospital/Health Facilities Administration
	Health Unit Coordinator/Ward Clerk
	Medical Records Technology/Technician
	Medical Transcription
5212	BUSINESS INFORMATION AND DATA PROCESSING SERVICES
	Business Computer Programming
	Business Systems Networking/Telecommunications
	Business Computer Facilities Operator

* Excluded from state report due to low number of graduates or low response rates.

Part I: STATEWIDE OVERVIEW

Follow-up surveys were mailed to graduates of the selected occupational programs listed on the previous page in spring 1996, approximately six to nine months after graduation. Graduates reported the following:

- 91.3 percent were employed or pursuing additional education or both. (Table B-1.)
- 84.1 percent of the occupational completers were employed. (Table B-2.)

Among working graduates,

- 86.9 percent held full-time status in their current jobs. (Table B-2.)
- 67.1 percent of respondents were employed in positions related to the field in which they studied at the community college. (Table B-5).
- Nearly three-quarters of the employed graduates obtained their current positions while enrolled or after graduating. (Table B-7.)
- 90.4 percent of the graduate respondents were employed in Illinois with a majority (59.3 percent) remaining in the district where they received their training. (Table B-8.)
- The average salary for all graduate respondents was \$12.41 per hour or nearly 3 times the minimum wage. (Table B-9.)
- Graduates employed in full-time positions earned the equivalent of nearly \$27,000 annually.
- The average rate of unemployment (the percent of graduates who were unemployed and seeking work) was 7.6 percent. (Table B-2).
- 28.8 percent of the respondents were pursuing additional education. Three quarters of those enrolled in further study were taking coursework in a related field (Table B-4).
- Overall, graduates employed in positions related to their community college program were satisfied with their current positions (4.15 on a five-point scale, with 5 being very satisfied and 0 being very dissatisfied). (Table B-10.)
- On average, graduates expressed satisfaction ($M=4.08/5.0$) with components of their program (course content, lecture/lab experiences, equipment, facilities and materials, job preparation, preparation for further education, and labor market employment information). (Table B-11.)
- Graduates were also satisfied with college services, such as financial aid, academic advising, career planning, transfer planning, counseling, tutoring, library/audio visual,

student activities) awarding an average rating of 4.09/5.00. (Table B-12.)

Graduates from similar program areas were surveyed five years ago. A comparison of follow-up survey outcomes from 1991 and 1996 shows more similarities than differences. In 1996, when the most recent survey was conducted, more fiscal year 1995 graduates were employed full-time; more were in jobs related to their programs of study, and fewer were unemployed than graduates who were surveyed in the spring of 1991. In addition to information presented in the graph below, a slightly greater percentage of 1995 graduates were working outside of the community college district in which they received their education, and salaries had climbed \$2.01 from the 1991 average of \$10.40 for all full-time and part-time workers. A slightly larger percentage of the 1995 graduates became employed *after* completing their training.

Figure 1. Comparison of Occupational Graduates: FY 1990 and FY 1995

A "big picture" perspective is beneficial when analyzing differences between the 1991 and 1996 surveys results. The recession experienced across the nation in 1990 and 1991 may have hindered fiscal year 1990 graduates in their job search. By 1993, the U.S. Bureau of Labor Statistics began reporting evidence of labor market recovery. A large gain in employment occurred and unemployment rates declined. Such conditions may have benefitted fiscal year 1995 graduates from particular programs. An article in the February 1994 issue of Monthly Labor Review encapsulates labor market conditions as follows:

"Nonfarm payroll employment, as measured by the BLS survey of employers, rose by 1.9 million in 1993. Most of the jobs added over the year were in the services and retail trade industries. Employment in construction experienced its first over-the-year increase since 1989, although it remained substantially below its pre-recession peak. And the string of manufacturing job losses that began in 1989 continued throughout most of the year; between early 1989 and the fall of 1993, factory employment dropped by 1.8 million." (p. 3)

Part II: PROGRAM-SPECIFIC ANALYSIS

Communications. Students who pursue training in the field of Communications may study advertising, journalism and mass communications, public relations and organizational communications, or radio and television broadcasting. While 11 community colleges offer Communications programs, only five had students who graduated in fiscal year 1995. Of the 36 graduates, 16 responded to the follow-up survey for a response rate of 44.4 percent (Table A-2). Survey results show that 93.8 percent (N= 15) were employed or were continuing to pursue education, or both. Of those who were employed, 33.3 (N= 4) were working full-time. The average salary for all Communications graduates was \$7.31 per hour. Two graduates (12.5 percent) were unemployed and seeking work. Nearly two-thirds (N= 7) of the employed respondents reported that their current job was not related to their program of study. When asked to clarify, three responded that they could not find a job in their field of preparation, three took a temporary job while in transition, and one took an unrelated job in order to get preferred working hours. A majority of graduates (63.6 percent) began their job while enrolled. Nearly two-thirds were working in the district in which they received their training.

Overall, more fiscal year 1995 Communications graduates tended to be employed part-time, work less frequently in positions related to their studies, and be continuing their education in comparison to their fiscal year 1990 counterparts. The graph below shows comparative data as compiled from survey responses for the two groups of graduates.

Figure 2. Comparison of Communications Graduates: FY1990 and FY 1995

Communications Technology. Graduates of Communications Technology programs are likely to be found performing technical work in educational/instructional media, photography, and radio and television broadcasting. Communications Technology programs are available at four community colleges in Illinois. Three of these colleges had Communications Technology graduates in fiscal year 1995. Of the 17 graduates, 15 responded to the follow-up survey for a response rate of 88.2 percent (Table A-2). Graduates trained in technical aspects of the field of communications tended to fare better than those who pursued non-technical communications programs. For example, all of the Communications Technology respondents (N= 15) were employed or pursuing additional education or both. Nearly 85 percent (N= 11) were employed full-time with over three-quarters in jobs related to their field of study. Of the three graduate respondents who were not employed in a related job, one preferred to work in another field, one found a better paying job in another field, and one did not specify a reason. The average salary for communications technology workers was \$9.31 per hour compared to \$7.31 for communications graduates. None

of the respondents were unemployed and seeking work; however, 13.3 percent reported they were unemployed and not seeking work. A majority (61.5 percent) were working in the district where they received their training. Nearly 57 percent indicated they had no current plans to pursue additional education. Communications technology graduates gave the third highest average scores of satisfaction with major program components (M= 4.43) of graduates from all programs.

Comparing graduates from the class of 1995 with those who completed training five years earlier, more fiscal year 1995 graduates were continuing their education and fewer were employed. Of those who were employed, a higher percentage were working full-time and were employed in a job more closely related to their program of study. There were major differences in terms of when graduates obtained their jobs. Fiscal year 1995 Communications Tech graduates were more likely to become employed *while* they were taking classes; whereas, FY 1990 completers were more likely to gain employment *after* graduation. Twice as many FY 1995 graduates were working out-of-district than FY 1990 graduates. The earnings of graduates from the class of 1995 were lower by 50 cents per hour, yet graduates' satisfaction with their jobs had improved over results obtained in the 1991 survey. The graph below illustrates differences among graduates.

Figure 3. Comparison of Communication Technology Graduates: FY1990 and FY1995

Electrical and Electronic Engineering-Related. Students electing to pursue training in the broad field of Electrical and Electronic Engineering may do so at 34 community colleges throughout the state. Of the 349 graduates of Electrical and Electronic Engineering-Related Technology programs in fiscal year 1995, 193 responded to the follow-up survey for a response rate of 55.3 percent (Table A-2). Nine of ten respondents were from Electrical, Electronic and Communications Engineering programs, with the remaining 15 respondents split between Computer Engineering and Telecommunications Electronics programs. An examination of the overall results shows 95.2 percent of graduate respondents were employed or pursuing additional education or both. Just over 87 percent were employed. Among employed graduates, 88.6 were working full-time. Nearly three-fourths were employed in a job related to their training. Of those who were working in unrelated jobs, primary reasons given included "found better paying job in another field" (N= 7), "could not find job in field of preparation" (N= 8), "temporary job while in transition" (N= 7), and "other" (N= 8). Slightly more than 31 percent were continuing their education.

Compared to students who completed these programs in 1990, a higher percentage of FY 1995 graduates were employed, were working in occupations related to the training they received at their community college, and were more likely to be satisfied with program components including course content, lecture/lab experiences, equipment facilities and materials, job preparation,

preparation for further education, and labor market information. Figure 4 illustrates differences in the employment and education status of both groups of graduates.

Figure 4. Comparison of Electrical and Electronic Engineering Grads: FY1990 and FY1996

A closer look at graduates within specific program areas shows that, in **Computer Engineering Technology** programs, six of the seven graduates were employed were full-time, but only half of these were working in related jobs. Graduates offered these reasons for not being in related work: one listed "found better paying job in another field," one checked "could not find a job in field of preparation," and one was employed in a temporary job while in transition. Five of the seven working graduates were hired *after* program completion. Compared to salaries of other completers in this broad program area, Computer Engineering Technology grads earned the lowest average salary of \$11.91 per hour. Only one graduate was unemployed, but was not seeking work. This resulted in an unemployment rate of 4.2 percent. Half of the graduates were continuing their education.

Slightly more than 95 percent of graduates of **Electrical, Electronic and Communications Engineering** programs were employed or pursuing additional education, or both. A total of 87.4 percent were employed and three of four could be found in a job related to their training. Those who were not employed in jobs related to their community college training provided these explanations: five respondents indicated they preferred to work in another field, six found a better paying job in another field, six could not find a job in their field of preparation, three worked previously in this field but changed, one preferred not to move to a new locality, six accepted temporary work while in transition, one took other work in order to get preferred working hours, and eight listed "other," and two did not provide a reason. Of the total number of working Electrical, Electronic and Communications Engineering graduates, only a small portion (11.8 percent) were employed part-time. A similar percentage of respondents gained employment prior to enrolling (30.7 percent), while enrolled (32.9 percent), or after graduation (36.4 percent). Slightly more than half were employed in-district. Graduate's salaries averaged \$13.33 per hour. The unemployment rate (those unemployed and seeking) was 4.6 percent. Nearly one-third were currently enrolled.

All employed graduates of **Telecommunication Electronic Technology** programs held full-time positions with five of six reporting their jobs were in areas related to the training they received. No graduates were unemployed and seeking work; however, one was unemployed but not seeking to be a part of the labor force at the time of the survey. Only one of the seven graduates was currently enrolled in additional training. Five of the six working graduates were employed out-of

district but in Illinois. Graduates from this specific program area earned the highest average salary (\$16.49 per hour) for the total group of survey respondents in Electrical and Electronic Engineering. Half of the graduates began their position *during* program enrollment. Telecommunications electronic technology graduates reported the lowest levels of satisfaction (M= 3.74) with program components for the group.

Electromechanical Instrumentation and Maintenance Technology. Currently, 24 community colleges train students for careers in this broad program area. Of the 122 graduates, 82 returned completed surveys for a response rate of 67.2 percent (Table A-2). Thirty-seven of these respondents were trained in computer maintenance, five in electromechanical technology, five in instrumentation technology, twelve in robotics technology, and twenty-three in automated manufacturing technology. Overall, 92.5 percent of graduate respondents were employed or pursuing additional education or both. A total of 85.4 percent were employed. Among working graduates, 87.1 percent of these working full-time, and 73.8 percent were performing tasks relative to the training they received in college. Overall, the largest percent of graduates (43.5 percent) obtained their current job prior to program entrance. A majority of graduates were working in district. The average wage for this group of graduates was \$14.45 per hour which was the second highest average wage of all groups of graduates. The rate of unemployment for the group was only 6.1 percent. Regarding those who were continuing to pursue additional education, the survey results showed 18.8 percent of the respondents were currently enrolled in a related program. Overall, graduates of this broad program area indicated their level of satisfaction with their current job as 4.02 on a 5.0 scale. In terms of graduates' satisfaction with program components, respondents gave an average score of 4.00/5.0.

More graduates from the class of 1995 were continuing their education, more were working part-time, and more were unemployed than were documented from the 1991 survey. Comparisons of data as reported by graduates from both years are shown below.

Figure 5. Comparison of Electromechanical Instrumentation Graduates: FY1990 and FY 1995

An examination of data by specific program shows the following: 87.5 percent of graduates in **Computer Maintenance Technology** were employed full-time. Only three of the 37 respondents were unemployed and seeking work which was the equivalent of an 8.1 percent rate of unemployment. Slightly more than one-fourth of those employed were in jobs unrelated to their program of study. When asked "why," three respondents said they found a better paying job in another field, two could not find a job in their field of preparation, one took a temporary job, and one listed, "other," and two did not indicate a reason. The greatest number of graduates obtained

their current position *after* program completion. Salaries for Computer Maintenance Technology workers averaged \$13.65 per hour, the lowest within this group. One-quarter of the survey respondents were currently enrolled.

Only two of the five graduates in **Electro-mechanical Technology** were employed and each had obtained his/her position prior to program entrance. One graduate was working full-time in a related position and one was working part-time in an unrelated position because of inability to locate related employment. Two were unemployed and seeking work and one indicated his/her status as unemployed by choice. Salaries were highest for this group at \$21.00 per hour; however the point of job attainment may be a influential factor. Two respondents were currently enrolled.

Three of the five graduates in **Instrumentation Technology** were employed full-time; one was employed part-time, and one was unemployed but not seeking to be part of the labor force. Two graduates were working in jobs related to the training they received at their local community college but two were in unrelated jobs because of a better paying job in another field or an inability to find work in their field of preparation. Three gained employment prior to program entrance. Only one became employed after graduation. Employed graduates earned an average of \$14.83 per hour. Four graduates indicated they had no further educational goals at the time of the survey. Respondents awarded lowest satisfaction rates for program components of all surveyed graduates, yet rates remained in the neutral range. Conversely, they awarded highest ratings for job satisfaction among all graduates in related and unrelated jobs.

Robotics Technology graduates fared well according to survey results. Ten of 12 were employed full-time, one was employed part time, and one was unemployed but not seeking work at the time of the survey. Seventy percent of employed graduates were working in jobs related to their training. Of the remaining 30 percent, one indicated inability to find a related job and two others did not indicate a reason. Over half of working graduate respondents gained employment during program enrollment; one-third were employed at the time they enrolled, and only one (11.1 percent) obtained work after program completion. A slightly greater percentage were working in-district as opposed to working out-of-district. No graduates were employed out-of-state. The average salary for Robotics Technology graduates was \$14.83 per hour. Five of the 12 graduates were continuing their education.

All graduates in **Automated Manufacturing Technology** were employed or pursuing additional education or both. Slightly more than 90 percent were employed full-time. Only two were employed part-time. Two were unemployed, but not seeking work at the time of the survey. Eighty-five percent of graduates were working in jobs related to their program area. Of those who were not in related jobs, one person took a temporary job while in transition and two did not specify their reasons. Almost half of working graduates had their position *prior* to program entrance. Three-fifths were working in-district. The average salary as reported by respondents was \$14.66 per hour. One-fourth were currently enrolled in additional coursework. Of all Electromechanical instrumentation graduates, this group of graduates awarded the highest satisfaction ratings for program components.

Fashion and Fabric Consultant. Currently, workforce preparation for Fashion and Fabric Consultants is only offered at 2 community colleges. Of the 13 students who graduated during fiscal year 1995, 8 responded to the follow-up survey for a response rate of 61.5 percent. (Table

A-2.) Survey results revealed that 5 of the 8 respondents were employed full time in a related job. Three of the working respondents began their job *after* program completion. Four were working out-of-district but in Illinois. The average salary for fashion and fabric consultants was \$8.85 per hour. Three graduates reported being unemployed but were not seeking to be a part of the labor force at the time of the survey. Three were currently pursuing additional education while working. A comparison of follow-up data from fiscal year 1990 graduates with data provided by 1995 graduates shows that the latter group of completers was more likely to be continuing their education, working full-time, working in occupations which are related to their community college training, and working out-of-district, but in Illinois. Salaries paid to fiscal year 1995 graduates were nearly \$2.00 per hour higher than the average hourly earnings of 1990 graduates. Graduates from 1990 gave higher ratings to program components than did students who completed their program in 1995. The following graph illustrates the differences between the two groups of graduates as determined from responses to survey questions.

Figure 6. Comparison of Fashion and Fabric Consultant Graduates: FY1990 and FY1995

Paralegal Assistant. Programs which train students in paralegal assisting can be found at 6 community colleges. Five colleges reported paralegal assisting program graduates. Of the 139 graduates from this program area, 99 responded to the follow-up survey for a response rate of 71.2 percent (Table A-2). A total of 89.8 percent of respondents were employed or pursuing additional education or both. Among employed graduates, those working full-time comprised 90.4 percent and 60.2 percent classified themselves as working in related occupation. Those who were not employed in a related job provided these explanations: 15 indicated they could not find a job in their field of preparation, 5 found a better paying job in another field, 4 took a temporary job while in transition, 3 preferred to work in another field, 2 worked previously in the field but changed, one listed "other, and one did not indicate a reason. Working respondents were more likely to obtain their current position *after* program completion (43.8 percent) yet 30.0 percent held their position prior to program entrance, and 26.3 percent began their position *during* program enrollment. Graduates were closely split between those who were working in-district and those working out-of-district but in Illinois. The average salary as reported by respondents was \$12.16 per hour. Only 6.1 percent reported their status as unemployed, but seeking work. Slightly more than one-third were currently enrolled in additional coursework.

A review of how graduates from 1990 compared with those who completed their training in 1995 shows that more fiscal year 1995 working graduates were employed full-time. Fewer 1995 graduates were employed in jobs related to the training they had received at their local community

college. More 1995 graduates had obtained their jobs prior to enrolling in paralegal classes and more were now working out-of-district and out of Illinois. Salaries had risen \$2.60 per hour, on average, from those reported by 1990 graduates. A higher percentage of 1995 graduates were unemployed. The graph below provides a visual display of how graduates compared.

Figure 7. Comparison of Paralegal Assistant Graduates: FY1990 and FY1995

Criminal Justice and Corrections. Programs in Criminal Justice and Corrections provide instruction in the theories and principles of public law enforcement, private security services, and the management of correctional facilities. Criminal Justice/Corrections graduates from 44 colleges were surveyed for this report. This program area represented the largest group of graduates surveyed during this cycle. Of the 758 who completed programs in fiscal year 1995, 436 returned usable surveys for an overall response rate of 57.5 percent (Table A-2). Ninety-four percent of these respondents had completed Law Enforcement/Police Science programs with only four percent representing Corrections/Correctional Administration programs, and two percent having completed Security & Loss Prevention Services programs. Overall, 93.2 percent were employed or pursuing additional education or both. A total of 83.3 percent of the graduates were employed with 83.5 of these reporting their status as full-time. The unemployment rate averaged 7.9 percent for this group. This broad program area showed the second highest percentages of graduates working in unrelated jobs. Nearly half found jobs *after* program completion, with the rest of the graduates evenly divided on whether they got their job *prior* to program entrance or began a job *while enrolled*. The bulk of graduates were working in-district (64.8 percent). The average salary for all Criminal Justice graduates was \$10.78 per hour. Nearly 36 percent were pursuing additional training.

There were few noteworthy differences in the data reported by the class of 1990 versus that which was reported by the class of 1995. However, a slightly greater percent of 1995 graduates were employed, held full-time status, and were working out of Illinois. The later class tended to express higher levels of satisfaction with program components than did 1990 graduates. Comparative points are shown in the graph below:

Figure 8. Comparison of Criminal Justice and Corrections Graduates: FY1990 and FY1995

Of the fifteen responding graduates of **Correctional Administration** programs, 86.7 percent were employed. Nine were employed full-time and four held part-time jobs. Two were unemployed and seeking work for an unemployment rate of 13.3 percent. More graduates of Correctional Administration programs were working in jobs which were unrelated to their field of study than graduates in any other program surveyed. When queried, respondents indicated they preferred to work in another field (N=1), found a better paying job in another field (N=1), could not find a job in their field of preparation (N=3), accepted temporary employment while in transition (N=3). Of those employed in a related position, job satisfaction rates were low ($\bar{M}=2.33/5.00$). Almost two-thirds reported that they had obtained their current job *following* program completion. Four were working in-district; five had located positions out-of-district but in Illinois, and two were working out-of-state. Their average reported salary was \$11.45 per hour. Slightly more than 31 percent were continuing their education. This group of graduates was more satisfied with program components than graduates from all other programs within the broad Criminal Justice/Corrections category. HORIZONS reports "'Corrections Officers and Jailers' is one of the 50 fastest growing occupations in Illinois." Growing prison populations and the difficulty in recruiting workers for this setting should assure numerous opportunities for job seekers.

Eighty-three percent of the 410 **Law Enforcement/Police Science** graduates were employed. Of these, 83.6 percent were working full-time, 16.4 percent were part-time, 7.7 percent were unemployed and seeking, and 9.4 percent were not working and not seeking to be members of the labor force at the time of the survey. Slightly more than half were working in related jobs. Of those who were in unrelated jobs, the most prevalent reason given was "could not find a job in related field (N=45). Twelve reported that they preferred to work in another field, 11 found a better paying job in another field, 4 worked previously in this field but changed, one preferred not to move to a new locality, 35 took a temporary job while in transition, 6 took a job in order to get preferred working hours, one did not complete program or pass licensing test to be eligible to work in field, and 41 others did not provide a specific reason. The point at which most graduates became employed was *after* graduation. Nearly 66 percent were employed in-district. Law Enforcement workers earned an average of \$10.79 per hour. Over one-third were currently enrolled.

Nine of ten graduate respondents who were trained in **Security and Loss Prevention Services** were employed full-time. Only one graduate was unemployed and seeking work. A slightly greater number of graduates were working in jobs which were unrelated to their community college program. One respondent stated a preference for working in another field, two could not find a job in their field of preparation, and three did not indicate a specific rationale. Of those who were working in related positions, job satisfaction matched the scores of Correctional Administration graduates at 2.33/5.0. Graduates were evenly divided on their point of job attainment. Three were employed *prior* to enrollment, three began jobs *while enrolled*, and three accepted employment offers *after* graduation. Two-thirds were working in-district. At \$9.78 per hour, the average hourly salary for Security and Loss Prevention Services graduates was the lowest for all graduates in

Criminal Justice and Corrections. Five of the nine graduates were currently enrolled in school at the time of the survey.

Electrician. Ten colleges have approved programs which provide individuals with the skills necessary to become electricians. Instruction includes training in the installation, operation, maintenance and repair of electrical systems in residential, commercial, and industrial settings. Of the 102 graduates in fiscal year 1995, 51 responded to the follow-up survey for a response rate of 50.0 percent. Completers of these programs fared the best over graduates from all other programs. A total of 97.8 percent were employed or pursuing additional education or both. Ninety-eight percent were employed, and all of these were employed full-time. A high percentage (89.8) were working in related jobs. Only one graduate reported being unable to find a job in his/her field and only one graduate respondent was employed part-time. One was unemployed, but chose not to be a part of the labor force at this time. Slightly more than half had their current job prior to program entrance. Nearly three-fifths were working in-district. The average reported salary was \$19.72 per hour. Only one-third were continuing their education at the time of the survey. Despite so many positive outcomes, electrician graduates awarded some of the lowest satisfaction ratings for program components of all other respondents ($M=3.77/5.0$) which placed ratings in the "neutral" range.

Comparing data provided by respondents of each class, graduates from 1995 were less likely to be continuing their education. More 1995 graduates were in training-related jobs and a higher percentage were working out-of-district or out of Illinois than their 1990 counterparts. Salaries were slightly more than \$8.00 per hour higher than those reported in 1991. Graduates of the earlier class were even less satisfied with program components than those who completed in 1995; however, ratings were still in the "satisfied" range. The graph below illustrates differences in particular areas as reported by Electrician respondents in 1991 and 1996.

Figure 9. Comparison of Electrician Graduates: FY1990 and FY1996

Electrical and Electronics Equipment Installers/Repairers. Training in Electrical and Electronics Equipment Installation and Repair is offered at 33 colleges across Illinois. Instruction consists of training individuals to assemble, install, operate, adjust, maintain or repair electrical and electronic equipment used in cable systems, communications devices, computers, and manufacturing equipment and other related areas. Of the 223 graduates, 144 (64.6 percent) responded to the survey. Of these, nearly half had completed programs in the specific area of Industrial Electronics Installation and Repair. The remaining graduates were identified as completers of General Electrical and Electronics Equipment Installers/Repairers programs (N=4), Communication Systems Installers/Repairers (N=30), and Computer Installer/Repairers (N=32). A total of 91.2 percent of

all graduates within this broad field were employed or pursuing additional education or both. A high percentage (96.6) held full-time jobs. Among employed workers, 73.9 percent were working in occupations which were related to the training they received. Most respondents indicated they found work *after* program completion. On the average, slightly more than half were employed in the district where they received their training. Salary-wise, graduates reported average earnings of \$13.62 per hour. The unemployment rate for Electrical and Electronics Equipment Installers/Repairers averaged 8.1 percent. Slightly more than 20 percent were continuing their education. Graduates were among those most satisfied with program components.

Comparing graduates' status from 1990 to 1995, survey results indicate that those who completed programs in 1995 were less likely to be continuing their education and more likely to be employed full-time. Of those employed, 1995 graduates were more likely to gain employment *after* completing their training. A greater percentage of those who graduated in 1995 were unemployed and seeking work. Salaries increased an average of nearly \$2.00 per hour from 1991 to 1996. The following graph shows how the graduates compare in selected survey areas.

Figure 10. Comparison of Electrical/Electronic Equipment Installer Grad: FY1990 and FY1996

Of the four **General Electrical and Electronics Equipment Installers/Repairers**, only three responded to questions regarding employment. Two indicated they were employed full-time and one was unemployed and seeking work. Of the two working graduates, one was in a related job and one was not, due to an inability to find a job in this field. The Occupational Outlook Quarterly cautions that "reliability, ease of services, and lower prices of products" will lessen demand for electronic equipment repairers (p.44). In terms of job attainment, one was employed *prior* to program entrance, the other gained employment *after* program completion. Both were working in-district. The average salary for these graduates was \$7.25 per hour, the lowest salary of all graduates within this broad program area. Neither of the employed graduates were satisfied with their current job, awarding a satisfaction rating of 1.5/5.0, the lowest rating of all graduates surveyed. Graduates seemed satisfied with aspects of their programs, however, awarding an average rating of 4.25/5.0. Two of the four graduates had previously pursued further education, but none were currently enrolled.

Nearly 96 percent of the 30 respondents who graduated from **Communication Systems Installer/Repairer** programs were employed full-time, and a sizeable majority (87.5 percent) of these were in related jobs. Most working graduates (69.6 percent) obtained their current position

after program completion and were working in-district. Two graduates were unemployed and seeking work which resulted in an unemployment rate of 6.9 percent. Of all graduates surveyed, Communications Systems Installer graduates had the lowest percentage (6.7) continuing their education.

Slightly over 92 percent of the 30 **Computer Installer/Repairer** graduate respondents were employed full-time. However, only three of five working graduates were in jobs related to the training they received at their local community college. Of the 10 graduates who were working in unrelated jobs, one found a better paying job in another field, one could not find a job in their field of preparation, one preferred not to move to a new locality, three took temporary jobs while in transition, one did not complete the program, two listed "other," and one did not indicate a reason. Five graduates obtained employment *prior* to enrolling; nine began positions *while enrolled*, and nine others were hired *after* program completion. Nearly 60 percent were working out-of district but in Illinois. Salaries for working graduates averaged \$12.72 per hour. Four graduates reported their status as unemployed but seeking work for an unemployment rate of 12.9 percent. Just over one-fifth (21.9 percent) were currently enrolled. (LMI?)

A total of 95.9 percent of the 50 **Industrial Electronics Installers/Repairers** graduates which returned follow-up surveys were employed or pursuing additional education or both, for the highest rates in this broad program area. Of those who were employed, 98.5 percent were employed full-time. Three-fourths of all working graduates were employed in jobs related to their field of preparation. Of those who were not, the following reasons were given: two preferred to work in another field, three found a better paying job in another field, seven could not find a job in their field, one took a temporary job while in transition, and two did not indicate a reason. A slightly greater percentage of graduates obtained work *after* program completion. Most (63.8 percent) were working in-district. The average salary for graduates in Industrial Electronics was \$15.29 per hour which was the highest average wage paid graduates in this overall category. Only five graduates were not employed but actively involved in the job search process for an unemployment rate of 5.5 percent. An average of 25.6 percent were continuing their education.

Cabinet Maker and Millworker. Although numerous institutions offer coursework in this field, a stand-alone program is only offered at one institution. Of the program's 6 graduates, 3 responded to the follow-up survey for a 50.0 percent response rate. All three were employed or pursuing additional education or both. Two were working full-time in businesses outside their community college district. Both were in work related to the training they received, and both had obtained employment *after* completing program requirements. Their average reported salary was \$8.75 per hour. One respondent was unemployed, not seeking work, but taking additional coursework. While graduates were generally satisfied with program components, they awarded this portion of the survey the third lowest scores of all respondents. Only minor differences can be seen in the status of cabinet making graduates between 1990 and 1995. The graph below shows how graduates compare.

Figure 11. Comparison of Cabinet Maker Graduates: FY1990 and FY1995

Health and Medical Administrative Services. Twenty-seven colleges throughout the Illinois community college system provide training in health and medical administrative services. Students learn skills to manage health care systems and service networks, including hospitals and patient care units. In addition, some may be trained to manage the maintenance and retrieval of medical records or to take medical transcription. Of the 238 graduates surveyed, 145 returned usable surveys for a response rate of 60.9 percent. Six respondents were completers of hospital/health facilities (long-term care) administration programs, 19 were awarded certificates in health unit coordinator/ward clerk programs, 62 graduated from medical records technology programs, and 58 completed training in medical transcription. On the average, 87.1 percent were employed or pursuing additional education or both. Of the 80.0 percent who were employed, nearly 83 percent were full-time. One of five were working in unrelated jobs because of the following specific reasons: "could not find job in field of preparation" (N=12), "preferred to work in another field" (N=3), "found better paying job in another field" (N=2), "took job in order to get preferred working hours" (N=2), and "preferred not to move to a new locality" (N=1). The point at which most graduates began their current job was *after* program completion. Over half (56.3 percent) were working in-district. The average hourly salary was \$10.40. The percentage of graduates continuing their education was just slightly more than 12 percent--the lowest rate for all graduates combined. Graduates recorded their level of satisfaction with program components at 4.12/5.0, on average.

A comparison of health services graduates from 1990 and 1995 shows that 1995 graduates were less likely to be continuing their education. A smaller percentage were employed, therefore the unemployment rate was higher. A smaller percentage work in positions in which the tasks are related to the training they received. On average, salaries climbed \$1.29 per hour from 1991 to 1996. Comparative data detailing particular survey outcomes is shown below:

Figure 12. Comparison of Health/Medical Administrative Graduates: FY1990 and FY1995

Each of the six graduates from **Long Term Care (Hospital/Health) Facilities Administration**

programs were employed. Within this group of working graduates, 83.3 percent reported holding full-time jobs. Two-thirds were working in related jobs. Of those who were employed in jobs which were unrelated to their training, one reported being unable to find a job in his/her field of preparation and one preferred not to move to a new locality. Two-thirds were employed out-of-district, but in Illinois. Salaries averaged \$13.29 per hour which were the highest wages paid to respondents in this broad program area. None were unemployed and seeking work. All had chosen not to pursue additional training at this time.

Among the 19 **Health Unit Coordinator/Ward Clerk** respondents, only 42.1 percent of graduates were employed. Of working graduates, most were full-time and working in-district; however one half were in jobs which were unrelated to their training. One graduate attributed this to a preference to work in another field, two could not find a job in their field of preparation, and three took a job in order to get preferred working hours. Most graduates (62.5 percent) became employed *after* program completion. Salaries averaged \$6.81 per hour which was the lowest wage paid all graduates surveyed in 1996. Four of the nineteen graduates were unemployed but seeking work for an unemployment rate of 21.1 percent. An additional seven graduates were unemployed but were not seeking work at the time of the survey. One-third of the respondents were pursuing additional training. (LMI?)

Next to graduates in Long Term Care Facilities Administration, the 62 respondents in **Medical Records Technology** programs had the largest percentage (93.2) who were employed or pursuing education or both. Of employed graduates, 88.9 percent were employed full-time. Of programs with more than 10 graduates, Medical Records Technology had the highest percentage of graduates (92.6 percent) who were working in jobs related to their field. Of those who were in unrelated jobs, one indicated a preference for working in another field, and three said they could not find a job in their field. One did not complete their program to be eligible to work in field. Most graduates (63.0 percent) began their job *after* program completion. Respondents tended to be working either in-district (47.2 percent) or out-of-district but in Illinois (41.5 percent). The average salary of program completers was \$10.95 per hour. Of all graduates within this broad program area, those in Medical Records Technology gave highest satisfaction ratings (4.20/5.0) with program components. Only one was unemployed and actively seeking work which resulted in an unemployment rate of 1.6 percent. Just over ten percent were pursuing advanced training.

A total of 82.8 of the 58 respondents in **Medical Transcription** were employed with three of four in full-time positions. Of working graduates, 71.7 percent were performing job tasks related to the training they received. Those in unrelated jobs attributed this to a preference to work in another field (N=1), accepting a better paying jobs in another field (N=2), being unable to find a job in their field of preparation (N=6), or accepting positions in order to get preferred working hours (N=1). A majority (59.1 percent) began their current position *after* program completion. Two thirds were working in-district. The average salary of all respondents in this program area was \$9.99 per hour. Of graduates from related programs, Medical Transcription respondents were least likely to be satisfied with program components, yet awarded a satisfaction rating of 3.96/5,0 which falls within the "satisfied" range. Five of the 58 graduates were not employed but were seeking work for an unemployment rate of 8.6 percent. A large percentage (89.3 percent) chose not to pursue additional education at this time.

Business Information & Data Processing. Forty-three community colleges offer training in business information and data processing. Coursework prepares students to provide and manage

computer services, resolve data system hardware and software needs, and operate various types of equipment including mainframe computers and related peripheral equipment. Surveys were mailed to 615 graduates and a total of 386 graduates responded for a return rate of 62.8 percent. Ninety-four percent of respondents completed business computer programs. The remaining graduates had received training in business systems networking/telecommunications (N=3), and business computer facilities operator programs (N=22). Eighty-eight percent of respondents were employed or pursuing additional education or both. Slightly more than 83 percent were employed. Among these graduates, an average of 79.8 percent were employed in related jobs. Most graduates were working in-district, and the largest percentage found their current job *following* program completion. The average salary for Business Information graduates was \$12.92 per hour. Overall, 11.2 percent were unemployed and seeking work. Over one-fourth of all graduate respondents from this program area were continuing their education.

Comparing survey results from the class of 1990 with the class of 1995, graduates in 1995 were more likely to be employed full-time and working in jobs related to their community college training. They were more likely to have become employed *after* graduation. A smaller percentage was unemployed and seeking work. Salaries, on average, were \$2.70 per hour higher in 1996. The graph below provides a visual comparison of pertinent data between these two groups of graduates.

Figure 13. Comparison of Business Information Graduates: FY1990 and FY1995

Slightly more than 84 percent of the 361 respondents from **Business Computer Programming** were employed. Of working graduates, nearly nine of ten were employed full-time. Approximately three-fourths were working in related jobs. Those who were in unrelated jobs gave these specific reasons: "preferred to work in another field" (N=8), "found a better paying job in another field" (N=8), "could not find a job in their field of preparation" (N=29), "worked in the field previously but changed" (N=1), "preferred not to move to a new locality" (N=1), "took temporary job while in transition" (=10), "took current job in order to get preferred working hours" (N=7), and "did not complete the program to be eligible to work in field"(N=2). Most graduates began their position *after* program completion and most (63.7 percent) were working in-district. The average hourly salary was \$13.13 per hour which was the highest wage paid to graduates from this broad program area. Those who were unemployed and seeking totalled 10.6 percent, a rate of twice the state average. HORIZONS reports that increasing number of graduates in computer programming have allowed employers to become more selective. In Illinois, demand for programmers is expected to grow "about as fast as the average for all occupations through 2005." Slightly more than one-fourth (28.5 percent) were taking additional coursework at the time of the survey.

Two of the three graduate respondents in **Business Systems Networking/Telecommunications** were employed full-time in jobs related to their community college coursework. One was employed part-time in an unrelated job. Graduates were employed in-district. The average salary was \$7.25 per hour which was the lowest paid to graduates from Business Information and Data Processing, overall. No completers were unemployed at the time of the survey and none were pursuing additional training.

Only 61.9 percent of the 22 graduate respondents in **Business Computer Facilities Operator** programs were employed. Of these, only three-fifths held full-time jobs. Less than half were employed in related jobs. One preferred to work in another field, one found a better paying job in another field, one could not find a job in field of preparation, three took temporary job while in transition, and one took job in order to get preferred working hours. Most graduates (58.3 percent) obtained their current job *after* graduation. Two-thirds were working in-district. Graduates' average hourly salary was \$9.69 per hour. Compared to other Business Information graduates, a higher percent were unemployed. Five reported their status as unemployed but seeking work, while three others were unemployed but not seeking to be in salaried jobs at this time. Slightly more than one-third were pursuing advanced training.

Recommendations and Conclusions

Overall results of the 1996 follow-up study of fiscal year 1995 occupational program graduates were very positive. In comparison with graduates of five years ago, data from the follow-up survey responses of 1995 graduates display several positive outcomes: graduates from the class of 1995 were more likely to be employed. More were employed full-time, and fewer were unemployed and seeking work. A slightly greater percentage were working in jobs related to their program of study. More of the 1995 respondents gained employment following graduation. Salaries rose an average of \$2.00 per hour or 19 percent over those reported in 1991.

The economic situation in the United States is evolving to one in which businesses must be able to compete globally in order to survive. Most employers are finding that the skill levels of workers cannot meet current and future demands. By the year 2000, 65 percent of all jobs will require skilled workers. As key providers of workforce education, community colleges must utilize various indicators when assessing whether programs have appropriate curricular and technological components. Results from the occupational follow-up survey provide important data for colleges to consider when evaluating programs. Programs with large percentages of students who are employed full-time in related jobs point toward colleges which are generally in touch with their local labor markets and helping students develop the skills required to be an asset to their employers. On the other hand, programs showing high percentages of graduates who are unemployed and seeking work, working in unrelated jobs, expressing lower satisfaction levels with program components or despite efforts to the contrary, are only able to secure part-time work, deserve further examination. Institutions are requested to pay particular attention to local follow-up data as they examine programs in regard to need, cost-effectiveness, and quality indicators in fiscal year 1997. *Programs deserving special attention include Communications, Electromechanical Technology, Corrections/Correctional Administration, Computer Installer/Repairer, Health Unit Clerk/Ward Clerk, and Business Computer Facilities Operator.* Colleges are requested to examine how programs can be strengthened, such as through workplace learning, job placement services, increased involvement by advisory committees, curricular revisions, updated technology, etc., or whether programs need to be discontinued because they no longer viable.

Statewide, several program areas had a substantial percentage of their employed graduates working in field outside their area of training. In several instances the graduates reported this was due to their inability to locate employment in the field. *Colleges with programs having more than one-third of their graduated employed in an unrelated field should examine these programs closely.*

Overall, 28.8 percent of the graduates were continuing their education. Several programs had more than one-third of their graduates pursuing further study. *Colleges with programs having more than one-third of their graduates enrolled for further study should address articulation efforts in their program reviews.*

In general, notable progress has been made in response rates for recent surveys. However, the few *colleges with occupational survey response rates of less than 50 percent are asked to give special attention to increasing these rates for the coming year.*

Each year approximately 92 percent of graduates remain in Illinois following graduation, contributing to local economies and bringing technical skills and academic abilities to help business maintain a position of leadership. As more and more Illinois businesses enter the international marketplace, the skills community college graduates bring to the workplace will help assure that they remain competitive. The annual occupational student follow-up survey of graduates provides an important indicator of how well community colleges are helping businesses and industry maintain a position of leadership.

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APPENDIX A

Occupational Follow-up Study Overview Tables
for Selected Occupational Programs

APPENDIX B

Statewide Occupational Follow-up Study Tables
for Selected Occupational Programs by
Classification of Instructional Program Code

APPENDIX C

College-Level Occupational Follow-up Study Tables
for Selected Occupational Programs by
Classification of Instructional Program Code

(The number of respondents from selected colleges is small in the majority of the tables in this section. Readers are advised to balance responses with the number of respondents as they view these data.)

Criminal Justice and Corrections. Criminal Justice/Corrections graduates from 44 colleges were surveyed for this report. Of the 758 who completed programs in fiscal year 1995, 436 returned usable surveys for an overall response rate of 57.5 percent (Table A-2). Ninety-four percent of these respondents had completed Law Enforcement/Police Science programs with only four percent representing Corrections/Correctional Administration programs, and two percent having completed Security & Loss Prevention Services programs. Overall, 93.2 percent were employed or pursuing additional education or both. A total of 83.3 percent of the graduates were employed with 83.5 of these reporting their status as full-time. The unemployment rate averaged 7.9 percent for this group. This broad program area showed the second highest percentages of graduates working in unrelated jobs. When queried, 48 respondents replied that they could not find a job in their field of preparation, 38 indicated they had taken a temporary job while in transition, 23 list "other", 22 did not respond to the question, 14 preferred to work in another field, and 12 found a better paying job in another field. Nearly half found jobs *after* program completion, with the rest of the graduates evenly divided on whether they got their job *prior* to program entrance or began a job *while enrolled*. The bulk of graduates were working in-district (64.8 percent). The average salary for all Criminal Justice graduates was \$10.78 per hour. Nearly 36 percent were pursuing additional training.

There were few noteworthy differences in the data reported by the class of 1990 versus that which was reported by respondents from the class of 1995. However, a slightly greater percent of 1995 graduates were employed, held full-time status, and were working out of Illinois. The later class tended to express higher levels of satisfaction with program components than did 1990 graduates. Comparative points are shown in the graph below:

Of the fifteen graduates of Correctional Administration programs, 86.7 percent were employed. Nine were employed full-time and four held part-time jobs. Two were unemployed and seeking work for an unemployment rate of 13.3 percent. Graduates of Correctional Administration programs reported the highest percentage (72.7 percent) in jobs

which were not related to their field of study. When queried, respondents indicated the following: one preferred to work in another field, one found a better paying job in another field, one could not find a job in their field of preparation, three accepted temporary employment while in transition, one listed "other," and one did not provide a reason. Almost two-thirds reported that they had obtained their current job *following* program completion. Four were working in-district; five had located positions out-of-district but in Illinois, and two were working out-of-state. Their average reported salary was \$11.45 per hour. Slightly more than 31 percent were continuing their education. This group of graduates were more satisfied with program components than graduates from all other programs within the broad Criminal Justice/Corrections category.

Eighty-three percent of Law Enforcement/Police Science graduates were employed. Of these, 83.6 percent were working full-time, 16.4 percent were part-time, 7.7 percent were unemployed and seeking, and 9.4 percent were not working and not seeking to be members of the labor force at the time of the survey. Slightly more than 50 percent were working in related jobs. Of those who were not in jobs related to their training, 12 reported that they preferred to work in another field, 11 found a better paying job in another field, 45 could not find a job in their field of preparation, 4 worked previously in this field but changed, one preferred not to move to a new locality, 35 took a temporary job while in transition, 6 took a job in order to get preferred working hours, one did not complete program or pass licensing test to be eligible to work in field, 21 indicated "other," and 20 did not provide a reason. The point at which most graduates became employed was *after* graduation. Nearly 66 percent were employed in-district. Law Enforcement workers earned an average of \$10.79 per hour. Over one-third (35.8 percent) were currently enrolled.

Nine of ten graduate respondents who were trained in Security and Loss Prevention Services were employed full-time. Only one graduate was unemployed and seeking work. A slightly greater number of graduates were working in jobs which were unrelated to their community college program. One respondent stated a preference for working in another field, two could not find a job in their field of preparation, one responded "other," and one did not provide a reason. Graduates were evenly divided on their point of job attainment: three had positions *prior* to enrollment, three began work *while enrolled*, and three gained employment *after* graduation. Two-thirds were working in-district. At \$9.78 per hour, the average hourly salary for Security and Loss Prevention Services graduates was the lowest for all graduates in Criminal Justice and Corrections. Five of the nine graduates were currently enrolled at the time of the survey.

Lineworker. Eleven colleges have approved programs which provide individuals with the skills necessary to become lineworkers. Of the 102 graduates in fiscal year 1995, 51 responded to the follow-up survey for a response rate of 50.0 percent. Completers of these programs fared the best over graduates from all other programs. A total of 97.8 percent were employed or pursuing additional education or both. Ninety-eight percent were employed, and all of these were employed full-time. A high percentage (89.8) were working in related jobs. Only one graduate reported being unable to find a job in his/her field. Furthermore, only one graduate respondent was employed part-time. One was unemployed, but chose not to be a part of the labor force at this time. Slightly more than half had their current job prior to program entrance. Nearly three-fifths were working in-district. The average reported salary was

\$19.72 per hour. Only one-third were continuing their education at the time of the survey.

Despite so many positive outcomes, lineworker graduates awarded some of the lowest satisfaction ratings for program components of all other respondents ($M= 3.77/5.0$) which placed ratings in the "neutral" range.

Comparing data provided by respondents of each class, graduates from 1995 were less likely to be continuing their education. More 1995 graduates were in training-related jobs and a higher percentage were working out-of-district or out of Illinois than their 1990 counterparts.

Salaries were nearly \$8.00 per hour higher than those reported in 1991. Graduates of the earlier class were even less satisfied with program components than those who completed in 1995; however, ratings were still in the "satisfied" range. The graph below illustrates differences in particular areas as reported by lineworker respondents in 1991 and 1996.

Electrical and Electronics Equipment Installers/Repairers. Training in this field is offered at 33 colleges across Illinois. Of the 223 graduates, 144 (64.6 percent) responded to the survey. Of these, nearly half had completed Industrial Electronics Installer/Repairer programs. The rest were identified as completers of General Electrical and Electronics Equipment Installers/Repairers programs (N= 4), Communication Systems Installers/Repairers (N= 30), and Computer Installer/Repairers (N= 32). A total of 91.2 percent of these graduates were employed or pursuing additional education or both. A high percentage (96.6) were employed full-time. Among employed workers, 73.9 percent were employed in a related job. One third of those who were not employed in a related job indicated they could not find a job in their field of preparation. Most respondents indicated they found work *after* program completion. On the average, slightly more than half (52.8 percent) were employed in the district where they received their training. Salary-wise, graduates were earning an average of \$13.62 per hour. The unemployment rate for electrical and electronics equipment installers/repairers averaged 8.1 percent. Slightly more than 20 percent were continuing their education. Graduates were among those most satisfied with program components.

Comparing graduates' status from 1990 and 1995, we find that those who completed in 1995 were less likely to be continuing their education and more likely to be employed full-time.

However, a greater percentage were unemployed and seeking work. Of those employed, graduates from the class of 1995 were more likely to gain employment *after* completing their training. Salaries had increased an average of nearly \$2.00 per hour from 1991 to 1996. The following graph shows how the graduates compare in selected survey areas.

Electrical and Electronics Equipment Installers/ Repairers

Communication Systems Installer/Repairer

Computer Installer/Repairer

Industrial Electronics Installers/Repairers

Cabinet Maker and Millworker. Although numerous institutions offer coursework in this field, a stand-alone program is only offered at one institution. Of the program's 6 graduates, 3 responded to the follow-up survey for a 50.0 percent response rate. All three were employed or pursuing additional education or both. Two were employed full-time in businesses outside the district where they received their training. Both were in work related to the training they received, and both had obtained employment *after* completing program requirements. Each graduate reported working out-of-district, but in Illinois. The average salary for these graduates was \$8.75 per hour. One respondent was unemployed, but not seeking to be a member of the labor force at the time of the survey. One reported being enrolled in a related program. While graduates were generally satisfied with program components, they awarded this portion of the survey the third lowest scores overall. Few differences can be seen in the status of cabinet making graduates between 1990 and 1995. The graph below shows how graduates compare.

Health and Medical Administrative Services. Twenty-seven colleges throughout the Illinois community college system provide training in health and medical administrative services. Of the 238 graduates surveyed, 145 returned usable surveys for a response rate of 60.9 percent. Six respondents were completers of hospital/health facilities administration programs, 19 were awarded certificates in health unit coordinator/ward clerk programs, 62 graduated from medical records technology programs, and 58 completed training in medical transcription. On the average, 87.1 percent were employed or pursuing additional education or both. An average of 80.0 percent were employed. Of those in health and medical administrative services who were not in related jobs, nearly half indicated they were unable to find a job in their field of preparation. Most graduates began their current job *after* program completion. Over half (56.3 percent) were working in-district. The average hourly salary was \$10.40. The percentage of graduates continuing their education was just slightly more than 12 percent (12.2)--the lowest rate for all graduates combined. Graduates recorded their level of satisfaction with program components at 4.12, on average.

A comparison of health services graduates from 1990 and 1995 shows that 1995 graduates were less likely to be continuing their education; a smaller percentage was employed, and a larger percentage was unemployed and seeking work. A smaller percentage work in positions in which the tasks are related to the training they received. On average, salaries climbed \$1.29 per hour from 1991 to 1996. Comparative data detailing particular survey outcomes is shown below:

Hospital/Health Facilities Administration

Health Unit Coordinator/Ward Clerk

Medical Records Technology/Technician

Medical Transcription

The program area with the most graduates employed was hospital/health facilities administration in which all graduates were working. At the opposite end of the scale were ward clerks; only 42.1 percent of them had gained employment. In addition, four of the nineteen ward clerks were unemployed and seeking work, while seven were unemployed and not seeking to be a part of the labor force at this time. Considering only programs with significant numbers of respondents, medical records technology graduates showed the highest percent employed in related job. with highest salaries earned by those in administration (\$13.29 per hour) and lowest salaries paid to ward clerks (\$6.67 per hour). The highest ratings came from graduates of hospital/ health facilities administration programs (M= 4.50).

Business Information & Data Processing. Forty-three community colleges offer training in this business information and data processing. Surveys were mailed to 615 graduates and a total of 386 graduates responded for a return rate of 62.8 percent. Ninety-four percent of respondents completed business computer programs. The remaining graduates had received training in business systems networking/telecommunications (N= 3), and business computer facilities operator programs (N= 22). Eighty-eight percent of respondents were employed or pursuing additional education or both. Slightly more than 83 percent were employed.

Among these graduates, an average of 79.8 percent were employed in related jobs. Nearly one-third of those in unrelated jobs attributed this to an inability to find a job in their field of preparation. Most graduates were working in-district, and the largest percentage found their current job following program completion. The average salary for business grads was \$12.92 per hour. Overall, 11.2 percent were unemployed and seeking work. Over one-fourth of all graduate respondents from this program area were continuing their education.

Comparing survey results from the class of 1990 with the class of 1995, graduates in 1995 were more likely to be employed full-time and working in jobs related to their community college training. They were more likely to have become employed *after* graduation. A smaller percentage was unemployed and seeking work. Salaries, on average, were \$2.70 per hour higher in 1996. The graph below provides a visual comparison of pertinent data between these two groups of graduates.

Business Computer Programming

Business Systems Networking/Telecommunications

Business Computer Facilities Operator

with the highest of these (92.6 percent) in medical records technology. with highest salaries paid those in business computer programming and lowest earned by employees in business systems networking/telecommunications. The unemployment situation was worst for graduates of business computer facilities operator programs in which five of the eight respondents had not found employment.

An comparative analysis of graduates at varying educational levels shows the following: Associate degree graduates had the highest percentage of graduates who were employed or pursuing additional education or both. They were more likely to get a job after program completion and be working out-of-state. Salaries tended to be lower for associate degree graduates but given their point of job attainment, it is likely they were making a career change rather than working in a job and seeking to upgrade their skills. Although associate degree graduates were generally satisfied with their jobs, they ranked job satisfaction lower than did completers of certificate programs.

Advanced certificate graduates were more likely to have position prior to program entrance. They reported highest salary levels and greatest amount of satisfaction with their jobs. More so than other graduates, they were working in-district, although their geographic distribution was fairly evenly distributed from in-district to out-of-district to out-of state.

Basic Certificate graduates had highest percent employed, the highest percent pursuing additional education, and the highest percent working in a related job. This group of graduates were most likely to be working out-of-district.

Conclusion

Each year, the community college system conducts a student follow-up survey of graduates in specific occupational programs. These graduates have specialized skills and knowledge which they seek to apply in the world of work. This report details their success and provides an assessment of the programs they completed. Community colleges use this valuable student perspective as one important indicator of program viability. Programs with large percentages of students who are employed full-time in related jobs and who are satisfied with their jobs point toward colleges which are generally in touch with their local labor markets and helping students develop the skills required to be an asset to their employers. On the other hand, programs showing high percentages of graduates who are unemployed and seeking work, working in unrelated jobs, expressing lower satisfaction levels with program components or college services, or despite efforts to the contrary, are only able to secure part-time work, deserve further examination.

Overall, the responses received from fiscal year 1995 graduates display several positive outcomes. They show that graduates fared better than their 1990 counterparts in several important areas. Graduates from the class of 1995 were more likely to be employed. More were employed full-time, and fewer were unemployed and seeking work. A slightly greater percentage were working in jobs related to their program of study. More of the 1995 respondents gained employment following graduation. Salaries rose an average of \$2.00 per hour or 19 percent over those reported in 1991. Each year approximately 92 percent of graduates remain in Illinois following graduation, contributing to local economies. Graduates from 1995 were no exception. Training provided by Illinois community colleges has a high rate of return for our state. As more and more Illinois businesses enter the international marketplace, the skills community college graduates bring to the workplace will help assure that they remain competitive.

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APPENDIX A

Occupational Follow-up Study Overview Tables
for Selected Occupational Programs

APPENDIX B

Statewide Occupational Follow-up Study Tables
for Selected Occupational Programs by
Classification of Instructional Program Code

APPENDIX C

College-Level Occupational Follow-up Study Tables for Selected Occupational Programs by Classification of Instructional Program Code

(The number of respondents from selected colleges is small in the majority of the tables in this section. Readers are advised to balance responses with the number of respondents as they view these data.)

Communications: U.S. Department of Labor's Career Guide to Industries reports "Employment in newspapers should grow more slowly than in other sectors of the industry. This slow growth will largely result from stagnant advertising sales, which account for the bulk of newspapers' revenue. Newspapers will continue to face strong competition for advertising dollars from direct-mail advertising, which targets specific types of consumers in a more cost-effective manner." Employment in miscellaneous publishing is expected to grow much faster than in other sectors, fueled largely by the growing popularity of catalog and mail-order shopping. Catalog sales to bus, dual-career families should continue to increase. Employment in periodicals also is expected to grow rapidly, spurred by increasing interest in professional, scientific and technical journals, as well as special interest publications, such as health and fitness magazines. Growing demand also is expected for sales and marketing workers and managers in the industry. Competition from non-print media and increasing use of nontraditional printing technologies is spurring demand for sales personnel to promote a printer's product.

Changes reported in U.S. Department of Labor's Career Guide to Industries indicate growth in some areas including direct-mail advertising, miscellaneous publishing such as for mail order catalogs, and demands for professional, scientific technical, and special-interest journals. Other areas such as newspapers, are expected to grow more slowly than other sectors of the industry because advertising sales, which provide the majority of revenue for newspapers, are "stagnating".

Communications Technology: OOQ, spring 95, volume 39 #1, "What is a Technician?"pp38-44 : "Employment of broadcast technicians is expected to show little or no change through the year 2005 because of advances such as computer-controlled programming and remote-controlled transmitters. ")p 44)

Elec/Electronic Eng-Related Technology: Definition OOQ spring 95, p. 40: Engineering and science technicians use the principles and theories of science, engineering, and mathematics to solve problems in research and development, manufacturing, sales, construction, and customers service. Many engineering and science technicians assist engineers and scientists, especially in research and development. Others work in production or inspection jobs."

Fashion and Fabric Consultant.

see "Unraveling employment trends in textiles and apparel" MLR 8-95.

OOQ, spring 95, p. 44: "Technological change is lessening the demand for some kinds of technicians. Improvements in reliability, ease of services, and lower prices of products will restrict opportunities for electronic equipment repairers and communications equipment mechanics.

MLR, June 1995: p. 49: growth in precision production, craft, and repair occupations occurred primarily in services, including data processing equipment repairers.

Horizons 1996 p. 261: "As improvements to computers make them easier to repair, employment for computer maintenance technicians may grow more slowly." outlook is in balance. Equipment can diagnose its own problems. competition may be keen. prospects will be best for those with a 2-yr degree.

balance in outlook for biomedical equipment repairers, also p. 268: small occ in Il. "Most job openings will occur in large cities, where there are more hospitals."

telephone installer and repairer. surplus p. 263. "job openings will result solely from the need to replace workers who leave the labor force." "Buildings are wired for telephone service during construction so that a customer may select a telephone, take it home, and plug it in. This eliminates the need for an installer. Competition will be stiff"

radio and TV service technicians p. 264: slight surplus. "Slower than average growth is projected in Illinois. "Increased demand for TVs, video games, radios, stereos, tape recorders, home computers, and in the use of visual and audio media in education, medicine, business and industry is expected to continue. Technology in this field undergoes constant change." Many people learn skills on-the-job or through apprenticeships."

appliance repairers

computer maintenance technicians: balance. p. 261: as improvements to computers make them easier to repair, employment for computer maintenance technicians may grow more slowly."

office machine repairers: p. 259: slight surplus. Outlook depends on the demand for office machines and on technological changes. Much new equipment being produced is electronic rather than mechanical. This makes repairs more complex."

coin and vending machine repairers. - -. 256

Horizons p. 82 (1996): "Rapid growth of medical occupations and a growing use of computers to store and retrieve information is expected to increase demand for those who can transcribe medical information. Detailed information required for insurance companies and medical should also stimulate employment growth."

Business - Data Processing.

Monthly Labor Review, Feb 1995: Another industry within business services made the top 20 list: computer and data processing services is a high-paying industry that added 105,000 jobs in 1994.... (p 7) Number 1 growth industry was personnel supply services (temporary help, employee leasing, and employment agencies.) "Employers are increasingly relying on agencies that can provide workers in a variety of occupations, to whom the employer need make no permanent commitment." (p.6) (more responsive to short term fluctuations in demand and still keep production costs down. Graduates should be encouraged to utilize this means of getting a job and colleges should consider this employer on advisory committee.

Growth in the technicians and related support occupations. Biggest growth areas include health technicians, licensed practical nurses, and computer programmers. "Earnings for technicians generally are above average and earnings for a few occupations in this group (including computer programmers) are in the top quartile." p. 49 "The Nature of Occupational Employment Growth: 1983-1993 pps 45-54 Monthly Labor Review, volume 118, Number 6.

"Keen competition for jobs as paralegals is expected because, despite projected rapid growth, the number of graduates of paralegal programs is expected to continue to increase."

*Occupational Outlook Quarterly
Spring 1995, p. 44.*

	1991	1996
Continuing Ed		
Employed		
Employed Full-time		
Employed Part-time		
Unempl & Seeking		
Employment is Job Related		
Had Job Prior		
Got job during		
Got Job After		
Working in-district		
Working out-of dist		
Working out of IL		
Salary		
Satisf with prog components		

need to teach students that they must be willing to go where jobs are.