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No. 1 – November 1997



Level of Graduation Upon Leaving the Education System

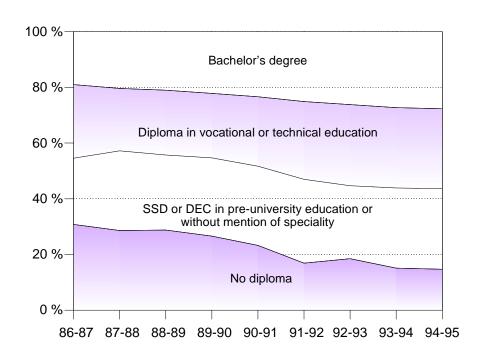
ISSN: 1480-364X Code: 28-2691A

This bulletin is intended as a complement to Section 5.1 of the 1996 and 1997 *Education Indicators*. In addition to providing more detailed results, it compares administrative data on the flow of students with census data on schooling and offers explanations concerning the calculation method used.

The aim of this bulletin is to show the distribution of a cohort of school leavers by highest diploma earned. The data used are the annual data on student retention and graduation, as presented in the *Education Indicators*. The findings, which appear in Table 1 (following page), are divided into six diploma categories (**A** to **F**).

The findings can also be presented in terms of types of education, as in Graph 1. In this case, the secondary and college level are combined, and a distinction is made between "general-pre-university" education ($\mathbf{B} + \mathbf{E}$) and "vocational technical" education ($\mathbf{C} + \mathbf{D}$).

Graph 1
Trends in the distribution
of school leavers, by the
highest diploma earned
(%)



The proportion of persons leaving the education system with a bachelor's degree or a diploma in technical or vocational education (**A+C+D**) was 56.4% in 1994-95 compared with 45.4% in 1986-87. There was thus a significant increase in the proportion of school leavers who were prepared to enter the job market directly. This 11-point increase includes growth of 8.7 percentage points in the proportion earning bachelor's degrees and 2.3 percentage points in the proportion obtaining diplomas in vocational or technical education. By contrast, the proportion of school leavers who were not prepared for the job market—either because they had no diploma or only a secondary or pre-university diploma in general education (including diplomas without mention of specialty) fell from 54.6% in 1986-87 to 43.6% in 1994-95.

Table 1			1987	1988	1989	1990	1991	1992	1993	1994	1995
Distribution of school leavers, by highest	Α	Bachelor's degree	19.0	20.4	21.0	22.2	23.4	25.1	26.2	27.3	27.7
diploma earned (%) Male and Female	В	DEC in pre-university education or without mention of specialty	5.4	5.5	5.6	5.2	5.4	4.4	3.1	1.4	0.4
Male and I emale	С	College diploma in technical education	10.9	11.5	11.3	11.3	11.2	12.0	12.9	12.7	12.0
	D	Secondary vocational education diploma	15.5	10.9	12.0	11.8	13.7	15.9	16.2	16.1	16.7
	E	SSD (general education)	18.4	23.1	21.3	22.9	23.0	25.7	23.1	27.4	28.5
	F	No diploma	30.8	28.6	28.8	26.6	23.3	16.9	18.5	15.1	14.7
		Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100,0
	_										
	Α	Bachelor's degree	17.2	18.3	18.2	19.1	19.8	20.8	21.5	22.1	22.3
	В	DEC in pre-university education or without mention of specialty	4.1	4.1	4.6	4.3	4.4	3.4	2.4	0.8	0.4
	С	College diploma in technical education	8.7	9.0	8.4	8.6	8.7	9.4	10.5	10.0	9.9
Male	D	Secondary vocational education diploma	14.9	10.6	11.8	11.4	13.9	16.7	16.5	16.5	17.0
	Е	SSD (general education)	16.9	21.9	19.8	21.2	21.8	25.8	22.7	28.7	28.4
	F	No diploma	38.2	36.1	37.2	35.4	31.4	24.0	26.4	22.0	22.0
		Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Α	Bachelor's degree	20.7	22.4	23.7	25.4	27.1	29.5	31.0	32.8	33.1
	В	DEC in pre-university education or without mention of specialty	6.9	7.1	6.9	6.3	6.5	5.5	3.7	2.1	0.7
	С	College diploma in technical education	13.2	14.2	14.2	13.9	13.7	14.7	15.5	15.4	14.0
Female	D	Secondary vocational education diploma	16.2	11.2	12.2	12.1	13.4	15.2	15.9	15.7	16.4
	Ε	SSD (general education)	19.9	24.4	22.7	24.8	24.3	25.7	23.6	26.1	28.7
		N. I. all and a second	23.1	20.7	20.3	17.5	15.0	9.4	10.3	7.9	7.1
	F	No diploma	23.1	20.7	_0.0			-			

Between 1986-87 and 1994-95, the proportion of school leavers earning university and secondary school degrees grew rapidly among both men and women. Along with the increase in the proportion of those earning a bachelor's degree (from 19.0 to 27.7%), there was a drop (from 5.4 to 0.4%) in the proportion of persons with only a DEC in pre-university education or without mention of specialty. At the other extreme, the proportion who had no diploma upon leaving the education system fell by more than half (from 30.8 to 14.7%) from 1986-87 to 1994-95. This drop corresponded to rises in all other categories save the DEC in pre-university education or without mention of specialty.

Breakdown by Gender

The respective findings for men and women illustrate two aspects of an important 20th century trend in education. The figures confirm the great strides made in the area of women's access to education in recent years, in Québec, as elsewhere in developed countries. More women than men enrol and graduate, at every level except secondary vocational education and doctoral studies. The full social impact of this change has yet to be felt, especially as regards the composition of the workforce.

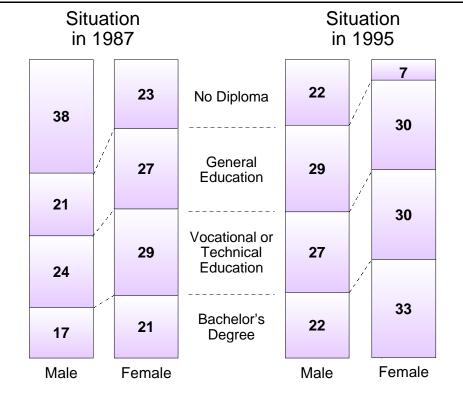
The second aspect illustrated is that this reversal of the previous situation is accelerating. In 1986-87, the proportion of women who were prepared to enter the job market directly upon leaving the education system (**A+C+D**) was 50.1%, as compared with 40.8% for men. Eight years later, in 1994-95, the corresponding figures for women and men were 63.5% and 49.2%. Thus the difference in favour of women increased from 9.3 percentage points in 1986-87 to 14.3 percentage points in 1994-95.

In 1994-95, there were one and a half times (47.1% versus 32.2%) as many women as men school leavers with a bachelor's degree or a college diploma in technical education (**A+C**), whereas the proportion of women leaving school without a diploma (**F**) was three times smaller than that of men who did so (7.1% versus 22.0%).

Warning

We may refer to the educational level attained upon leaving school because we are using "final" graduation rates, which take into account diploma earners of **every possible age**. It is evident that the complement of the general graduate rate is the proportion of school leavers without the diploma in question. For example, if 27.7% of people obtain a bachelor's degree at some point in their life, 72.3% do not. However, the same logic may not be used if we consider only the complement of the graduation rate of the same bachelor's degree before the age of 30 (23.5%); all that may be said in that case is that 76.5% of people have not earned a bachelor's degree by that age, which does not necessarily mean that they have left the education system.

Graph 2
Distribution of school leavers, by highest diploma earned (%)



^{1.} See Sections 5.6 and 5.7 of the *Education Indicators* for 1996 and 1997. Women are still a minority in some fields. For example, in 1995 they earned only 31.1% of university diplomas in the sciences, compared with 68.9% for men.

Level of Graduation Upon Leaving the Education System and Level of Schooling **According to Census Canada**

The level of schooling by the highest diploma earned upon leaving the education system, as calculated here, is not the same as the level established by the census regarding the whole population, which takes into account the past schooling of all the generations enumerated. The level of schooling measured here is that of people leaving school now (or in a given year), and is also an indicator of general schooling levels in the future, assuming present conditions persist indefinitely.

Differences in the data used and in definitions of levels of schooling make it difficult to compare our data with the census data. The latter are based on census respondents' subjective evaluation of their own schooling, whereas the Ministère de l'Éducation's data come from administrative files on diplomas earned, which necessarily use stricter criteria than those governing self-evaluation. Census data are also affected by flows of migration in the past: administrative data permit a more accurate portrait of the effectiveness of Québec's school system today.

Another factor that complicates comparison of the two sets of data is that secondary vocational education is partly associated with post-secondary education in the census data. To allow for comparison of the Ministère's data with the census data, vocational education diplomas have been grouped with college diplomas here. Only data concerning the 25-34 age group will be considered, because it is in this group that schooling is the most complete, and consequently, the least likely to increase. This was also the age group with the highest proportion of university graduates in 1991. It is also presumed here that people with some university education (without a degree) already have a college-level diploma, which is not necessarily true in all cases.

Table 2 Distribution by diploma earned, by population aged 25 to 34 in the 1991 census, and by school leavers in 1995 (%)

	1991 Census	School Leavers 1995
No secondary diploma (F)	23.5	14.7
SSD (general education)	23.8	28.5
College diploma or secondary vocational education diploma (B+C+D)	37.2	29.1
Bachelor's degree (A)	15.3	27.7

Comparison of the census data and the data on school leaving in 1995 highlights the contrasting trends at the two extremes of the schooling scale. The proportion of people leaving the system without a secondary school diploma is declining, while the proportion of those earning a bachelor's degree is growing rapidly among those who are presently completing their studies, relative to the population in general.

The apparent stability of the two intermediate levels of schooling reflects two opposing trends. On the one hand, many people who previously did not have a secondary school diploma now have either a secondary or a college diploma, while on the other, people who earn bachelor's degrees now generally have college diplomas. This comparison demonstrates that the present generation of school leavers has more schooling than previous generations, and thus, that the general level of education is rising.

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Calculation Method

Principle

For a given year, the proportion of school leavers whose highest diploma level is "n" is equal to the proportion of those obtaining their level "n" diploma minus the proportion the of those who obtained a higher diploma, "n+1".

For example, in 1995, the college diploma was the highest diploma for 12.4% of school leavers, which is the difference between all those with a college diploma (40.1%) and those who earned a bachelor's degree (27.7%).

It should also be noted that completion of part of the schooling for a given diploma level was assimilated to the previous level. Thus, people who began university but did not obtain a bachelor's degree were grouped with those who had a DEC.

Necessary data

The content of files on:

- graduation from secondary school (Section 5.2);
- graduation from secondary vocational education (Section 5.4);
- graduation from college (Section 5.5);
- going directly from college to university (Section 2.10);
- graduation from university (Section 5.6).

Procedure

Using the basic data for 1995 for both sexes (See Table 3), the formulas leading to the findings in Table 1 are presented below, with an example.

A) Proportion of school leavers with at least a bachelor's degree:

$$(A) = (# 1) = 27.7\%$$

B) Proportion of school leavers whose highest diploma is a DEC in pre-university education or without mention of specialty:²

(B) =
$$(# 9) - {(# 3) \times [(1 - (# 4)]) - (# 5) - (# 1) = 0.4%$$

C) Proportion of school leavers whose highest diploma is a DEC or other college diploma in technical education:

$$(C) = \{(#3) \times [1 - (#4)]\} + (#5) = 12.0\%$$

D) Proportion of school leavers whose highest diploma is a secondary vocational diploma:³

$$(D) = (#6) = 16.7\%$$

E) Proportion of school leavers whose highest diploma is a secondary general education diploma:²

$$(E) = (#8) - (#9) = 28.5\%$$

F) Proportion of school leavers with no diploma:

Table 3

Data required in order to calculate the level of graduation upon leaving the education system, male and female, 1995

#	Step	%
1	Bachelor's degree	27.7
2	DEC in pre-university education	25.4
3	DEC in technical education	12.8
4	Immediate university entry upon completion of a DEC in	
	technical education	19.0
5	Other college technical diplomas	1.6
6	Secondary vocational education diplomas	16.7
7	All secondary diplomas	85.3
8	SSD, general education only (# 7) - (# 6)	68.6
9	All college diploma	40.1
10	No secondary diploma (100%) - (# 7)	14.7

Note on immediate entry into a university program leading to a bachelor's degree upon completion of a DEC in technical education

Quantities (B) and (C) take into account the proportion of those with a DEC in technical education who go on to university. In fact, it is presumed that the proportion of persons under age 25 who enter university immediately, in the year after they obtain their DEC, is the same for holders of a DEC in technical education of all ages. For example, in 1995, of the 12.8% of a cohort who earned a DEC in technical education, 2.4% (or 19% of those who earned the diploma) entered university. We are also presuming that the proportion who earned a bachelor's degree after obtaining a DEC in technical education is 2.4%. This hypothesis implies that all recipients of a DEC in technical education who enroll in university enter programs leading to a bachelor's degree and that they all obtain that degree. In short, 2.4% is a reasonable estimate, less expensive than trying to predict the retention rate and duration of university studies of those who earn a DEC in technical education in order to take into account the time elapsed between graduation with a DEC in technical education and a bachelor's degree.

^{2.} The sum of (B) and (C) is equal to the difference between the college diplomas (# 9) and the bachelor's degrees (# 1).

^{3.} The assumption is that the secondary vocational education diploma is higher than the secondary general education diploma.