

Other Information

Endnote A

Notes on Surveys

Survey of Post-Secondary Institution Graduates

Surveys of graduates of publicly funded post-secondary institutions are conducted every other year, two years after graduation. The last survey was conducted in 2004, with 15,622 interviews of 2001/02 graduates from 25 Alberta post-secondary institutions. Graduates were surveyed by telephone about their employment outcomes upon graduation, further studies undertaken and their satisfaction with the overall quality of their educational experience.

Graduate Outcomes Survey –
Sample Size and Confidence Interval

	Completed Interviews	Confidence Interval
Universities	7,705	±0.7%
Public Colleges	5,008	±0.9%
Technical Institutes	2,510	±1.3%
Private University Colleges	399	±2.5%
System Total	15,622	±0.5%

The 2004 survey used a five-point scale: *fully satisfied*, *somewhat satisfied*, *neutral*, *somewhat dissatisfied* and *very dissatisfied* categories. Satisfaction levels reported are the combined percentages of respondents who were *fully satisfied* or *somewhat satisfied*. No responses were excluded. The survey was conducted between January and April of 2004 by an independent third-party contractor.

Only graduates of parchment programs (i.e. certificate, diploma and degree programs) were surveyed on the new combined satisfaction and employment survey, and the survey was administered two years after the graduation year (2001/02). Previous graduate satisfaction surveys (of 1998/99 and 2000/01 graduates) were exit surveys, conducted at the time of graduation, and included graduates of preparatory and basic upgrading programs, as well as graduates of parchment programs. These were excluded as the new survey focuses on outcomes of graduates of post-secondary level programs.

The targeted number of responses was set to achieve a 95% confidence level by institution, with a ± 5% confidence interval (or better). The targeted numbers of responses by field of study were set to achieve a 95% confidence level, with a ± 5% confidence interval (or better) for each field of study across each of the following types of institutions: all universities combined, all university colleges combined, all colleges combined and all technical institutes combined.

The 2004 survey was coordinated by Alberta Learning (now Alberta Advanced Education) to ensure consistent implementation of the survey among all participating post-secondary institutions using a common survey method and timeframe. In previous graduate survey administrations, the colleges and technical institutes conducted their own surveys and reported the results to Alberta Learning through the Key Performance Indicator Reporting System (KPIRS), while the surveys of university graduates were centrally coordinated. The results of the previous surveys were reported in Alberta Learning's Annual Report (see Alberta Learning's 2002-03 Annual Report) a year after the survey was conducted, while the results of the 2004 survey were available to Alberta Learning to report in the year in which it was conducted. As a consequence of the major changes in survey methodology, results of the 2004 survey are not comparable to results of previous surveys.

Survey of Apprenticeship Graduates

Surveys of recent apprenticeship graduates are conducted every other year. The last survey was conducted in 2005, with 3,515 interviews of apprentices who had graduated between August 1, 2003 and July 31, 2004. Graduates were surveyed by telephone about their satisfaction with their experience in the apprenticeship system. The percentages of Alberta apprenticeship training system graduates who were somewhat or very satisfied with the quality of their on-the-job training and technical training are reported.

Satisfaction questions are based on a four-point scale. Satisfaction rates are based on those respondents who report being *somewhat satisfied* or *very satisfied*. The percentage is calculated by dividing the sum of the *somewhat satisfied* and *very satisfied* by the total number of survey respondents, including the *don't know* responses to these questions.

Not all apprenticeship graduates completed a technical training component as part of their apprenticeship program. As a result, respondents who had not completed any technical training or who had completed their technical training prior to starting their apprenticeship were omitted from this portion of the analysis.

In order to provide detailed analysis by trade group, training institute and region, the sampling frame included a census of the populations of both cohorts, with a minimum number of completed interviews attained for each cohort. The following table provides the sample size and confidence interval for each cohort.

Apprenticeship Graduate Survey – Sample Size and Confidence Interval

	Completed Interviews	Confidence Interval
Graduates who attended technical training and completed the on-the-job training requirements of their trade in the 2003-2004 school year	1,924	±1.4%
Graduates who completed their apprenticeship program in the 2003-2004 school year, but did not attend technical training in that year	1,261	±1.8%
Total	3,185	±1.1%

Based on the sampling method identified above, a minimum of 3,515 completed interviews was to be conducted from the two cohorts. The population of 2003-2004 graduates of apprenticeship training was split 58% to 42% respectively between those who completed both their technical training and on-the-job training requirements in the 2003-2004 school year and those who had completed their technical training prior to the 2003-2004 school year (or were not required to take any technical training during their apprenticeship).

Despite the shortfall in the number of survey completions, the quality of the results reported is not impacted, since the overall survey results provide a margin of error no greater than ±1.1% at the 95% confidence level or 19 times out of 20. Based on the outcome of all call attempts, a response rate of 64% was achieved for Cohort 1 and 59% for Cohort 2, with an overall response rate of 62%.

Public and Employer Surveys

Alberta Advanced Education collaborated with Alberta Education to commission telephone surveys of random samples of the Alberta public and key client groups. The purpose of these surveys is to obtain perceptions of how the education system is performing in meeting learners' and society's needs and expectations. Professional survey research firms are contracted to conduct the surveys, using trained interviewers and the Computer Assisted Telephone Interviewing (CATI) system. Survey results are compiled by the survey research firms and provided to the two Ministries. Surveys of the public are conducted annually. Graduate, employer, and learning system partners and stakeholder surveys are conducted every second year.

The following table provides sampling information about the public survey and the employer survey conducted for the two Ministries in recent years that are reported in this 2004/05 Annual Report. The information includes the respondent groups surveyed, sample sizes and the confidence intervals for results from each survey. Results are considered accurate within the confidence interval 19 times out of 20 (i.e. at a confidence level of 95%). Sampling variation can account for observed differences in results from year to year.

Public Surveys – Sample Sizes and Confidence Intervals

		2000/01	2001/02	2002/03	2003/04	2004/05
Public (re the adult learning system)	Sample Size	3,001	1,171	3,109	3,000	3,000
	Confidence Interval	±1.8%	±2.9%	±1.8%	±1.8%	±1.8%
Adult Learners	Sample Size	998	420	1,103	1,000	1,035
	Confidence Interval	±3.1%	±4.8%	±2.9%	±3.1%	±3.0%
Adults not participating in learning	Sample Size	2003	751	2,006	2,000	1,965
	Confidence Interval	±2.2%	±3.6%	±2.2%	±2.2%	±2.2%
Employers	Sample Size	–	2,003	–	2,000	–
	Confidence Interval	–	±2.2%	–	±2.2%	–

The survey instruments for these surveys use four-point response scales: *very satisfied, satisfied, dissatisfied, very dissatisfied* or *strongly agree, agree, disagree, strongly disagree*, depending on the question. Although not asked, *don't know* responses and refusals are recorded as well. Results presented are the combined percentages of respondents who were *very satisfied, satisfied*, or who *strongly agreed, agreed*.

Surveys of Partners and Stakeholders

Alberta Advanced Education commissioned telephone interviews with 9 representatives of provincial government departments (partners) and 37 representatives of stakeholder organizations to gain feedback about working relationships with ministry staff.

Respondents were asked to rate their agreement as to whether Alberta Advanced Education staff work collaboratively with them using the following response categories: *strongly agree, agree, disagree, strongly disagree*. While not included in the response categories, *don't know* responses also were recorded. Percentages reported are the combined percentages of partners and stakeholders who *strongly agree/agree* that Alberta Advanced Education's staff are collaborative.

Respondents also were asked to rate their agreement as to whether Alberta Advanced Education staff are: *responsive* (meaning that they are knowledgeable of the initiative, available to work on the initiative, and willing to respond promptly and courteously), and are *flexible* (meaning willing to consider alternative ideas or approaches, and can quickly adapt and anticipate changes that may affect initiatives). The following response categories were used: *strongly agree, agree, disagree, strongly disagree*. While not included in the response categories, *don't know* responses also were recorded. Percentages reported are the combined percentages of partners and stakeholders who *strongly agree/agree* that Alberta Advanced Education staff are responsive and are flexible.

The table below indicates the number of partner and stakeholder representatives that were surveyed in 2004/05. For the purpose of these surveys, partners are those who provide resources towards a shared objective or project, usually other government ministries. Stakeholders are those who are affected by the work of Advanced Education but don't provide direct resources to it (e.g., the Apprenticeship and Industry Training Board, the Council of Alberta University Students, the Council of Presidents, Colleges & Technical Institutes).

	Ministry Staff Are Collaborative			Ministry Staff are Responsive and Flexible		
	Total	Agree or Strongly Agree		Total	Agree or Strongly Agree	
		Number	Percent		Number	Percent
Partners	9	8	88.9%	18	14	77.8%
Stakeholders	37	37	100.0%	74	61	82.4%
Combined	46	45	97.8%	92	75	81.5%

These surveys use judgment sampling (a type of non-probability sampling method, for which confidence intervals are not applicable) and are conducted with partner and stakeholder representatives to obtain perceptions about their working relationships with Alberta Advanced Education staff. The partner and stakeholder surveys capture all major projects in which partners in other ministries worked with Alberta Advanced Education staff and all major stakeholder organizations that have an ongoing relationship with the Ministry.

Respondents are selected with extensive input from senior Ministry staff who have the greatest contact with senior staff in partner and stakeholder organizations. Stakeholder selection identifies individuals in senior positions in their organizations who have a broad understanding of the learning system and are in the best position to provide meaningful responses. Samples include representatives of the post-secondary institutions in the province because of their impact on significant numbers of students.

The small samples for these surveys contribute to variation in survey results from year to year. To illustrate the effect of sample size, each respondent in a survey sample of 100 accounts for one percent (1.0%) of the overall result, whereas each respondent in a survey of 1,000 respondents accounts for only one-tenth of one percent (0.1%) of the overall result.

Endnote B

Use of Confidence Intervals for Interpreting Survey Results

When a result is obtained by surveying a random sample of the target population (e.g., the public, employers, graduates), there is a confidence interval associated with the result, which is expressed as a percentage above and below the obtained result. A confidence interval indicates how much variation one might expect from the obtained survey result, as a consequence of sampling and diversity among respondents. Difference in survey results over time or among respondent groups on the same survey question are reported at the .05 level of confidence (i.e., the same results would be obtained in repeated surveys 19 times out of 20).

In Alberta Advanced Education's Annual Report, confidence intervals are used to determine:

- whether differences in survey results over time are likely the result of sampling variations, or represent actual change, and
- whether differences among respondent groups to the same question are likely the result of sampling variations or represent actual differences.

When comparing results of survey questions over time or among respondent groups, there is an actual difference between two survey results, 19 times out of 20, if there is no overlap between the confidence intervals of the two observed values. When this is the case, it is acknowledged in the related text that there is an increase, change, or significant difference in survey results over time or among groups. When the confidence intervals of the two observed values do overlap, the observed difference will be due to sampling variation 19 times out of 20, and we cannot conclude that the difference is real (i.e. significant). In such cases, the related text indicates that results are similar or stable over time or among groups.

The following hypothetical examples illustrate:

- a) two survey results where the confidence intervals overlap and, consequently, it is concluded that there is no real difference between the two survey results; and
- b) two survey results where the confidence intervals do not overlap and, consequently, it is concluded that there is a real difference between the two survey results.
 - a) Where two survey results are 76% and 80%, both with a confidence interval of 2.5%, then the upper limit of the confidence interval for the 76% result is 78.5%, and the lower limit of the confidence interval of the 80% result is 77.5%. Since the confidence intervals overlap, it cannot be concluded that there is a real difference between the two survey results, as the observed difference could be due to sampling variation.
 - b) If the two survey results are 74% (with a confidence interval of 2.5%) and 80% (also with a confidence interval of 2.5%), the upper limit of the confidence interval for the 74% result is 76.5%, and the lower limit of the confidence interval of the 80% result is 77.5%. Since the confidence intervals do not overlap, it can be concluded that there is a real difference between the two survey results, as sampling variation alone does not account for the observed difference. In such cases, the related text indicates that there is a significant difference over time (i.e., an increase or decrease) or between groups.

<p><i>Endnote C</i></p>	<p>Labour Force Survey</p> <p>The Labour Force Survey (LFS) is a monthly, Canada-wide survey, conducted by Statistics Canada, of a representative sample of households. Data are collected about all members of the household who are 15 years of age or older. Persons living on Indian reserves, full-time members of the regular Armed Forces, and persons living in institutions are excluded from the LFS. These groups represent about 2% of the population age 15+.</p> <p>The Canadian sample size for the LFS has been approximately 54,000 households over the reporting period. Alberta's sample size corresponds to its share of the population. In 2004, between 5,180 and 5,354 Alberta households were surveyed each month (an average of 5,258 per month), with information provided on between 10,421 and 10,701 individuals per month. Since the groups excluded from the LFS (as noted above) typically have lower education levels than the total population, educational attainment rates based on LFS data may be slightly higher than the rate would be for the total population age 15+.</p> <p>The coefficient of variation, or CV, (the standard error as a percentage of the reported result) for the LFS is 1.0% for both the Alberta and the Canadian data. Additional information on LFS methodology and interpreting CVs is available on pages 16-23 of the <i>Guide to the Labour Force Survey</i>, Catalogue no. 71-543-GIE (Revised, February 2004), available online from Statistics Canada: www.statcan.ca.</p>
<p><i>Endnote D</i></p>	<p>Employment Rates by Educational Attainment</p> <p>Employment Rates of Albertans aged 25-34 by Educational Attainment is based on data derived from the Statistics Canada's Labour Force Survey, Special Tabulation. The Labour Force Survey (LFS) is a monthly Canada-wide survey of a representative sample of households. Data are collected about all members of the household who are 15 years of age or older. Persons living on Indian reserves, full-time members of the regular Armed Forces, and persons living in institutions are excluded from the LFS. These groups represent about 2% of the population age 15+. Since these groups typically have lower employment levels than the total population, employment rates for 25-34 year-olds based on LFS data may be slightly higher than the rate would be for the total population of Albertans aged 25-34.</p> <p>The employment rates for 25-34 year-olds are presented as this age group represents recent outputs of Alberta's learning system. The employment rates are annual averages for the calendar year. The Canadian sample size for the LFS has been approximately 54,000 households over the reporting period. Alberta's sample size corresponds to its share of the population. In 2004, between 5,180 and 5,535 Alberta households were surveyed each month (an average of 5,258 per month), with information provided on between 10,421 and 10,701 individuals per month. Of these, about 1,852 to 1,938 individuals each month are aged 25-34.</p> <p>The coefficient of variation (the standard error as a percentage of the reported result) is 1.5%. Additional information on LFS methodology and interpreting CV's is available on pages 24-25 of the <i>Guide to Labour Force Survey</i>. Catalogue no. 71-543-GIE (Revised, February 2004), available online from Statistics Canada: www.statcan.ca.</p>
<p><i>Endnote E</i></p>	<p>Educational Attainment</p> <p>The Labour Force Survey (LFS) is a monthly, Canada-wide survey of a representative sample of households. Data are collected about all members of the household who are 15 years of age or older. Persons living on Indian reserves, full-time members of the regular Armed Forces, and persons living in institutions are excluded from the LFS. (These groups represent about 2% of the population age 15+.) Since these groups typically have lower employment levels than the total population, employment rates for 25-34 year-olds based on Labour Force Survey data may be slightly higher than the rate would be for the total population of Albertans aged 25-34.</p>

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The educational attainment rates presented are annual aggregates for the calendar year. The coefficient of variation, or CV, (the standard error as a percentage of the reported result) for the Labour Force Survey is 1.0% for both the Alberta and the Canadian data. Additional information on LFS methodology and interpreting CVs is available on pages 16-23 of the *Guide to the Labour Force Survey*, Catalogue no. 71-543-GIE (Revised, February 2004), available online from Statistics Canada: www.statcan.ca.

Endnote F**Post-Secondary Completion Rate**

The post-secondary completion rate is based on tracking first-year, full-time career and undergraduate students in parchment programs (i.e., certificate, diploma and bachelor degree programs) at public post-secondary institutions. Students are tracked for the program length (typically one year for certificate, two years for diploma and four years for degree programs), plus three years in the institution where they entered as a first-time, full-time student. Three additional years are provided to account for a variety of circumstances, such as change in program, discontinuous enrolment, cooperative programs (alternate periods of work and study) and reduced course loads. Data for these calculations are extracted from the Learner Enrolment & Reporting System (LERS) when data for the previous academic year are complete. Students in graduate programs, university transfer programs and applied degree programs are excluded.

Post-secondary completion rates for institutions have been aggregated into two categories: university completion, which tracks students in four-year undergraduate degree programs, and college/technical institute completion which tracks students in certificate and diploma programs (usually up to two years of study). The university category includes Alberta College of Art and Design's programs, all of which are four-year undergraduate degree programs. Athabasca University is not included in the completion rate due to the lack of comparability between a distance-delivery institution and traditional campus-based universities. Also excluded are the private university colleges, as there is not yet sufficient information to generate a completion rate for these institutions.

The university sector completion rate is based on undergraduate programs tracked for seven years; therefore the 2000/01 rate is based on the 1994/95 entry cohort, the 2001/02 rate is based on the 1995/96 entry cohort, the 2002/03 rate is based on the 1996/97 entry cohort and the 2003/04 rate is based on the 1997/98 entry cohort.

The completion rates for the college and technical institute sectors is based on tracking first-time students for the program length plus three years, i.e. tracking for four years for a certificate program and five years for a diploma program.

This interim completion rate methodology is unable to track students who start at one institution but transfer to another institution. As a result, transfer students (both those who complete and those who do not) are counted as non-completers. Alberta Advanced Education is currently implementing an Alberta Student Number (ASN) for post-secondary students that would allow for a more accurate calculation of completion rates within the post-secondary system, including tracking of transfer students.

Endnote G

Apprenticeship Completion Rate

The methodology used for arriving at the apprenticeship completion rate is based on tracking apprentices who have successfully completed all the work experience and formal training requirements for their first period of apprenticeship or who have received credit for prior learning or work experience for that year. These apprentices are tracked from the beginning of their second year, when significant public funds begin to be expended on their formal instruction, and are tracked for two years beyond the expected length of their trade program to determine completion. Only trade programs of at least two years in length are included since tracking begins in an apprentice's second year. Most trade programs are four years in length.

The *Apprenticeship and Industry Training Act* stipulates that no one can be employed in certain occupations without either being a journeyman or an apprentice. Since apprenticeship registration is often a condition of employment, individuals may register as apprentices even though they may not intend to complete their program. Tracking apprentices starts in their second year, which reduces the cohort in recognition of those who register as a condition of employment, but do not intend to complete. Other factors may affect program completion times such as apprentices being laid off work, choosing to delay their technical training at the request of employers or for personal reasons. Given these employment conditions and factors affecting completion, two additional years is considered to be a reasonable length of time for apprentices to complete their programs. For example, the majority of apprentices in four-year programs would be expected to complete their programs within six years.

Data are from the Skilled Trades Information System (STIS) maintained by the Apprenticeship and Industry Training Division of Alberta Advanced Education.

Endnote H

High School to Post-Secondary Transition Rate

The High School to Post-Secondary Transition Rate reports the percentages of Alberta students who, within four and six years of starting Grade 10:

- enrolled in a credit program, part-time or full-time, in an Alberta post-secondary institution;
- registered in an apprenticeship program other than the Registered Apprenticeship Program for high school students.

Students are tracked using Alberta Education and Alberta Advanced Education systems. The High School to Post-Secondary Transition Rate includes adjustments for attrition and for attendance at post-secondary institutions out-of-province. Attrition adjustments are based on estimates from Statistics Canada's Annual Demographic Statistics 2004 (R) (CD-ROM). The estimate of Alberta students attending post secondary institutions out-of-province uses aggregate student counts from Alberta Advanced Education's enrollment and Students Finance systems.

Students whose education is not the responsibility of the provincial government, as well as students who are identified as having cognitive disabilities or a severe multiple disability are not reported on in the High School to Post-Secondary Transition Rate.

Prior years' results have been restated as a result of revising the calculation of the out-of-province post-secondary attendance estimate.