Innovative Uses of the Occupational Data Base

by JoAnn Wilson

It is commonplace today to observe that the work place is undergoing rapid change. Economic and technological developments are creating new jobs, making others obsolete, and changing the skill requirements of existing jobs. Demographic changes are profoundly influencing the composition of the labor force. Getting the localized, up-to-date occupational information necessary for planning education and training programs which are responsive to these changes and measuring the effectiveness of these programs is essential.

Alaska is unique in having access to such information. The Alaska Department of Labor (AKDOL) Research and Analysis collects occupation and place-of-work information for most of the state's wage and salary workers in addition to the employer, wage and industry information typically collected by the other states. This one-of-a-kind data source is called the Alaska Occupational Data Base (ODB).

By crossmatching the Occupational Data Base with other information sources, it is possible to:

- Target training programs by identifying entry-level positions not currently being filled by Alaskans, women or other worker groups.
- Examine the occupational patterns and earnings of a particular geographic area, industry or population.
- Track the career paths of high school and college program graduates.
- Monitor the performance of education and training programs through the measurement of pre- and post-training earnings differentials and the relationship between the occupation for which a person was trained and the occupation in which the graduate or completer is currently working.

The Alaska Department of Labor currently crossmatches the ODB with its wage records, unemployment insurance data and other administrative records. AKDOL does not release data that would reveal the identity of any individual. Confidentiality of individuals is strictly maintained.

There are some limitations to the data. For example, because the information applies only to persons holding wage and salary employment in Alaska, it excludes those who are employed in another state, self-employed, in the military or attending school full time. Information on persons employed by the federal government is also lacking. In the future, AKDOL hopes to add data on federal and military personnel as well as information

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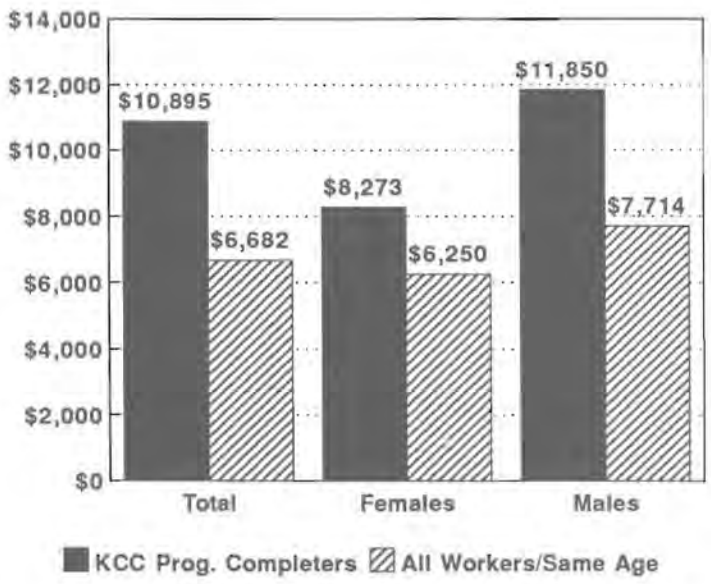
Figure • 1

Completers 1990 Average Earnings Exceed All Alaskan Workers the Same Age



Source: Alaska Department of Labor, Research and Analysis Section.

Table • 1

Top 10 Occupations for Selected Alaska Geographic Areas (by employment) 1st Quarter 1991

	ANCHORAGE	FAIRBANKS	JUNEAU	KETCHIKAN	DILLINGHAM	VALDEZ-CORDOVA
#1	General Office Occupations	Sales Clerks	Sales Clerks	Manual Occupations, NEC	Teacher Aides	Construction Laborers
#2	Secretaries	Janitors & Cleaners	General Office Occupations	Sales Clerks	Janitors & Cleaners	Teacher Aides
#3	Sales Clerks	General Office Occupations	Janitors & Cleaners	General Office Occupations	Elementary School Teachers	Guards & Police, Excluding Public Service
#4	Waiters & Waitresses	Secretaries	Waiters & Waitresses	Carpenters	Mechanics & Repairers, NEC	Misc. Hand-Working Occupations
#5	Misc. Food & Beverage Prep. Occupations	Waiters & Waitresses	Kitchen Workers, Food Prep.	Bookkeepers & Accounting Clerks	Health Aides, Excluding Nursing	Stevedores
#6	Bookkeepers & Accounting Clerks	Adult Ed & Other Teachers, NEC	Secretaries	Elementary School Teachers	General Office Occupations	General Office Occupations
#7	Janitors & Cleaners	Teachers, Postsecondary	Bookkeepers & Accounting Clerks	Misc. Food & Beverage Prep. Occupations	Secretaries	Janitors & Cleaners
#8	Kitchen Workers, Food Prep.	Food Counter & Related Occupations	Cashiers	Teacher Aides	Secondary School Teachers	Secretaries
#9	Receptionists	Construction Laborers	Teachers, Postsecondary	Bartenders	Kitchen Workers, Food Prep.	Elementary School Teachers
#10	Counter Clerks	Elementary School Teachers	Stock Handlers & Baggers	Secretaries	Dispatchers	Manual Occupations, NEC

NEC = Not Elsewhere Classified.

Source: Alaska Department of Labor, Research & Analysis, Occupational Data Base (ODB)

1 *Information on occupational patterns by geographic area has been included in a microcomputer-based slide show just completed by DOL Research and Analysis. The slide show will be made available to secondary students throughout Alaska by DOL's Employment Security Division. The data derived from the ODB will give students making career decisions information on the most numerous occupations in their own local area.*

from other Pacific Northwest states on the industry and earnings of Alaska's graduates who have left the state. In the meantime, research findings must be scrutinized with these exceptions in mind.

Identifying Alaska occupations filled by nonresidents

The Occupational Data Base was originally established to identify the economic impact of nonresident workers. While its use has become much broader, identifying occupations with large numbers of nonresidents can point out training and employment opportunities for Alaskans.

A recent analysis of Alaska occupations filled by nonresidents in 1990 revealed that the occupation with the largest percentage of nonresidents was hand cutters/trimmers (76.1% of total employment). The group with the largest number of nonresident workers was miscellaneous hand working occupations (4,896). Most of these workers are employed in seafood processing.

In 1990, nonresident workers totaled 20,515 for the ten Alaska occupations with the largest number of nonresidents. These occupations were, in addition to miscellaneous hand-working occupations, manual occupations not elsewhere classified (4,367), hand cutters/trimmers (2,056), waiters and waitresses (1,589), salesclerks (1,583), miscellaneous food and beverage preparers (1,425), general office occupations (1,349), construction laborers (1,145), cooks except short order (1,111) and janitors and cleaners (994).

Examining the occupational patterns of geographic areas

Knowing the occupational patterns of geographic areas can shed light on local economies and is critical in planning education and training programs. Occupations in which a large number of workers are employed in a particular geographic area clearly present more opportunities to local residents than occupations in which few persons are employed.[1]

Table 1 lists the "Top 10" occupations (by total number employed) for selected geographic areas in Alaska. The information is for the first quarter of 1991.

Tracking completers of a high school vocational program

A study detailing employment and wage information about 259 senior-level students attending the Martin Luther King Career Center in Anchorage in 1987 was recently completed in cooperation with the Alaska Department of Education and the University of Alaska Anchorage. The center is part of the Anchorage School District and offers vocational training programs to secondary students.

The cooperating agencies approached the Department of Labor because they wanted to determine the feasibility of conducting secondary student follow-up studies using AKDOL data instead of mail or telephone surveys which typically yield spotty results.

The students, who had completed three or more units in 1987 in related occupational studies, or course "clusters," were tracked for the four-year period 1987-1990. There was strong evidence for the positive effects of the training. This was true even though the students included in the study had typically completed only three units at the center.

The study found that, overall, 25% of the students working in wage and salary employment in Alaska in 1990 were employed in industries and/or occupations related to their course of study.

The occupational cluster most associated with related employment was Automated Office Occupations (75%). Other course clusters with higher-than-average related placements were Child Care (40%), Construction (36.3%), Aviation Maintenance (35.7%), Auto Mechanics/Auto Body (35.5%), Computer Programming/Computer Operation (33.3%) and Tourism (28.6%). Occupational clusters with the fewest related placements were Health Occupations (7.1%) and Graphic Arts & Communication (3.8%).

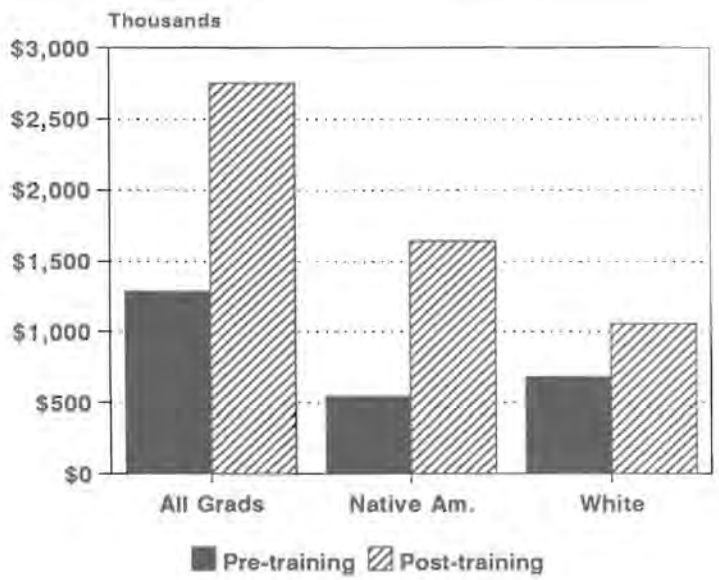
Most of the students (60%) were working in retail trade or services in 1990. While this pattern of employment differs from the general work force (in 1990, retail trade and services accounted for only 37.4% of total Alaska wage and salary employment), it appears to be characteristic for workers of the same age. Looking only at those persons in the Alaska labor force born in 1968 and 1969 (the same age as the King Career Center students), retail trade and services accounted for 61.4% of 1990 employment.

Total earnings for all students working in 1990 was up 86% over 1988 (the first full year after completion). For those students working in 1990, total earnings rose from $1,068,440 in 1988 to $1,987,741 in 1990.

Average earnings of the students exceeded those of other Alaska workers of the same age both overall and by gender (see Figure 1). The King Career Center students earned 63% more, on average, than other workers their age in 1990. By gender, males earned 54% more and females, 32% more, than their same-age counterparts.

Figure • 2

Total Earnings Year Before and After Training
SFY 1989 AVTEC Graduates



Source: Alaska Department of Labor, Research and Analysis Section.

The highest 1990 average earnings were received by students in Surveying ($21,192). This was well above the occupational cluster with the next highest earnings, Auto Mechanics/Auto Body ($14,499). The lowest annual average earnings were received by students in Health Occupations ($8,613).

Most of the King Career Center students holding wage and salary employment in Alaska in 1990 were working in the Anchorage Borough (81%). This finding is significant because it was assumed that a large proportion of the students leave the area after completing their secondary studies.

Tracking college program graduates

The University of Alaska Southeast (UAS) recently reviewed the accounting emphasis of its Bachelor in Business Administration degree program. As a part of this review, UAS asked AKDOL Research and Analysis to provide 1990 employment information on the students who had graduated from the program since fall 1984.

AKDOL found that approximately 70% of the UAS students had 1990 Alaska wage and salary employment. Of these, 87% were employed as accountants or in closely allied professions, an impressively high proportion of professional placement. Virtually all (96%) of the students were working in Southeast Alaska, a much higher proportion than university officials had expected.

UAS considers the information provided by this study to be so valuable that it has made a commitment to its accrediting agency to make routine use of the ODB in its analysis of outcomes of education at the university.

Monitoring the performance of a postsecondary vocational training program

For the second consecutive year, AKDOL Research and Analysis conducted a study of the pre- and post-training performance of the graduates of the Alaska Vocational Technical Center (AVTEC) in Seward. Information was analyzed for 204 students who completed training in SFY 1989.

Nearly half (48%) of the graduates working in wage and salary employment in Alaska in the year following training were employed in industries and/or occupations which were related to their course of study. The occupational program most associated with related employment was Roughneck Development (100%), followed by Industrial Electrical Maintenance (80%), Office Occupations (64.5%), and Commercial Baking Technology, Heavy Equipment Mechanics and Marine Refrigeration Technology (all at 50%). The one with the fewest related placements was Welding Technology (16%).

Total earnings for all graduates were up 115% from the year before training began. By ethnic group, total earnings increased 201% for Native Americans and 55% for Whites. (See Figure 2.) Graduates in Industrial Electrical Maintenance had the highest percentage increase in total earnings (924%) when comparing pre- and post-training data. High percentage increases were also realized by graduates in Heavy Equipment Mechanics (344%), Forest Technology (315%), Food Service Technology (299%), Auto Technology (218%) and Roughneck Development (203%). Lower-than-average increases were received by graduates in Office Occupations (104%), Building Maintenance (47%) and Power Plant Operations (37%).

The highest 1990 average earnings were received by graduates in Roughneck Development ($34,730). Graduates in Industrial Electrical Maintenance received the next highest earnings ($26,617). The lowest annual average earnings were received by graduates in Auto Technology ($9,934) and Commercial Baking Technology ($7,055). Overall, the average earnings of workers the year after graduation was $15,291. By ethnic group, average earnings were $16,738 for Native Americans and $13,501 for Whites. These represent after-graduation increases of 201% and 55%, respectively.

Conclusion

These studies indicate the enormous potential of the Occupational Data Base. Information gained from the ODB can identify education and training programs that will be most effective for a particular worker group or geographic area. It can show students which occupations present the most opportunities for employment in their own region or community. And it can help the administrators of education and training programs to evaluate existing programs and develop new ones that reflect current labor market conditions.

Future AKDOL-planned studies using the ODB include evaluations of Alaska's State Training and Employment Program (STEP), a pilot program funded by employee contributions to the Unemployment Insurance Trust Fund, and the Job Opportunities and Basic Skills (JOBS) program administered by the Alaska Department of Health and Social Services. As training resources become increasingly scarce, studies such as those highlighted in this article will surely gain in importance.