EDUCATION STATISTICS

1. *Coefficient of efficiency* - A measure of the internal efficiency of an education system computed as the ratio of the ideal number of pupil/student-years required to produce a number of graduates from a given pupil/student cohort in elementary/secondary education to the actual number of pupil/student-years spent to produce the same number of graduates expressed as a percentage. (2006 IACES)

Elementary:

$$\text{Coefficient of efficiency}_{elem} = \frac{\text{Total Promotees}_{Gr\,6} \text{ (including repeaters)} \times 6^{1}}{\text{Pupil-Years}_{Gr\,1\text{-}6}} \times 100$$

Secondary:

$$\text{Coefficient of efficiency}_{sec} = \frac{\text{Total Promotees}_{Yr\,4} \text{ (including repeaters)} \times 4}{\text{Student-Years}_{Yr\,1\text{-}4}} \times 100$$

2. *Cohort Survival Rate (CSR)* - The percentage of enrollees at the beginning grade or year in a given school year who reached the final grade or year of the elementary/secondary level. (2006 IACES)

(The calculation procedure using the reconstructed cohort method is in Annex-BR-___-2006-02.)

3. *Completion Rate* - The percentage of first grade/year entrants in a level of education who complete/finish the level in accordance with the required number of years of study. (2006 IACES)

Elementary:

$$\textbf{Completion Rate}_{C,\,SY\,N} = \frac{\text{Graduates}_{C,\,Gr\,6,\,SY\,N}}{\text{Enrollment}_{C,\,Gr\,1,\,SY\,N-5}} \times 100$$

Secondary:

$$\textbf{Completion Rate}_{C,\,SY\,N} = \frac{\text{Graduates}_{C,\,Yr\,4,\,SY\,N}}{\text{Enrollment}_{C,\,Yr\,1,\,SY\,N-3}} \times 100$$

4. *Dropout rate* - The percentage of pupils/students who leave school during the year for any reason as well as those who complete the previous grade/year level but fail to enroll in the next grade/year level the following school year to the total number of pupils/students enrolled during the previous school year. (2006 IACES)

$$\textbf{Dropout Rate}_{Gr\,X,\,SY\,N} = 100\% - \text{Repetition Rate}_{Gr\,X,\,SY\,N} - \text{Promotion Rate}_{Gr\,X,\,SY\,N}$$

Or:

Elementary:

$$\textbf{Dropout rate}^{2}_{Gr\,X,\,SY\,N} = \frac{\text{Enrollment}_{Gr\,X,\,SY\,N} - \text{Repeaters}_{Gr\,X,\,SY\,N+1} - (\text{Enrollment}_{Gr\,X+1,\,SY\,N+1} - \text{Repeaters}_{Gr\,X+1,\,SY\,N+1} - \text{Net transfers}_{Gr\,x+1,\,SY\,N+1})}{\text{Enrollment}_{Gr\,X,\,SY\,N}} \times 100$$

Secondary:

$$\textbf{Dropout rate}^{2}_{Yr\,X,\,SY\,N} = \frac{\text{Enrollment}_{Yr\,X,\,SY\,N} - \text{Repeaters}_{Yr\,X,\,SY\,N+1} - (\text{Enrollment}_{Yr\,X+1,\,SY\,N+1} - \text{Repeaters}_{Yr\,X+1,\,SY\,N+1} - \text{Net transfers}_{Yr\,x+1,\,SY\,N+1})}{\text{Enrollment}_{Yr\,X,\,SY\,N}} \times 100$$

EDUCATION STATISTICS

5. *Promotion Rate* - The percentage of pupils/students promoted to the next grade/year level in the following school year. (UNESCO)

Elementary:

$$\textbf{Promotion Rate}_{Gr\ X,\ SY\ N} = \frac{\text{Promotees}_{Gr\ X,\ SY\ N}}{\text{Enrollment}_{Gr\ X,\ SY\ N}} \times 100$$

Secondary:

$$\textbf{Promotion Rate}_{Yr\ X,\ SY\ N} = \frac{\text{Promotees}_{Yr\ X,\ SY\ N}}{\text{Enrollment}_{Yr\ X,\ SY\ N}} \times 100$$

If there is no actual data on number of promotees, promotion rate can be estimated from data on enrolment, repeaters and net transfers in succeeding year, i.e.,

Elementary:

$$\textbf{Promotion rate}^{2}_{Gr\ X,\ SY\ N} = \frac{\text{Enrollment}_{Gr\ x+1,\ SY\ N+1} - \text{Repeaters}_{Gr\ x+1,\ SY\ N+1} - \text{Net transfers}_{Gr\ x+1,\ SY\ N+1}}{\text{Enrollment}_{Gr\ x,\ SY\ N}} \times 100$$

Secondary:

$$\textbf{Promotion rate}^{2}_{Yr\ X,\ SY\ N} = \frac{\text{Enrollment}_{Yr\ x+1,\ SY\ N+1} - \text{Repeaters}_{Yr\ x+1,\ SY\ N+1} - \text{Net transfers}_{Yr\ x+1,\ SY\ N+1}}{\text{Enrollment}_{Yr\ x,\ SY\ N}} \times 100$$

6. *Repetition Rate* - The percentage of pupils/students enrolled in a given grade/year in a given school year who study in the same grade/year the following school year. (2006 IACES)

Elementary:

$$\textbf{Repetition Rate}_{Gr\ X,\ SY\ N} = \frac{\text{Repeaters}_{Gr\ X,\ SY\ N+1}}{\text{Enrollment}_{Gr\ X,\ SY\ N}} \times 100$$

Secondary:

$$\textbf{Repetition Rate}_{Yr\ X,\ SY\ N} = \frac{\text{Repeaters}_{Yr\ X,\ SY\ N+1}}{\text{Enrollment}_{Yr\ X,\ SY\ N}} \times 100$$

Legend:

C	- cohort of pupils / students
Gr x	- Grade x
SY N	- school year N
Yr x	- Year x

Pupil-Years $_{Gr1\text{-}6}$ - cumulative number of school years spent by pupils from Grade 1 to 6
Student-Years $_{Yr1\text{-}4}$ - cumulative number of school years spent by students from Year 1 to 4

References:

IACES – Inter-Agency Committee on Education Statistics
UNESCO – Education for All (EFA) 2000 Assessment: Technical Guidelines, United Nations Educational Scientific and Cultural Organization

[1] Although there are some private elementary schools with 7 years in the curriculum, the proportion of the seventh grade enrolment to total enrolment is negligible.

[2] The formula does not reflect the situation that transferees may also be repeaters or dropouts from other schools.

Calculation method

Cohort Survival Rate (CSR)

The Cohort Survival Rate is computed using the reconstructed cohort method, shown below:

Step 1. Compute the Promotion and Repetition Rates for a particular area.

	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6
Promotion Rate	82.47%	90.18%	93.11%	93.22%	92.79%	96.32%
Repetition Rate	5.39%	3.29%	2.27%	1.60%	1.41%	0.37%

Steps 2 & 3. Compute the number of promotees up to grade 6 using the promotion rates for the respective grade/year levels. Compute the number of pupils/students in grade/year 1 who repeat once, twice, up to 6 times.

		Promoted to Gr 2	Promoted to Gr 3	Promoted to Gr 4	Promoted to Gr 5	Promoted to Gr 6
Cohort with no repetition $_{SY\ N}$	1,000.00	824.70	743.74	692.53	645.58	599.05
Cohort repeating once $_{SY\ N+1}$	53.92					
Cohort repeating twice $_{SY\ N+2}$	2.91					
Cohort repeating thrice $_{SY\ N+3}$	0.16					
Cohort repeating four times $_{SY\ N+4}$	0.01					
Cohort repeating five times $_{SY\ N+5}$	0.00					
Cohort repeating six times $_{SY\ N+6}$	0.00					

Promoted Cohort $_{Gr\ X}$ x Promotion Rate $_{Gr\ X-1}$

Repeated Cohort $_{Gr\ 1}$ x Repetition Rate $_{Gr\ 1}$

Step 4. Add the repeaters in the previous grade level who were promoted with the pupils in the current grade level who repeated.

		Promoted to Gr 2	Promoted to Gr 3	Promoted to Gr 4	Promoted to Gr 5	Promoted to Gr 6
Cohort with no repetition $_{SY\ N}$	1,000.00	824.70	743.74	692.53	645.58	599.05
Cohort repeating once $_{SY\ N+1}$	53.92	71.62	81.49	86.96	90.17	85.87
Cohort repeating twice $_{SY\ N+2}$	2.91	4.76	6.14	7.11	7.90	7.65
Cohort repeating thrice $_{SY\ N+3}$	0.16	0.29	0.40	0.48	0.56	0.55
Cohort repeating four times $_{SY\ N+4}$	0.01	0.02	0.02	0.03	0.04	0.04
Cohort repeating five times $_{SY\ N+5}$	0.00	0.00	0.00	0.00	0.00	0.00
Cohort repeating six times $_{SY\ N+6}$	0.00	0.00	0.00	0.00	0.00	0.00

(Repeated Cohort $_{Gr\ X-1}$ x Promotion Rate $_{Gr\ X-1}$)
+ (Promoted Cohort $_{Gr\ X}$ x Repetition Rate $_{Gr\ X}$)

Steps 5-7. Calculate the total for each grade level to obtain the pupil-years. Multiply the pupil-years with the respective promotion rate to get the total promotees (including repeaters). Calculate the reconstructed cohort survival rate for each grade level by dividing the Total Promotees $_{Gr\ X-1}$ (including repeaters) with the original cohort of 1000.

	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6
Pupil-years	1,057.00	901.37	831.79	787.11	744.26	693.15
Total Promotees (including repeaters)	871.70	812.89	774.52	733.76	690.61	667.65
Reconstructed Cohort Survival Rate	100.00%	87.17%	81.29%	77.45%	73.38%	69.06%