

Regional Education Indicators Project (PRIE)

SUMMITS OF THE AMERICAS

Indicators System to Follow-Up the Education Goals set in the Summits of the Americas

METHODOLOGY FOR BUILDING AND USE



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CREDITS

Report prepared by the UNECLAC from its preliminary version presented as a workpaper during the Central-American Workshop for Education Indicators to monitor the goals set in the Summits of the Americas as part of the activities from the Capacity Reinforcement Project to Education Statistics for Central-America and the Caribbean of the Organisation of American States (OAS).

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PRESENTATION

The Regional Education Indicators Project (REIP) is an initiative from the Second Summit of the Americas (1998), in which the heads of State and Government highlighted education as the highest priority for the region.

During the different stages to develop the project, a series of growing efforts were grounded to build comparable indicators in the region, analysed in a way to constitute a meaningful contribution to make decisions on effective education policies in the countries, and to follow-up their situation related to the goals set during the Summit, as well as for other commitments internationally assumed.

From the beginning of the project's framework, several activities have been performed to help to reinforce the statistical capacities of the countries to help to improve the comparable statistics at a regional level, as well as their analysis and dissemination, by adding them to other existing reinforcing initiatives and programmes in the region, avoiding superposition and by creating long lasting synergies.

Thus, in September 2008 it was celebrated a workshop in Central-America for workers responsible for the Education Statistics Offices located in El Salvador, Honduras, Guatemala, Costa Rica, Panama, Nicaragua y the Dominican Republic.

The workshop was performed as part of the workframe for the Education Statistics Reinforcement Project for Central-America and the Caribbean of the Organisation of American States (OAE), under the general coordination of the Mexican Ministry of Education (SEP) and the financial support provided by the Multilateral Fund of the Inter-American Council for the Integral Development (FEMCIDI) from the Solidarity Cooperation Programme of the Inter-American Council for Integral Development (CIDI) of the OAS. The technical coordination was responsibility of the Regional System of Information (SIRI) of the Regional Office of Education of the UNECLAC for Latin-America and the Caribbean (OREALC/UNECLAC Santiago) and the UNECLAC Institute for Statistics (UIS). The Salvadoran Ministry of Education had a very remarkable participation as the centre of the complex logistics tasks. This document represents an organisation document of the subjects developed during the workshop. This report also describes the methodological and analytical aspects of the indicators used by the (PRIE) to monitor the education goals set in the Summits of the Americas. After the subsequent analysis and methodology reports prepared to follow-up the educational commitments set in the Summits, herein are represented the indicators from a suitability perspective for the proposed goals, by incorporating the international technical-methodological features used by the UNECLAC.

During the meeting a preliminary version was disseminated, to which later incorporated important contributions were prepared during the presentations of the spokes, and discussions with expert participants, from which this final version is derived, to be available for the countries members of the Summits and for any particular interested on educational statistics.

This document is expected that, besides to contribute to reinforce the domestic capacities on educational statistics for the countries located in the Americas represents a reflexion on better information and indicators suitable for the challenges from the education systems in the region.

1. BACKGROUND

In 1998, the Heads of State and Government gathered at the Second Summit of the Americas, they highlighted the importance of education matters as a fundamental element for the integral development of the in the region. In order to encourage several changes necessary in the education of the countries in the hemisphere, it was agreed to elaborate an Action Plan, which goals match to other efforts and agreements, originated on international basis during the 1990s, specially regarding to the World Conference on Education for All, held in Jomtien in 1990, and confirmed 10 years later during the World Forum for Education in Dakar¹.

The education goals proposed by the II Summit of the Americas to be achieved in 2010 by the countries in the region are the following:

- The 100% of the under aged to finish a quality primary education;
- At least 75% of the students to have access to quality secondary education, with a higher percentage of students to complete secondary studies;
- To guarantee opportunities of education during a lifetime to the general population.

As part of the Summit mentioned above, it was also considered to start new and determinate hemispheric work mechanisms to provide a better accomplishment of the commitments agreed. One of such mechanisms is the creation of the Regional Project for Education Indicators (PRIE), to generate an group of indicators internationally comparable to monitor the education goals for the Summits of the Americas, and through its activities, to contribute to reinforce the domestic systems of education statistics, as well as a better dissemination and use of the information related to education.

The general and political leadership of the project shall be responsibility of the Mexican Ministry of Education (SEP)², and the Organisation of American States (OAS). From the beginning, the project has received technical support by the UNECLAC, ensuring, in this manner, the quality and comparability of the indicators produced, through the international and regional collaboration of the Institute for Statistics (UIS), and of the Regional System of Information (SIRI) of the Regional Office of Education for Latin-America and the Caribbean (OREALC/UNECLAC Santiago).

1 *World Forum for Education. Dakar Framework for Education. Education for All: to accomplish our common commitments. Paris, UNECLAC, 2000.*

2 *During the Ministries of Education meeting, held in July, 1998 in Brasilia, it was reached by consensus the coordination and implementation task of the project for the first stage corresponding to a period of years 2000-2003, which would be applied by the Chilean Ministry of Education. The second phase of the project started in 2003 by transferring the leadership of the project to the Mexican Ministry of Education (SEP) as agreed in the III Ministries of Education Meeting as part of the Inter-American Council for the Integral Development (CIDI) of the Organisation of American States (OAS) celebrated in Mexico in 2003.*

To accomplish its goals, the PRIE describes three components linked to themselves: building, indicators Analyses, technical cooperation and dissemination; to which a coordination element was added. The plan of work and the multiple activities developed related to each of these components from the start of the project to the date, as well as the many publishing, cooperation missions and workshops showing support and cooperation holding the requirements for the countries in the region, are available in the project's official website³ or at the Regional Office of Education for Latin-America and the Caribbean of the UNECLAC⁴. The group of activities, reports and publishing together are the main background that allows establishing the context for this document, providing elements to its different sections. These sections shall be incorporated to the chapter for references, although not always shall be recalled to avoid repetition.

Attending the aims described in the document, such link and mention shall be stronger by using Education Outlooks of years 2003, 2005 and 2007, such documents provide an overview of the hemisphere from an education point of view comparable to the enlighten goals set in the Summits; allowing to provide the progress achieved, as well as any difficulty, specially to overcome any existing breach, as internal as among countries, regarding the right to receive a quality education.

Finally, even though such agreements celebrated in the framework of the Summits for education matters do not include commitments specifically related to the first childhood stage, the States Members of the Organisation of American States (OAS) have recognised the Scarborough Statement, Trinidad and Tobago, which describes the need to improve the education structure from the starting level due to its positive effect in the education quality, and in the education inequity reduction. Given the importance of the issue, it was incorporated to the Education Outlook for 2007, an analysis on the status of the education in the first childhood stage in countries of the Americas.

3 <http://www.prie.oas.org>

4 http://portal.unesco.org/geography/es/ev.php-URL_ID=9906&URL_DO=DO_TOPIC&URL_SECTION=201.html

2. BUILDING A SYSTEM OF INDICATORS TO MONITOR THE EDUCATION GOALS SET IN THE SUMMIT OF THE AMERICAS

A. MODEL DESIGN

In the initial phase, (2000-2003), the PRIE adopted a 25 indicator model, which design seek to reinforce the education analysis from an integral perspective, having as key elements the socio-economic and demographic environment in which education is provided, as well as the effect of the educational system on it, by using five general analysis categories: demographic and socio-economic context, performance of the education systems, resources for education, education quality, social impact of the education.⁵

Afterward, throughout the execution of the project, and specially, as part of the Education Programmes making framework, it was assessed the need to change the perspective. This was necessary because the initial model was ideal to assess the procedures and outcomes of the way education system works, but it was not conceived to monitor public policies for education. Under this new perspective, it was judged necessary to focus attention on a smaller group of indicators and on an analytical scheme which articulation axis are composed by the education goals set in the Summits. In this way, from a systemic point of view, we moved towards another strategy outlook structured on the base of the aims of the policy. From the Education Outlook 2005, the PRIE has been operating under this new model for analysis.

All the efforts made to achieve perfection in the indicators system, have also underlined the importance of preserve an integral overview enable to provide the context in which the education system is being applied, introducing to the reflection key references to subjects that interfere in its development like demographic and economic trends, investment in education and the socio-economic conditions of the population. It has been paid special attention on improving comprehension of the relations between education and equity, which are a matter of capital importance to be analysed.

The region of the Americas still gathers an important number of countries with high levels of inequity, therefore it is as important to monitor any progress in elevating the level of access, staying and completion for both, primary and secondary levels, as analysing if inwards every country, there is any progress in the right to access to equity education among the diverse geographic areas, among population levels with different income, and among different groups formed by different ethnics and genders. So, a series of measures are included to provide inequity of results between the groups identified.⁶

5 *To know the performance of the model to be reviewed: Mineduc and UNECLAC (2000) "Proyecto Regional de Indicadores Educativos. II Cumbre de las Américas". <Regional Project of Education Indicators. II Summit of the Americas>. Mineduc and UNECLAC (2001) "Proyecto Regional de Indicadores Educativos. Manual de cálculo de los indicadores. Definiciones y metodología". <Regional Project of Education Indicators. Manual of calculations for indicators. Definitions and methodology>. Mineduc and UNECLAC (2003) "La experiencia del Proyecto Regional de Indicadores Educativos 2000-2003, Cumbres de las Américas". <The experience of the Regional Project of Education Indicators 2000-2003. Summit of the Americas>.*

6 *The Indicators system consider the parity index as an statistical measure to perform the follow-up for the equity commitment in the Framework of the agreements deom the Summits.*

Furthermore there is another aspect of singular importance which also is a capital feature in the analysis; it is to know the education quality. In the discussions held as part of the II Hemispheric Forum for Education Quality, another initiative from the Summit of the Americas is to highlight the need to adopt a wide vision on education quality. It was underlined the multi-dimensional nature of this concept which scope cannot be reduced exclusively to the academic-achievement environment, and even though the learning level have a central place in the education quality assessment, it must neither be limited to it, nor to consider other factors as subsidiaries of it. On this matter, most of the countries of this region have developed measuring systems for the students' performance, although their results are not comparable between countries. The international information also faces difficulties in this sense, since certain studies are restricted to few countries of the region⁷. It is remarkable the attempt to apply the Second Regional Comparative and Explanatory Study (SERCE), made at the end of year 2002 by the countries members of the Latin American Laboratory for the Education Quality Assessment (LLECE) of the OREALC/UNECLAC Santiago, in this study it is possible to update and get better outcomes than the first study (PERCE, 1998)⁸ by taking into consideration a higher number of countries and areas assessed. 16 countries participated in the SERCE, plus the Mexican state of Nuevo Leon. At all of them the learning of students from the 3rd and 6th grades of Primary education in Language and Mathematics was evaluated, while the assessment of Science and Nature Science was applied to students of the 6th grade from nine countries, plus the Mexican state of Nuevo Leon.⁹.

On the other hand, attending to the premises of the Project for adding to initiatives already existing, and in order not to duplicate efforts, the PRIE tasks are performed based on the UNECLAC activities for education activities, available data and indicators built by the UNECLAC Institute for Statistics (UIS) are used, as well as the International Standard Classification of Education (ISCED 1997), to guarantee the international comparison of the statistical information.

Furthermore, it has been considered other sources of information as the information published by the Organisation for Economic Co-operation and Development (OECD) based on the same international standards than the UIS questionnaires, as well as the information from home surveys collected and processed by the Economic Commission for Latin-America and the Caribbean (CEPAL), also required to be processed according to the ISCED 1997.

7 Refers to:

- *Programme for International Students' Assessment (PISA) of the Organisation for Economic Co-operation and Development (OECD) which included in 2003 to 9 countries in the countries of the region from a total of 60 participants. For further information on this counsuling study visit: <http://www.pisa.oecd.org>*

- *Trends in International Mathematics and Science Studies (TIMMS), which included in 2003 three countries, and in 2007 six countries of the Americas.*

8 *The First Comparative International Study for academic achievement in language and mathematics for children of third and fourth level of primary education, applied by the UNESCO in 1997. This information is available in: <http://www.unesco.org/santiago>*

9 *UNESCO. Latin American Laboratory for the Assessment of Education Quality (LLECE) : Regional Comparative and Explanatory Study. SERCE. The learning of students from Latin-America and the Caribbean. First report. Santiago, June 2008. <http://unesdoc.unesco.org/images/0016/001606/160660S.pdf>*

B. INDICATORS SELECTION

First, it is necessary to make some considerations on the concepts of the aim, goal and indicator. An aim usually is perceived as the objective or result which is intended to reach through a certain intervention or plan of action. In a State policy framework, an aim usually describes a collective aspiration, socially agreed, of general order, and to be continued on long-term basis, for this reason, in order to move towards its achievements, it is necessary to be turned into quantifying and possible goals to be achieved in a certain temporary horizon.

Goals usually may be neither observable nor measurable categories in a direct way, which is why, it is necessary to use indicators. An indicator is a proxy which allows quantifying a component or dimension associated to the goal.

In practice, it is possible to define it as a never-ending number of indicators to measure a goal, what is important is to choose those pertinent, relevant and useful indicators to describe their development. There are coincidences in pointing that the simpler an indicator is, the powerful is for the purposes, although it is important to underline the need to sometimes use several indicators to elevate the probabilities to achieve a suitable measurement to reach the goal.

On this matter, given to the term and scope of the agreed goals in the framework of the Summits, it was necessary to choose a wide group of indicators to develop a better diagnosis of the education situation, and to provide the different aspects which accomplishment is necessary as a prior requirement to move towards the commitments achievement accepted for education matters.

The first goal referred, is the 100% completion of students for a quality primary education, which involves that the education systems of the countries work in a way so they are able to guarantee every child to have access to a primary education, as well as to stay and continue this type of education until the whole programme is completed, ensuring the achievement of every competence and ability established for every education level. For such purpose, monitoring the progress of the countries towards the goal; involves analysing every aspect individually, therefore it is important to perform a series of indicators which allow analysing the universalisation of the access and completion of the primary school, at its diverse dimensions, such as equity, for instance.

Something similar happens with the second goal, in which it is intended to guarantee access at least for the 75% of children to a quality secondary education, with higher percentages every time of children who complete the secondary education. To monitor this goal, as for the primary school, it is necessary to have indicators to describe the different faces related to the levels of access, completion, and achievement of competences that should be attending to the secondary level.

The third goal refers to guarantee learning opportunities throughout a lifetime basis for all the general population. This is a meta-aim since its scope hasn't been measured. It recognises that learning occur during the whole life, which means, learning goes beyond school education. Nevertheless, a chance to learn throughout a lifetime is conditioned, in a way, to our prior acknowledge, thus, in order to guarantee a continuous learning, we must ensure people to have certain basic competences which must be provided in school education.

From the above mentioned, monitoring this goal also requires a group of indicators to report the education opportunities given to both young and adult population, as well as the level achieved from giving such basic abilities to that population, in a way such opportunities are effectively taken throughout their lifetime.

Below it is incorporated a matrix in which are described all the indicators, organised as for the described analysis model, which technomethodology descriptions are developed in the next chapter. To this point it is necessary to make two warnings: The first warning is on the equity dimension. No matter the total indexes used in the Education Outlook 2007 to analyse whether the domestic progress of the countries to the right to education has been applied evenly to the different social levels, are described in the matrix, in the following chapter it is completely performed a sole index as a model (for methodological considerations). The second warning is for the matrix also incorporates the demographic and economic context indexes, as well as the efforts for investing used in the analysis, which is represented in the Outlook 2007, such indexes are not considered to incorporate the corresponding methodology descriptions.

C. INDICATORS MATRIX

Goal	Aspect to be measured	Indicator
FIRST GOAL 100% of children completing quality primary education	Access and progress in primary education	<ul style="list-style-type: none"> • Net rate of admission (enrolment) • Net rate of enrolment for primary school • Survival rate for the last level of primary school • Percentage of repeating students
	Primary education completion	<ul style="list-style-type: none"> • Percentage of population between 15 and 19 years old who has completed the primary school • Gross rate of graduation from primary school • Expected gross rate of graduates from primary school • Current rate of completion from primary school
SECOND GOAL Access to at least 75% of children to quality secondary education, with percentages	Access to secondary education	<ul style="list-style-type: none"> • Net rate of population from 20-24 years old who completed the secondary education
	Secondary education completion	<ul style="list-style-type: none"> • Percentage of population from 20-24 years old who has completed the secondary education • Current rate of completion for secondary school
THIRD GOAL To guarantee education opportunities throughout a lifetime for the general population	Education achievement for adult population	<ul style="list-style-type: none"> • Illiteracy rate (adult: population from 15 years old and older; and young: from 15 to 24 years old) • Average of years studied for population from 25 to 59 years old • Number of students for third stage of education per 100 thousand inhabitants

Equity analysis related to the three goals	Equity in primary education among the different social groups	<ul style="list-style-type: none"> • Gender parity index (IPG) for the net rate of admission (enrolment) • Gender parity index for the net rate of primary education enrolment • Parity index for the primary school completion in a population from 15 - 19 year old as per rural-urban areas • Parity index for primary school completion in a population from 15 to 19 year old as per income level (lower quintiles/higher quintiles) • Parity index for the primary school completion in a 15-19 year old population as per ethnics group
	Equity in secondary education among different social groups	<ul style="list-style-type: none"> • Gender parity index in the secondary education completion in a 20-24 year old population • Parity index in the secondary completion in a 20 - 24 year old population as per rural-urban areas • Parity index in the secondary completion in a 20 - 24 year old population as per income level (lower quintiles /higher quintiles) • Parity index in the secondary completion in a 20 - 24 year old population as per ethnics
	Education equity throughout a lifetime	<ul style="list-style-type: none"> • Parity index by gender in the illiteracy/literacy rate (adult population and young population) • Parity index in the average of years studied in a 25 - 59 year old population as per rural-urban areas

First childhood indicators	Access and gender equity as per gender	<ul style="list-style-type: none"> • Net rate of school enrolment for pre-primary education • Parity index between genders in the net rate for pre-primary • Term expected for school term in pre-primary education • Rate of specific enrolment as per age for a population form 3 - 8 years old
Complementary indicators	Demographic and socio-economic context	<ul style="list-style-type: none"> • Per capita Gross domestic product (GDP) (USD PPA) • Human Development Index (HDI) • Potential demand for primary education • Potential demand for secondary education
	Investment	<ul style="list-style-type: none"> • Government spending for education as a percentage of the gross domestic product (GDP) • Government spending for education as a percentage of the total government spending • Government spending for primary education students as a percentage of the per capita gross domestic product (GDP) • Government spending for secondary education students as a percentage of the per capita gross domestic product (GDP) • Relation students per teacher in primary education • Relation students per teacher in secondary education • Percentage of teachers with the required certification, according to each country's legislation for primary education • Percentage of teachers with the required certification, according to each country's legislation for secondary education

3. INDICATORS SYSTEM ANALYSIS

Below it is presented an analysis of the selected indicators for each goal set in the Summits. This analysis is performed from a double outlook. The first outlook is a methodology perspective and describes the reasons that justify the election of the indicator and the way it will contribute to follow-up the corresponding goal, also incorporates its definition, as the calculation and requested information to be built, furthermore establishes benefits and limitations which must be considered when using the indicator. The other outlook is the diagnosis, and describes the potential of the indicator to disclose the education situation for such region and its evolution throughout. The period taken as an example goes from 1999 to 2005, this period is used in the Education Outlook 2007, to build the stage for which statistics information is available and is the closer period passed from the fixing of the agreements mentioned above for education matters.

A. FIRST GOAL: THAT 100% OF THE CHILDREN TO COMPLETE QUALITY PRIMARY EDUCATION

With the year 2010 as an outlook, this goal matches the world goal established for the Education for All Initiative (EPT)¹⁰ and also is part of the Statement of the Millennium¹¹ subscribed by the international community¹² with a threshold for year 2015¹³. The need to guarantee a formation, that at least accomplishes what the EPT called “learning basic needs” for every person, is an increasing need recognised and accepted by every state and community¹⁴.

In recent decades there has been an important growing in the access levels to primary education. However, there is a general interest for this growth is given along with a quality equitable service, as well as a universal ensurement to complete all the levels that comprise the primary education. This is because there still are important withdrawal levels, usually related to family economical difficulty, and the failure of the education systems to ensure children to complete in time the learning process which allows them to move over the education system properly.

These general principles and specific condition for the region remain at the time to set a goal that must be achieved in 2010, which is all the children not only have access to the education, but they are able to complete the cycle, with quality levels allowing children to have more and better opportunities of life¹⁵.

10 Documents from the World Conference of Education for All, held in Jomtien, Thailand, in 1990, are available in: <http://www.unesco.org/educación/efa/index.shtm/>

11 Add an access page to the ODM

12 With a threshold for year 2015.

13 Visit : <http://www.un.org/millennium/declaración/ares552e.htm>

14 UNECLAC (1990) World Conference for Education for All. Satisfying Learning Basic Needs: a vision for the 1990 decade.

15 UNECLAC - SEP (2007). Education Outlook 2007: challenges overcome and to overcome. Regional Project for Education Indicators (PRIE) from the Summit of the Americas. Page 19.

Furthermore, before abording the indicators analysis, it is necessary to provide some information on what in the methodology “primary” education means. No all the national education systems have a so-called level, and when they are, they do not necessarily mean the same. In order to make the national education systems comparable, it is used the International Standard Classification of Education (ISCED) as amendments, in 1997 by the UNECLAC, which classifies the education programmes for primary level as level 1, to provide the students a solid basic education on Reading, Writing and Arithmetic, along with elementary knowledge on other subjects as history, geography, natural science, social science, art and music.¹⁶.

Every country in the region has developed their own national system to the ISCED for the international report for data throughout the world Survey on education applied on yearly basis by the IUS. Most of the countries which have provided information, consider a 6 year term as a primary education, except Brazil and Colombia, countries in which primary education comprises a 4 and 5 year term, respectively.

ACCESS AND PROGRESS INDICATORS FOR PRIMARY EDUCATION

It was already mentioned that to monitor the policies is very important to have indicators which allow knowing the current development of the education systems. To provide information for this purpose, and to monitor better the first goal set in the Summits, as part of the PRIE framework, there have been identified the following indicators for access and progress in primary level, available in a regional level in the UIS international database.

- **Admission (enrolment) net rate for the first grade - *TNA'***

Shows the proportion of children whose age corresponds to the official/theoric age to start the first grade of primary education for the first time, and are effectively enrolled for the first time for such grade. This is a direct measurement of the in-time enrolment to primary level.

This an important indicator for monitoring, since to guarantee universal access to primary education is an aim itself, as well as an initial requirement to achieve the first goal set in the Summits. Furthermore, it is important to guarantee such access to the level to be timely, since overaging is a factor that affects negatively the staying, progress, and learning process of the school population throughout the education system.

¹⁶ *International Standard Classification of Education, ISCED 1997, UNECLAC-UIS 2006, for futher information visit: <http://www.uis.unesco.org>*

i) Method development

Definition.-

Number of students who are enrolled (for the first time) to the first grade of primary education at an official/theoric age, expressed as a percentage of the population with the same age.

Calculation.-

The quotient divided by the total of new students to the first grade, whose age corresponds to the official/theoric age to start the grade, respect the total population with age to be enrolled to the first grade, multiplied by one hundred.

Formula.-

$$TNA^t = \frac{E_e^t}{P_e^t} * 100$$

Where

E_e^t = is the number of students enrolled for the first time to the first grade with the official/theoric age to access to the primary level in the year t,

P_e^t = is the total population with official age to start the primary level in the year t

Required data.-

Number of students enrolled for the first time to the first grade as per age and total population in the range of age to start the first grade.

Source of information.-

Census, surveys or school records (as numerator) and population census or population prospects (as divisor).

Unbundling.-

As per gender.

Strengths.-

Provides a clear overview of the coverage of population incorporated to the first grade of the first grade of primary level in relation to the population that theoretically should be attending. Avoids distortion in the volume measurements like the gross rate, which when values close to 100% are adopted, may be misinterpreted as a universal coverage in the access to primary education.

Allows knowing the timely enrolment to the primary level, this feature has an effect in the quality of the students' education history and the level of school failure.

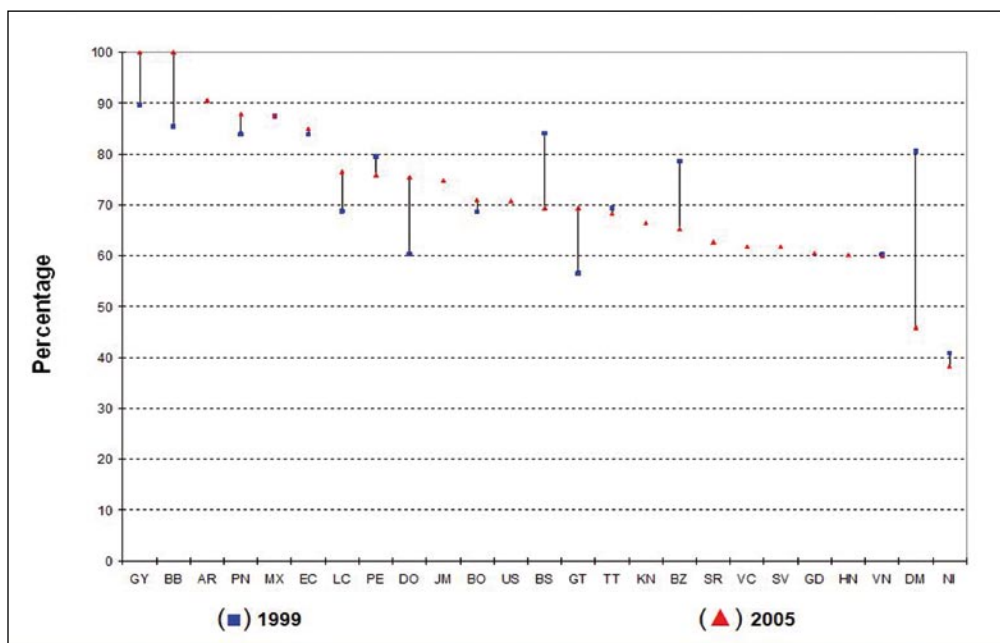
Weaknesses.-

When the indicator values are far from 100%, special attention must be paid to the analysis, since this doesn't mean the population's school age is necessarily out of the range established for the education system, because it is possible to start the school cycle later from the date established in the system, or even sometimes some students might've been enrolled in school at an earlier age.

Disadjustments may occur when the divisor data are taken from population prospects. It is also possible to record disadjustments between the reference dates used to collect the population ages and those used to define the official/theoric age to be enrolled for first grade. When this happens, it is necessary to make some adjustments to obtain a correct reading of the students' ages.

ii) Analysis and interpretation

Net rate evolution of enrolment for first grade. 1999-2005.



Source: Education Outlook from data by the UNESCO Institute for Statistics (UIS)

Currently, most of the ready-to-school population manages to have access to primary education; however, the timely enrolment to the level is a subject that deserves special attention. As it is shown in the chart above, blue squares represent year 1999, and red triangles represent year 2005, in 12 countries the children population who are enrolled to the first grade at a formally established age is lower than 70%, and seven countries observe such proportion to be higher than 80%. This phenomenon may be associated to a delayed or earlier enrolment to the education system.

In recent years (1999-2005), the timely enrolment to primary education has positively evolved in 9 countries of the region, the cases of the Dominican Republic, Barbados, Guatemala and Guyana, are remarkable with a growth higher than 10%. Barbados and Guyana have even caused 100% of their children to be timely enrolled to the first grade.

Improving the timely enrolment to primary level continues to being a major challenge for most of the countries in the region, and it is an indispensable requirement to guarantee the primary education universalisation, since as it was mentioned before, overaged students represents a staying, progress and learning problem for the school population throughout the education system.

- **Net rate of enrolment to primary education - TNM_p^t**

The net rate of enrolment for primary education shows the fraction of people who are within the range of official/theoric age to start such level, are effectively enrolled for it.

It is an important indicator to evaluate any progress towards the first goal, since it is a requirement to achieve the universal completion of primary education, the education system guarantee the universal coverage by attending the population within the range of age to start the primary level.

i) **Method development**

Definition.-

Number of students enrolled for primary level with official/theoric age to start the level, expressed as the percentage of population with the same age.

Calculation.-

Is the quotient divided by the people enrolled for the primary level, with the proper age for such, related to the total population within the same range of age, multiplied by one hundred.

Formula.-

$$TNM_p^t = \frac{M_{p,e}^t}{P_e^t} * 100$$

Where

$M_{p,e}^t$ = is the number of students enrolled for the primary level with official/theoric age for the level in the year t

P_e^t = is the total population in the range of official/theoric age corresponding to the primary level in the year t

p = primary level

Required data.-

Number of students in the primary level within the range of official/theoric age for the corresponding level, and the population who belongs to the group with the same age.

Source of information.-

Census, surveys or school record (as numerator) and population census or population prospects (as divisor).

Unbundling.-

As per geographic area, as per gender,

Strengths.-

Provides an overview of the coverage of the population incorporated to the primary level, in relation to the population which theoretically should be attending. In systems with a high rate of timely enrolment and low repetition, the level net rate is a measurement quite close to the total coverage rate.¹⁷ Avoids distortion in the volume measurements like gross rate, which when values close to 100% are used, may be misinterpreted as a universal coverage of the access to primary education.

Allows knowing the timely enrolment level to primary level, this feature has an effect in the quality of the students' education life and the level of school failure.

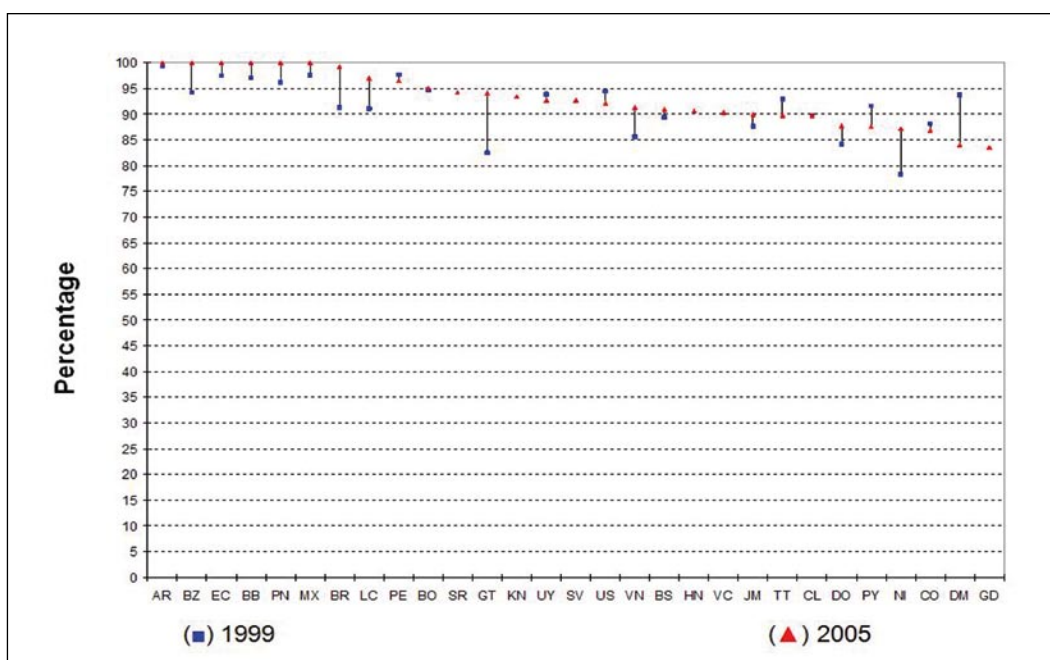
Limitations.-

Special attention must be paid when interpreting the breaches (between observed rates and the 100%), because they not always indicate the population out of the education system, since a fraction of it may be enrolled the pre-school level or the secondary level, or might be enrolled in some education programme for adults.

By using this indicator it is also possible to have disadjustments between reference dates to collect age and population data, as well as those used to define the official age to be enrolled for the primary level. Any disadjustments may be derived from using population prospects. This kind of disadjustments may cause a major volume of students than population when literacy reaches levels close to 100%.

ii) Analysis and interpretation.-

Net rate evolution of enrolment for primary education. 1999-2005.



Source: Education Outlook 2007 from data by the UNESCO Institute for Statistics (UIS)

Currently, most of the Latin-American and Caribbean countries record a high net rate in primary level, which shows a big number of people with age enough to be enrolled for primary education, who effectively have access to this education level. However, net rates in four countries of the region have fewer enrolments than 90% (The Dominican Republic, Paraguay, Nicaragua, Colombia) and in the Dominican Republic and Granada are lower than 85%.

The chart above shows the progress recorded in the region. Although in 1999 Argentina was the only country which in 1999 already had an enrolment net rate of 100%, between 1999 and 2005 other six countries achieved universalisation for primary education (Belize, Ecuador, Barbados, Panama, Mexico and Brazil). There are also some other countries with a remarkable progress on their primary enrolment expansion: Guatemala has a 12% increase in the period, Nicaragua a 9%, and the net rate in Belize, Santa Lucia and Venezuela grew raised approximately 6%.

- **Survival rate to the last grade of primary** - TS_{ip}^t

One additional condition to achieve the universalisation goal for this education level is the children not only to start the first grade, but also to stay and move through such level. The survival rate of the last grade of primary education is an approximately measure for this phenomena, since the values acquired by this indicator provides data of the students' accumulate staying and the system's ability to retain and cause the students to move to the last school term.

i) Method development:

Definition.-

Cohort percentage of children enrolled for the first grade that will complete the first grade of primary education.

Calculation.-

It is calculated based on the cohort reconstruction method, which uses data from the enrolment and the students who repeat a course for two consecutive periods. It is obtained as the percentage of students who, having started the first grade will be enrolled for the last grade, independently from the time they need to achieve it.

Formula.-

$$TS_{up}^t = \frac{\sum_{k=1}^m P_{g,up}^k}{A_g^t}$$

Where up represents the last grade of primary level, and k means the number of years used to follow-up the cohort. (1,2,...,m).

A_g^t is the number of students forming the cohort g during the year t of the first year of primary education. In this case, due the amount it is calculated from the cohort reconstruction method, the number matches to the students enrolled for the first grade of primary in the year t.

$$P_{g,up}^k = A_{g,up}^t - R_{g,up}^t$$

Where $A_{g,up}^t$ is the enrolment of students in the last grade of primary in year t, and

R_{up}^t is the number of students who have to repeat a level during the last grade in the year t

Required data.-

Number of students enrolled, and students who have to repeat a level per grade in primary education for two consecutive years.

Source of information

Census, surveys or school records.

Unbundling.-

As per gender, as per geographic area

Strengths.-

It is an indicator for inner efficiency which potential is based on its simplicity and easy-to-use to present a clear picture on the accumulate staying of students and the system's ability to retain them and make them move through the education system, allowing its own construction by using data available only for two consecutive years. Another strength is its reliable use to build data from a single source of information.

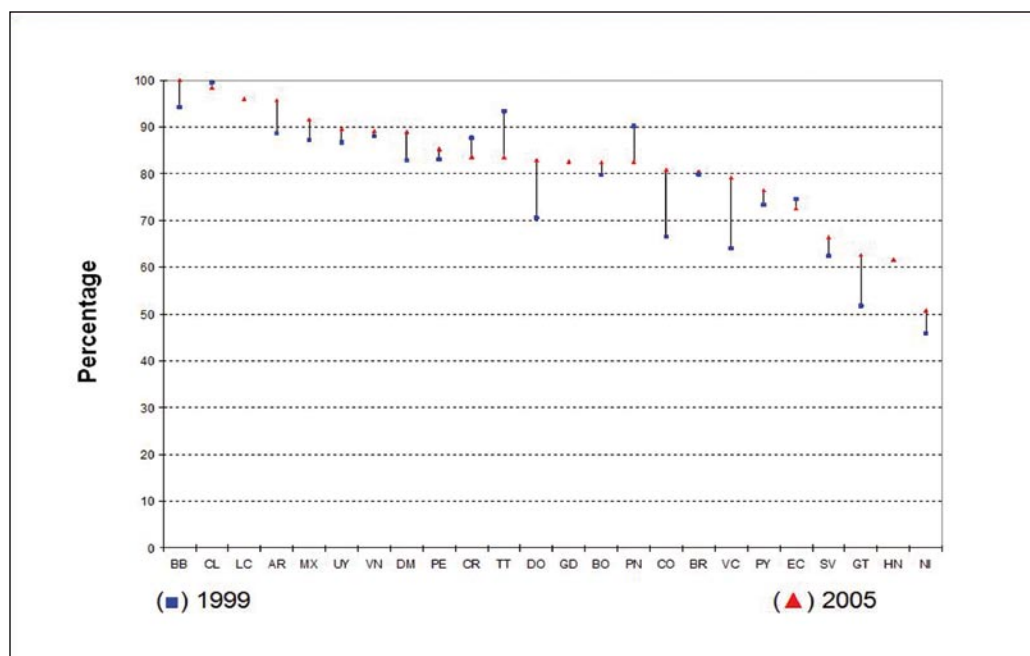
Limitations.-

The indicator may be subject to distortion since is based on a closed model of rebuilt cohort, this model provides stability along the time of the flow rates (promotion, repetition and desertion), besides, it is assumed the no-existence of re-enrolling into the system, and it doesn't control the migration effect, supposing that not always are reached¹⁷, a very common situation in Latin-American and the Caribbean countries.

17 For further information refer to Guadalupe, C (2002): Covage, efficiency and school flow indicators: Needs of policies, methodology problems and a proposal, available in <http://www.UNESCO.org/santiago>; and UNESCO (2003) Technical Guidelines.

ii) Analysis and interpretation

Net rate evolution of enrolment for primary education. 1999-2005.



Source: Education Outlook 2007 from data by the UNESCO Institute for Statistics (UIS)

As described in the chart above, five countries have up to 90% survival rates to the last grade of primary and superior levels to 90% (Barbados, Chile, Santa Lucia, Argentina and Mexico). On the other hand, five countries still have lower than 75% survival rates (Nicaragua, Guatemala, Honduras, El Salvador and Ecuador).

Now, the chart also shows that between 1999 and 2005 the survival rate to the last grade of primary education has improved in 16 countries of the region. The situation of San Vicente and the Grenadian Islands, Colombia, the Dominican Republic and Guatemala is remarkable by showing over than a 10% rate of growth.

Many students, who access into the system, do not manage either to complete the primary education or they do it by investing a huge amount of time, because of repetition or withdrawal. These two phenomena represent a concern for the States member, and are part of the education agenda of the countries, as well as plans and policy recommendations at both regional and international level.

COMPLETION INDICATORS FOR PRIMARY EDUCATION

The universalisation goal for primary education implies the whole population with school age achieves to complete the level; this is the reason to have indicators which allow monitoring them. Since 2002 the OREALC/UNECLAC Santiago provides important information to achieve this aim¹⁸. Thus, indicators to know the population volume that complete the system (volume measurements), and the proportion in certain population group that make it (proportion measurements) are proposed.

- **Population percentage with ages between 15 and 19 year old who have completed the primary level - $\%PP'_{15-19}$**

This indicator presents in a simple and direct way a clear overlook of the completion level for primary education, by showing what proportion of the population has completed this kind of studies among those students who have had one opportunity, because of their age, to do it. It represents a very useful tool to analyse the educational situation, since it allows knowing the relative volume of the population that has completed the primary education in the recent past.

For monitoring purposes of the first goal set at the Summits, is an simple indicator that provides the total aspects involved in the primary level universalisation, by informing the proportion of the population with the proper age who in the recent past effectively accessed, stayed, moved and successfully completed the primary education.

i) **Method development**

Description.-

Is the percentage in a 15 - 19 year old population who at least has completed the primary level in relation to the total number of such group of age.

Calculation.-

Is the quotient divided by the 15 - 19 year old population who completed the primary education and the 15 – 19 year old total population, multiplied by one hundred.

18 For further information please visit in the website: www.unesco.org/santiago the following documents: (1) Informe Regional sobre los objetivos de desarrollo del Milenio vinculados a la Educación OREALC (2004): "La conclusión universal de la educación primaria en America Latina ¿estamos realmente tan cerca? <Regional report on the development aims for the Millenium, linked to the OREALC Education (2004): Universal completion of the primary education in Latin America: Are we really that close?> (2) Guadalupe,C y Taccari, D (2004) Conclusión universal de educación primaria: ¿cómo evaluar el progreso hacia esta meta. <Universal completion of the primary education: How to assess the progress towards the goal?>. (3) Medición de la conclusión universal de la educación primaria en America latina de Guadalupe C., y Louzano P. <Measuring the universal completion of the primary education in Latin-America by Guadalupe C. & Louzano P.>. (2003)

Formula.-

$$\%PP'_{15-19} = \frac{PP'_{15-19}}{P'_{15-19}} * 100$$

Where

PP'_{15-19} = is the number of 15 to 19 year old population who completed the primary education

P'_{15-19} = is the 15 to 19 year old population in the year t

Required data.-

A 15 to 19 year old population who has completed the primary level (as numerator) and the total population that belongs to such group of age (as divisor).

Source of information.-

Census and/or Home Surveys.

Unbundling.-

As per geographic area, as per socio-economic groups, gender, ethnics, among others.

Strengths.-

Its potential is based on its calculation simplicity, and simple interpretation of variables and data. Its reliability comes from the required information to be calculated which comes from a sole source of information. If Home Surveys are used as a source of information, when such surveys are performed on regular basis (annual, biennial, etc.) it is possible to analyse any progress through the time¹⁹.

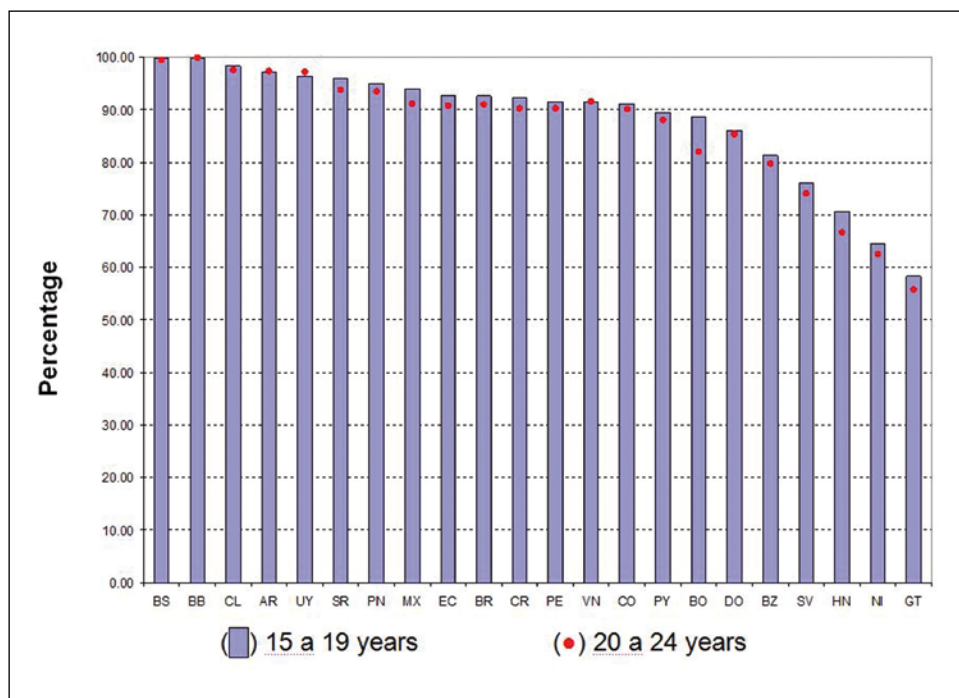
Limitations.-

Although this indicator is ideal to describe the school levels among the population, has some restrictions due to the emission of outcomes from actions take in the past only, to reach said aim, and it is not possible to notice the current development in the education system. Another limitation is associated to the no-existence and/or regularity of Home Surveys in some countries, which doesn't allow to follow-up the indicator's evolution.

¹⁹ The temporary analysis may be performed either using different waves or years from the home surveys or, by comparing the situation of diverse ethares groups from the same survey.

ii) **Analysis and interpretation.**

Percentage of students from 15 to 19, and from 20 to 24 years old who have completed the primary education. 2005



Source: Education Outlook 2007, from data by the UNESCO Institute for Statistics (UIS) for the Caribbean countries and from Home Surveys collected and processed by the United Nations Economic Commission for Latin-America and the Caribbean (UNECLAC) for countries in Latin-America.

In the chart above it is shown that in seven countries of the region, the 15 to 19 year old population is close to reach the universal completion of primary education: Bahamas, Barbados, Chile, Argentina, Uruguay, Surinam and Panama have managed to overcome the 95% conclusion threshold. These seven countries join to another seven country group (Mexico, Ecuador, Brazil, Costa Rica, Peru and Venezuela) which have overcome a 90% threshold. On the other hand, there are four countries (El Salvador, Honduras, Nicaragua and Guatemala) which represent a lower than 80% rate of completion among their population at a recent age of completion. In Guatemala, over than 40% of its 15 and 19 year old population hasn't completed the primary education.

The universal completion of primary education is a matter which remains outstanding in the region. According to calculations made by the UNECLAC, approximately 9% of the 50 million of children between 15 and 19 years old in Latin-America and the Caribbean haven't completed the primary education. In order to evaluate the progress in the countries regarding to the accomplishment of the first goals set at the Summit of the Americas, in the graphics above the completion levels are compared for two generations (15 to 19 years old – represented by bars – and 20 to 24 years old – identified by dots) representing the education systems in two consecutive periods and which allow noticing the progress in the countries to accomplish this goal, at considering a five-year term, which is similar to the period analysed (1999-2005).

The progress is of different length, although the most remarkable one is that over than the 20% of their population between 15 and 19 years old haven't completed the primary education, this information shows a higher level of completion among a younger generation comparing to the previous one. For this is outstanding the case of Bolivia and Honduras, which present differences between the 7 y 4% age groups, respectively. This reflects the efforts made to increase the school completion for primary school in new generations²⁰.

- **Gross rate of graduation from primary level - $TBGP^t$**

The gross rate of graduation is one of the volume measurement proposed to monitor the primary completion, and expresses the percentage of population that completes successfully these studies among those who have had the possibility, due their age, to do it.

i) Method development

Description.-

Number of students who have completed successfully the last period of primary level, independently of their age, expressed as a percentage of the total population with a theoretic age for graduation level.

Calculation.-

Is the quotient divided by the number of students graduated from the primary level and the total population with official/theoric age established to complete the level, multiplied by one hundred.

Formula.-

$$TBGP^t = \frac{G_p^t}{P_e^t} * 100$$

Where

G_p^t is the number of students graduated from the primary level in the year t, and

P_e^t is the population with official/theoric age "e" for graduation from the last grade of primary school, in the year t.

Required data.-

Number of students graduated from primary level in year t, and the total population with the age to do it.

Source of information.-

Census, surveys and school records (as numerator) and population census or population prospects (as divisor).

20 Education Outlook 2007, pages 32 and 33.

Unbundling.-

As per gender, and geographic area.

Strengths.-

Allows to know the population volume who completes a whole cycle of primary education, and it is useful for education planning.

Weaknesses.-

As a volume measurement, it is necessary to be used with reservations since with percentages close to 100%, it would not be useful as indicator for universal achievement – because a fraction of students may have school delays either for late enrolment, repetition or withdrawal and later re-enrolment-, would only be interpreted as the system is in conditions to graduate a number of people equivalent to the officially established.

There is additional difficulty, already mentioned in some other cases, because to build this indicator it is necessary to have two sources of information, and as for the result there is an additional problem since it is necessary to base on population prospects, except with years in which such census are performed.

ii) Analysis and interpretation

Since it is necessary the gross rate and the expected rate to be read on comparison basis, the analysis of this indicator shall be performed with the next one.

- **Expected gross rate for graduation from primary level - *TBEGP'***

The expected gross rate for graduation from primary education is equals to the prior rate from a volume indicator. The difference between both is the former one is based on the number of students who currently complete the level, while the expected provides a estimate of the population volume expected to complete the primary level from the current volume of enrolment and patterns of the enrolment. This rate, as a consequence, predicts the effects of the current education policies over the results of the primary education related to the access to the primary education and the coming school cycles.

It is important to have both, because they allow not only getting to know the current completion of the level, but the potential future achievement from the efforts made currently by the education system. In this way, having both indicators is relevant to monitor the first goal, to be able to know, not only the current status but to notice future moves towards population levels that will complete the level.

i) Method development.-

Description.-

Is the number of students in certain year, independently of the age, expected to graduate from the primary education, expressed as a percentage of the population with the official/theoric age to be enrolled to the primary education in the same year²¹.

Calculation.-

This rate is calculated by multiplying the gross rates of admission expected in the last grade of primary education by the probable number of students who reach the last grade able to graduate. This considers future gross rates of graduation based on current new enrolments for the first grade of primary education, assuming the current rates of grade transition, repetition and graduation does not vary²².

Formula.-

$$TBEGP^t = TBAE_{up}^t \frac{G_{up}^t}{NI_{up}^t}$$

Where

$TBAE_{up}^t = TBA_1^t * TS_{g,up}^t$ is the gross rate of admission (enrolment) expected in the last grade of primary education in the school year t

TBA_1^t is the gross rate of admission (enrolment) to the first grade of primary in the school year t

$TS_{g,up}^t$ is the survival rate of the cohort g, to the last grade of primary in the year school t

And

G_{up}^t number of graduate students in the last year of primary school in the school year t

NI_{up}^t are new enrolments for the last grade of primary in the school year t

Required data.-

Number of students enrolled and repeating students per grade in primary education for two consecutive years. Number of students registered for the first time to the first grade of primary school in year t, number of graduates from the last grade of primary school in year t.

Source of information.-

Census, surveys and school records (as numerator) and census or population prospects (as divisor).

21 UIS. *Compendio Mundial de la Educación*. <World summarising of Education 2007>.

22 UIS. *Compendio Mundial de Educación 2007*. <World summarising of Education 2007>.

Strengths.-

It is possible to notice the future situation regarding the completion term for primary level from the current behaviour, i.e. allows describing the results from the potential of the interventions of policies applied in certain moment.

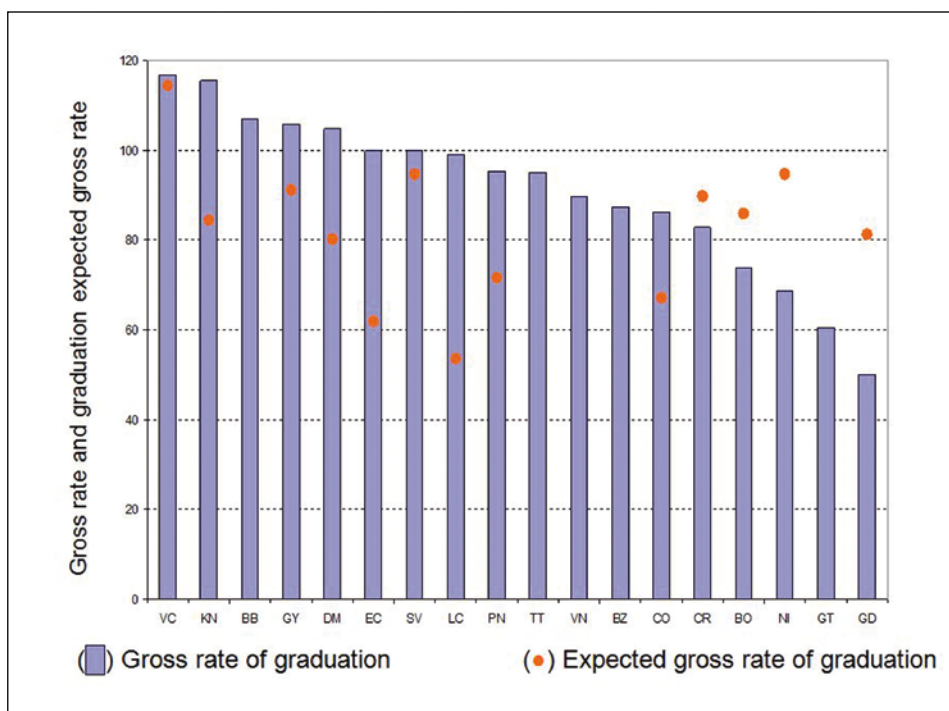
Weaknesses.-

Are estimations based on a closed system with certain assumptions –as the lack of re-enrolments and the effect of migration -, therefore, there might be distortions when the assumptions are not accomplished, mainly, in LAC, when it is a regular situation. It is also possible to be disadjustments by requiring building from two different sources of information and from using population prospects.

It is pertinent to mention that, from the volume building, values close to 100 or more do not necessarily mean that the level of universalisation is being reached, since, as mentioned in other cases, a fraction of the population who completed the cycle may be comprised by overaged students.

ii) **Analysis and interpretation.-**

Gross rate and graduation gross rate from primary education. 2005



Source: Education Outlook 2007 from data by the UNESCO Institute for Statistics (UIS)

Information of volume of the population who complete the primary education shows that in some countries an important number of students close, or even higher than the population with age to complete effectively the primary level actually do it. This indicates that such education systems have the installed ability to serve all the population that theoretically should graduate. However, this doesn't necessarily means that the universalisation for the level has been reached, since a fraction of the students might be overaged and therefore, mask some exclusion situations.

- **Current completion rate for primary level - TCA_p^t**

Besides the indicators herein, for the completion of this level in young population, and those for completion volume from the students who graduate from the level, it is desirable to have a measure to estimate the proportion of people who complete the level, considering the valid education policies, incorporating the current patterns for enrolment and education history of the population with age to attend and complete the primary education. This also allows to contemplate school left-over situations derived from the completion of the level some years later after the established as theoretic age for completion.

i) Method development

Description.-

Number of students expected to complete the primary level according to the current enrolment patterns, repetition per grade and age, as a percentage of population for each range of age in conditions to complete the level.

Calculation.-

Is the sum of the probabilities to complete the primary level through the potential ages for completion (from the official completion age for the level), multiplied by one hundred. For each completion age the result is calculated dividing by the number of students enrolled for the last grade of primary education without including the repeating students, and the population corresponding to each age.

Formula.-

$$TCA'_p = \sum_{k=m_{up}}^{\infty} \frac{M'_{up;k} - R'_{up;k}}{P'_k} * 100$$

Where

$M'_{up;k}$ is the number of students enrolled for the last grade of primary level, with k years old, in the year t

P'_k is the population with k years old, in the year t

$R'_{up;k}$ is the number of repeating students from the last grade of the primary level, with k years old, in the year t

up last grade of primary level

m_{up} minimum age for which are students enrolled for the last grade of primary level.

Note: Many times information of repeating students is not available per age from the last grade of primary education. When this happens, the same percentage of repeating students from the last primary grade is used for all the ages of the students enrolled, as an estimation of those students who will not complete the level. Though the levels of repeating students is usually bigger as for ages than the theoretic for completion of the level, the incidence is minimum in the indicator calculation and the respective values.

Required data.-

The number of students as for simple ages from the last grade of primary education, repeating students from the last grade of primary education, and population as for simple ages.

Sources of information.-

Census, surveys and school records (as numerator) and population census and population prospects (as divisor).

Unbundling.-

As per gender, and geographic area.

Strengths.-

Allows knowing and noticing the level of completion for primary education taking into account the current valid education policies and the current education history of the population with age to attend to this level of education.

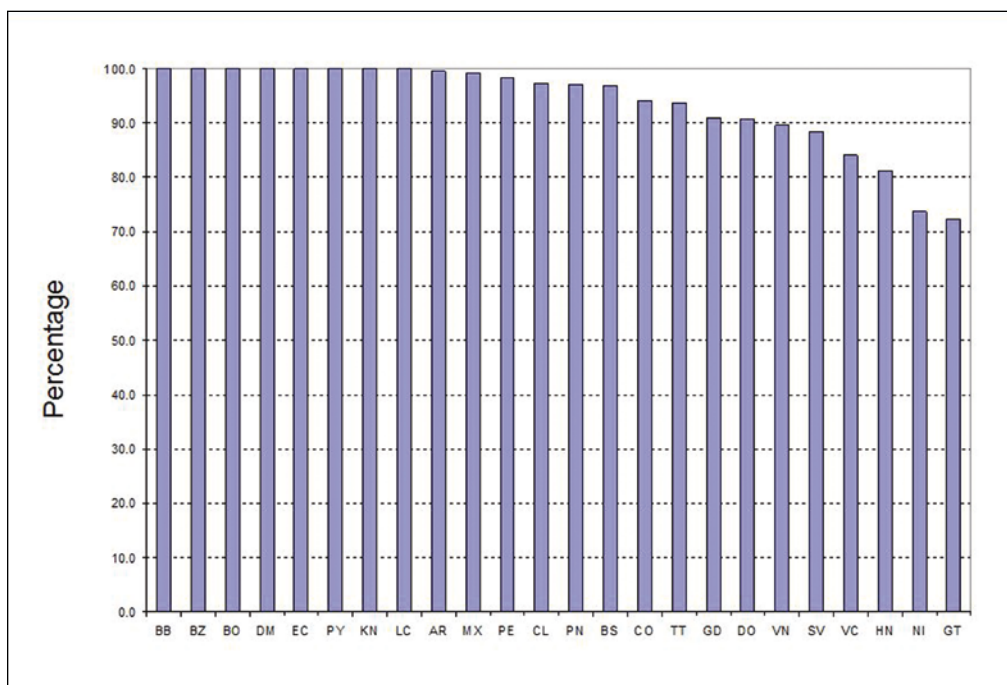
Weaknesses.-

This indicator may provide more accurate values when graduates from the last grade from primary education are used by simple ages instead the proposed proxy, like students enrolled for the last grade minus the repeating students, as for simple ages.

This indicator enables to record disadjustments by requiring the building of two different sources of information; and as for the divisor makes it more difficult because it is generally based on population prospects.

ii) Analysis and interpretation

Current completion of primary education. 2004



Source: Education Outlook 2007 from data by the UNESCO Institute for Statistics (UIS)

The graphics above shows the current completion for primary education in countries in the region. While in 18 countries the primary completion is higher than 90% – and 8 of them reach a 100% –6 countries haven't reached a 90% of completion for primary education (Venezuela, El Salvador, San Vicente and the Grenadine Islands, Honduras, Nicaragua and Guatemala). Nicaragua and Guatemala have the lowest levels of completion according to this indicator on education history of the students enrolled in the system.

B. SECOND GOAL: THE ACCESS FOR AT LEAST 75% OF THE YOUNG STUDENTS TO QUALITY SECONDARY SCHOOL, WITH INCREASING PERCENTAGES OF STUDENTS WHO COMPLETE THE SECONDARY SCHOOL.

The Action Plan from the Summit of the Americas points the need to guarantee not only the universal completion of quality primary studies, but also achieve important levels of an increasing access and completion of quality secondary school. This second goal matches other world ones set in the initiative for Education for All (EPT)²³ as part of the Regional Framework Action of the EPT for the Americas²⁴, and reflects the importance of the secondary education in a world and regional context.

To guarantee the increasing enrolment of students to a quality secondary education is to make possible access to a more complex knowledge and competition, as well as improve the insertion conditions in a labour market. According to the United Nations Economic Commission for Latin America and the Caribbean UNECLAC, to have at least 12 school cycles, which in most of the countries of the regions represents the necessary period to complete a secondary education, is the minimum education capital that a person must have to get a welfare situation, this is because this number of school cycles provide a probability higher than 80% to get a job which allow them to receive an income to ensure a proper lifestyle²⁵.

In the same way, reaching high levels of coverage in secondary education, not only helps people to improve their level of life, but simultaneously, opens the horizon of a both economic and social development. However, the secondary education expansion in the region is currently facing difficulties, and moves slower than primary education, because of this, it is important to set the second goal as part of the commitments agreed between the countries of the Americas.

On the other hand, and pior the indicators analysis selections, it is necessary to point that to make the national education systems comparable, the UNECLAC, in the International Standard Classification of Education 1997 (ISCED 97), classifies the secondary education levels as levels 2 and 3. Level 2, represents the first education cycle or low secondary, which most of its contents, remain as a model mainly divided as subjects, taught by more specialised teachers, whose aim is to complete the basic education started in the primary school, Level 1; and Level 3 to the second cycle or high secondary, in which a higher specialisation level is observed than in Level 2, with even higher specialised professors. In most of the countries having access to this level means having completed 9 years in basic education. Another characteristic for this level is a major diversification in the offer and orientation of the programme²⁶.

23 *Documents from the World Conference for Education for All held in Jomtien, Thailand, in 1990, available in <http://www.unesco.org/educación/efa/index.shtml/>*

24 *Education for All in the Americas. Regional Framework for Action. Santo Domingo, February 10-12, 2000. http://www.unesco.cl/medios/biblioteca/documentos/ept_santo_domingo_marco_acción_américas.pdf*

25 *For further details refer to: UNECLAC (2000) Panorama Social de América Latina 1999-2000, Santiago, United Nations Economic Commission for Latin America and the Caribbean.*

26 *For further details refer to: Clasificación Internacional Normalizada de la Educación, CINE1997, UNECLAC/UIS 2006. Available in: http://www.uis.unesco.org/TEMPLATE/pdf/isced/ISCED_E.pdf*

INDICATORS FOR SECONDARY EDUCATION ACCESS

- **Net rate of enrolment for secondary education - TNM_s^t**

This indicator measures the proportion of students who, being within the official/theoric range of age established to have access to secondary education, are effectively registered for such level. Both withdrawal and enrolment for this level can be calculated (levels 2 and 3 of ISCED 97) or by a combination of two levels. This indicator provides capital information to monitor the progress in the second goal set in the Summits to know the population covered who effectively has have access and stays through the secondary education system.

i) **Method development.-**

Description.-

Number of students enrolled for the secondary level with official age to be in the level, expressed as a percentage of population in such range of age.

Calculation.-

Is the quotient between the students enrolled for the secondary level within the suitable range of age, in relation with the total population in such range of age, multiplied by one hundred.

Formula.-

$$TNM_s^t = \frac{M_{s,e}^t}{P_e^t} * 100$$

Where

$M_{s,e}^t$ = is the number of students enrolled for the secondary level with official/theoric corresponding to the level in year t ,

P_e^t = is the total population within the range of official/theoric age suitable for the secondary level in the year t

s = secondary level

Required data.-

Number of students in secondary level within the range of age for the level and the number of total population in the range of age.

Source of information.-

Census, surveys or school records (as numerator) and population census or population prospects (as divisor).

Unbundling.-

As per gender, and geographic area.

Strengths.-

Provides a clear overview of the population coverage incorporated to the secondary level in relation to the population that should be attending. Avoids distortions in the measurements like the gross rate, that when values close to 100% are adopted might be misinterpreted as an universal access to secondary education.

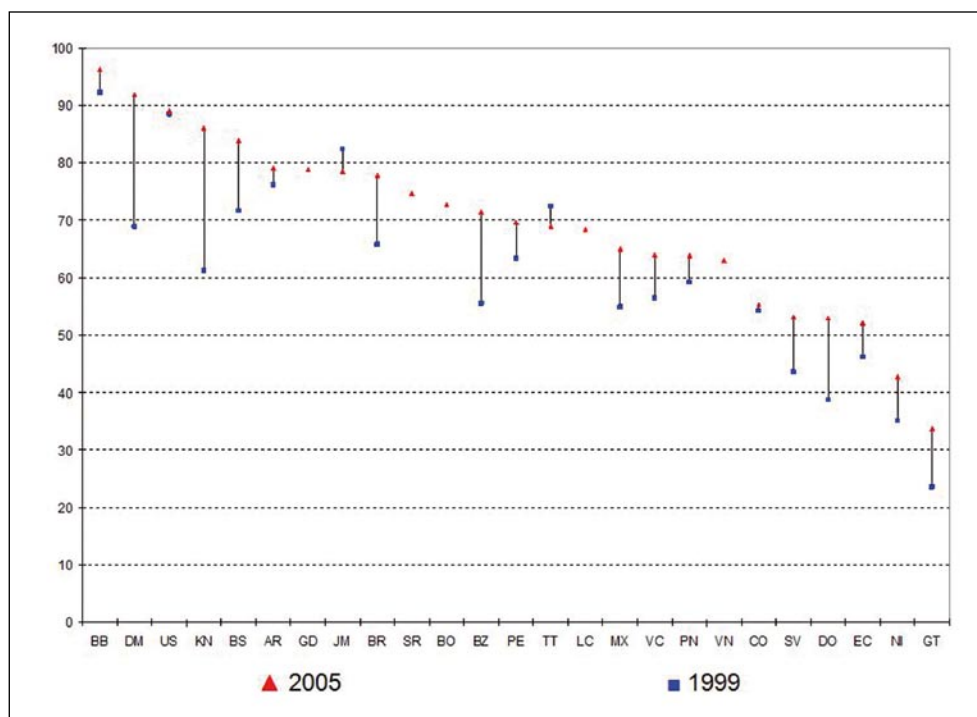
Limitations.-

Special attention must be paid to the breaches interpretation (between the rates observed and the 100%), because they do not always indicate the population out of the education system; since a fraction of it may be studying the primary level or may be enrolled in an adult education programme.

This indicator may also present disadjustments between reference dates to collect the ages of the population and those used to define the official age to be enrolled for the level. There may be disadjustments from using population prospects generally available by fifths groups of age, specially when literacy is reaching levels close to 100%, it may be obtained a higher volume of students than of population.

ii) Analysis and interpretation

Net rate evolution in the enrollment for secondary education. 1999 - 2005



Source: Education Outlook 2007 from data by the UNESCO Institute for Statistics (UIS)

Otherwise what happens in the case of the primary education, the access levels for secondary level entitle a higher variability among the countries in the region. Therefore this goal represents different challenges to the countries members of the Summits of the Americas. For some, the efforts are still focused on improving the enrolment coverage, for others, the access to secondary access has reached levels close to 100%, and they are focused to the quality of the learning for students in this education stage, and the possibility students in this level to complete the process without withdrawing.

In 2005, ten countries in the region have achieved the 75% access goal for students with secondary education: Barbados, Dominican, the United States, San Cristobal and Nieves, Bahamas, Argentina, Granada, Jamaica, Brazil and Surinam. Excepting Barbados, Argentina, the United States and Jamaica, the other six countries have reached this goal in a period between 1999-2005.

Despite the progress achieved, there still are four countries in the region with rates between 50 and 60%: the Dominican Republic, Ecuador, El Salvador and Colombia. While only two countries: Nicaragua and Guatemala have lower than 50% rates.

Likewise the access to primary education, countries with the lowest rates of access to secondary education are those that entitle more restrictions to grow and demographic dependence rate, as well as higher rural population proportions and less human economic and development levels. This characteristics will be analysed in detail later in the chapter devoted to equity.

SECONDARY EDUCATION COMPLETION

An important concern on the goal accomplishment set in the Summit is not only to improve the access conditions to secondary education, but to reach higher percentages of students who manage to complete their studies. In order to record this features, there have been selected the following indicators:

- **Population percentage from 20 to 24 years old who have completed the secondary education - $\%PS'_{20-24}$**

In the same way than for the primary level, this indicator represents a simply a directly way to measure the level of completion for secondary education within an adult population with recent graduation ages, assumed as the age at which all the population should be completing such studies among the corresponding population in the same group of age. This a useful tool to follow-up the second goal set in the Summits, regarding the commitment to improve the completion levels for secondary education.

i) Method development

Description.-

Population between 20 and 24 years old who have completed the secondary level expressed as a percentage of the total population in this group of age.

Calculation.-

Is the quotient divided by the population with 20-24 years old who completed the secondary level and the total population with 20-24 years old, by one hundred.

Formula.-

$$TCA'_s = \sum_{k=m_{us}}^{\infty} \frac{M'_{us,k} - R'_{us,k}}{P'_k} * 100$$

Where

PS'_{20-24} = is the amount of population from 20 to 24 years old who completed the secondary level in the year t ,

P'_{20-24} = is the total population from 20 to 24 years old in the year t

Required data.-

Population from 20 to 24 years old who has completed the secondary level; and the total population in the range of age.

Source of information.-

Population census and/or home surveys.

Unbundling.-

As per geographic area, socio-economic groups, and gender.

Strengths.-

Its potential is based on its simplicity for calculation and the use of variables and data of simple interpretation. It is reliable because it also provides information required to be calculated from a sole source of information. If Home Surveys performed on yearly basis are used as sources of information, such surveys allow to analyse the progress through the time²⁷.

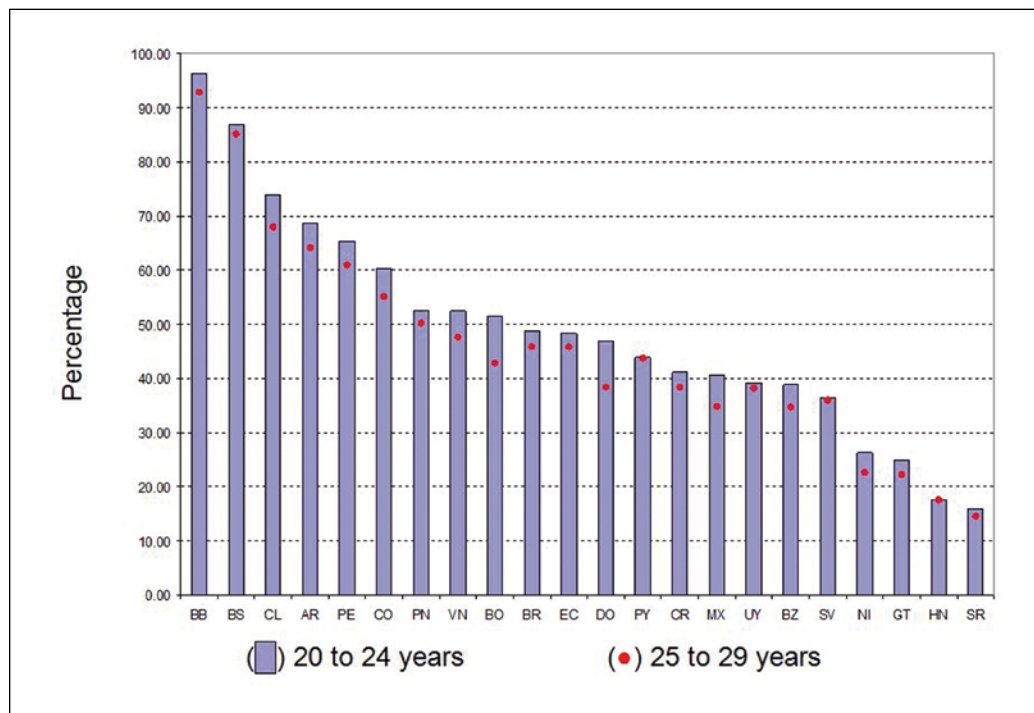
Limitations.-

As described before, this indicator is ideal to describe the school levels reached in this population, but it also has some restrictions since it only provides past outcomes, and doesn't allow recording the current performance in the education system. Another limitation is associated to the no-existence and/or regularity of the Home Surveys in some countries, resulting in a lack of information to make possible the follow-up of the progress reached towards the goal set.

²⁷ *The temporary analysis may be performed by using either different waves or years from home surveys, or by comparing the situation of several ethary groups from the same Survey.*

ii) Analysis and interpretation

Percentage of people from 20 to 24, and from to 25 to 29 years old who have completed the secondary education. 2005



Source: Education Outlook 2007, from data by the UNESCO Institute for Statistics (UIS) for countries of the Caribbean and the Home Surveys collected and processed by the United Nations Economic Commission for Latin-America and the Caribbean (UNECLAC) for countries in Latin-America.

In a 9 country group, (Argentina, Peru, Colombia, Panama, Venezuela and Bolivia) over than 50% of the population from 20 to 24 years old complete the secondary education (represented by bars). In the other extreme, there is a 4 country group (Nicaragua, Guatemala, Honduras and Surinam), with less than 30% of the population corresponding to this etary group with secondary studies.

To evaluate the progress of countries towards the second goal set at the Summits, two generations have been compared (from 20 to 24 years old and from 25 to 29 years old) as a sample of the education systems efficiency from present times. As described in the graphics above, the countries have observed different progress levels verified by comparing two groups of age.

Although Chile, Colombia, Bolivia, the Dominican Republic and Mexico present quite different percentages of students from 20 to 24 year old with complete secondary school, these countries have in common a significant growth in the secondary school completion, measured through the difference between two population groups. In these countries the difference in conclusion levels for secondary school between the two ranges of age considered, is superior to 5%, reaching an 8.6% in Bolivia.

Different from the primary education completion status, in which primary education represents a mayor problem for the countries to accomplish the goal, show a higher progress between the two generations, as for the secondary, two of the countries with the lowest levels of completion are the same countries with lower rates in progress for this level completion. Honduras has no differences between the proportion of the two generations that completed, and Surinam had a 1.3% of progress. Added to these two countries is El Salvador, which barely advanced a 0.5%, because a 36% of the students from 25 to 29 years old have a completed secondary level comparing to a 36.5% of a younger generation (from 20 to 24 years old).

- **Current completion rate for secondary level - TCA_s^t**

Another way to measure the secondary education is to consider the enrolment current patters and, as in the primary education, estimate the proportion of people who complete the level among the population with corresponding age to do it, including those who may complete the level with sobriety given the school delay situation from late enrolment or repetition. Because of these reasons it is important to add the indicator to monitor the accomplishment of the second goal regarding the commitment to improve the level of secondary education completion in the region.

i) **Method development**

Description.-

Number of students expected to complete the secondary level under the current enrolment and repetition patterns by grade and age, as a percentage of the population of each age in conditions to complete the level.

Calculation.-

Is the sum of the completion probabilities for the secondary level though the potential ages for completion (from the official completion age for the level), multiplied by one hundred. For each completion age it's calculated the quotient, divided by the number of students enrolled for the last grade of secondary education without including the repeating students, and the corresponding population for such age.

Formula.-

$$TCA_s^t = \sum_{k=m_{us}}^{\infty} \frac{M_{us;k}^t - R_{us;k}^t}{P_k^t} * 100$$

Where

$M_{us;k}^t$ is the number of students enrolled for the last grade of secondary level, with k years old, in the year t

P_k^t is the population with k years old, in the year t

$R'_{us;k}$ is the number of repeating students from the last grade of secondary level, with k years old, in the year t.

us last grade of secondary level

m_{us} minimum age of the students enrolled for the last secondary level.

Note: Many times there is not information available on repeating students for the last grade of secondary education. In this case the same percentage of repeating students in the last grade of secondary education is used for all the ages of the students enrolled as estimation for those who will not complete the level. Although the repeating levels are usually bigger as the age is older to the theoretic one to complete the level, the incidence is minimal in the calculation of the indicator and the respective values.

Required data.-

Number of students as per simple ages for the last grade of secondary education, repeating students from the last grade of secondary education and the population as for simple age.

Source of information.-

Census, surveys and school records (as numerator), and population census or population prospects (as divisor).

Unbundling.-

As per gender, and geographic area.

Strengths.-

Allows knowing and record the completion level for secondary education taking into account the valid education policies and the current education history of the population with age to attend to this education level.

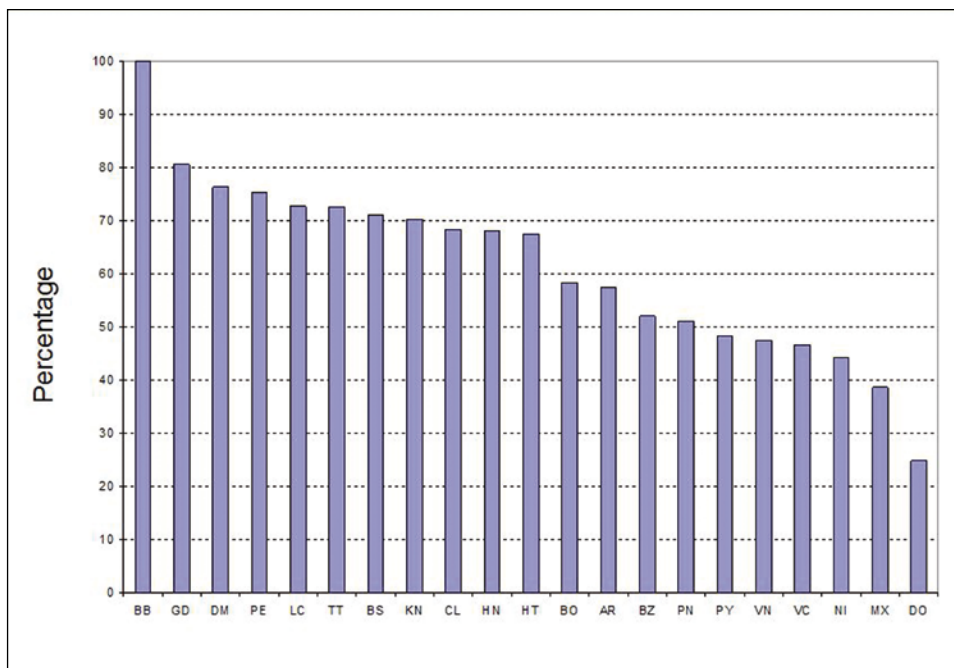
Weaknesses.-

This indicator may provide more accurate outcomes by using graduated students from the last grade of secondary education as per simple ages instead the proxy proposed as students enrolled for the last grade minus the repeating students, multiplied by simple ages.

As for the primary level, this indicator enables to record disadjustments because for its construction, it requires two sources of information; and as for the divisor there is an extra difficulty because generally is necessary to be based on population prospects.

ii) **Analysis and interpretation**

Current completion for secondary education. 2004



Source: Education Outlook 2007 from data by the UNESCO Institute for Statistics (UIS)

Although it is possible to observe significant variability levels in the completion levels for secondary education of the education systems in the region, for the most of the countries continues to being a huge challenge to improve the secondary education completion. As a matter of fact, six countries haven't reached a 50% of secondary education completion yet (Paraguay, Venezuela, San Vicente and the Grenadine Islands, Nicaragua, Mexico and the Dominican Republic); and only four countries have a 75% of completion.

C. THIRD GOAL: TO GUARANTEE EDUCATION OPPORTUNITIES THROUGHOUT A LIFETIME FOR THE GENERAL POPULATION.

The Third Goal set in the Summits, considers education as a permanent need for the human through his whole life, and it's not limited to formal instruction at school facilities, but applies to other stages of no-formal education and informal learning²⁸. From this consideration comes the idea of a permanent process including actions which go beyond the inflation, perfection and professional promotion activities, establishing an educating society concept, which means that every inter-human space provides learning and development opportunities for people's abilities.

This more comprehensive vision of the education recognises that people are, in the first place, creatures who learn, and in this sense, learning throughout a lifetime is recognising a consubstantial fact to the human condition that the social organisation must ensure and guarantee.

According to the UNECLAC report on education for the XXI Century, the four columns which hold the education are: to learn to be, to learn to know, to learn to do and to learn to live together. Education throughout a lifetime, from the fact to have a potential to increase present and future possibilities either for individuals and communities and reinforces those four columns, also represents an important element for people to come together and to create an active citizenship.

However, the opportunity to learn on lifetime basis is conditioned in a certain way by our background, therefore, in order to guarantee a continuous learning we must previously ensure people to have certain basic knowledge which must be provided during the school education.

Although there has been an important progress in the region to improve the population's school level, in many countries of Latin-America and the Caribbean haven't managed to make universal the primary education completion, and the low coverage of secondary education remains being low, this problems reinforce the importance that must be given to the basic education during the adolescent and adult stages.

From this perspective, to be able to record the progress in the accomplishment of the goal to guarantee learning opportunities throughout a lifetime, it is necessary to make available, in the first place, indicators to inform the level reached to provide the young and adult population basic formation and knowledge for them to be effectively able to take advantage from the opportunities given throughout their lifetime. The illiteracy rate and the average of school cycles completed are the measures selected, considering the limitations to obtain data on the no-formal education internationally comparable, besides the available from the census and home surveys in the countries in the region, to adopt information that points that direction.

28 *Formal education: means the institutional education system, chronologically graduated and hierarchy-based structured which considers from the organised primary school to university.*

No-Formal Education: refers to any organised educational activity and systematically performed out the formal system structure to provide certain learning type to certain population groups

Informal Education: it is a process that lasts all the lifetime. People acquire and cummlate knowledge, abilities and skills from daily experiences and from the contact to their environment.

INDICATORS PROPOSED

- **Illiteracy rate (illiteracy) - $TAN^t(TAL^t)$**

The low completion levels for primary education and the low participation for secondary education that still face some countries in the region; reinforce the importance that must be given to the education during the adolescent and adult stages. To reach a universal literacy is the first step in this process to guarantee a group of basic skills and abilities of the whole population²⁹.

The condition for an illiterate person represents not to have the minimum competences to allow them to be part of the knowledge society, and even less, to be in condition to develop permanent learning through a lifetime. Because of this, to reduce the illiteracy rate is a capital requirement to move towards the accomplishment of the Third Goal set in the Summits.

i) **Method development.**

Description.-

Is the percentage of population with 15 years old and older (or a population from 15 to 24 years old) who state not to be able to write or read (or any other criteria defined by the country, recorded in the population census or home surveys), in relation to the total population within this range of age.

Calculation.-

Is the quotient divided by the population from 15 years old to older (or from 15 to 24 years old) who state not to be able to write or read (or any other criteria defined by the country, recorded in the population census or home surveys) and the total population with ages from 15 to older (or from 15 to 24 years old), multiplied by one hundred.

Formula.-

$$TAN_r^t = \frac{AN_r^t}{P_r^t} * 100 \quad ((TAL_r^t = \frac{AL_r^t}{P_r^t} * 100 = 100 - TAN_r^t))$$

Where

AN_r^t : population with ages from 15 years old to older (or from 15 to 24 years old) who state not to be able to write or read (or any other criteria defined by the country, recorded in the population census or home surveys), and

P_r^t : total population with ages from 15 years old to older (or from 15 to 24 years old)

$AL_r^t = P_r^t - AN_r^t$: literate population with ages from 15 years old to older (or from 15 to 24 years old).

²⁹ Education Outlook 2007. page. 50.

r = range of age; 15 years old and older (adult population) and from 15 to 24 years old (young population)

Required data.-

Population from 15 years old and older who state not to be able to write or read (or any other criteria defined by the country, recorded in the population census or home surveys) as a numerator; and the total population with 15 years old and older, as a divisor.

Source of information.-

Census and/or home surveys.

Unbundling.-

As per gender, geographic area, income levels, ethnics, age groups, among others.

Strengths.-

Presents directly and summarising lacks in the population or achievements regarding the minimum indispensable knowledge and competence to be part and take advantage of the learning opportunities throughout their lives. It also has the advantage for the information required to perform the calculation from a sole source of information.

Limitations.-

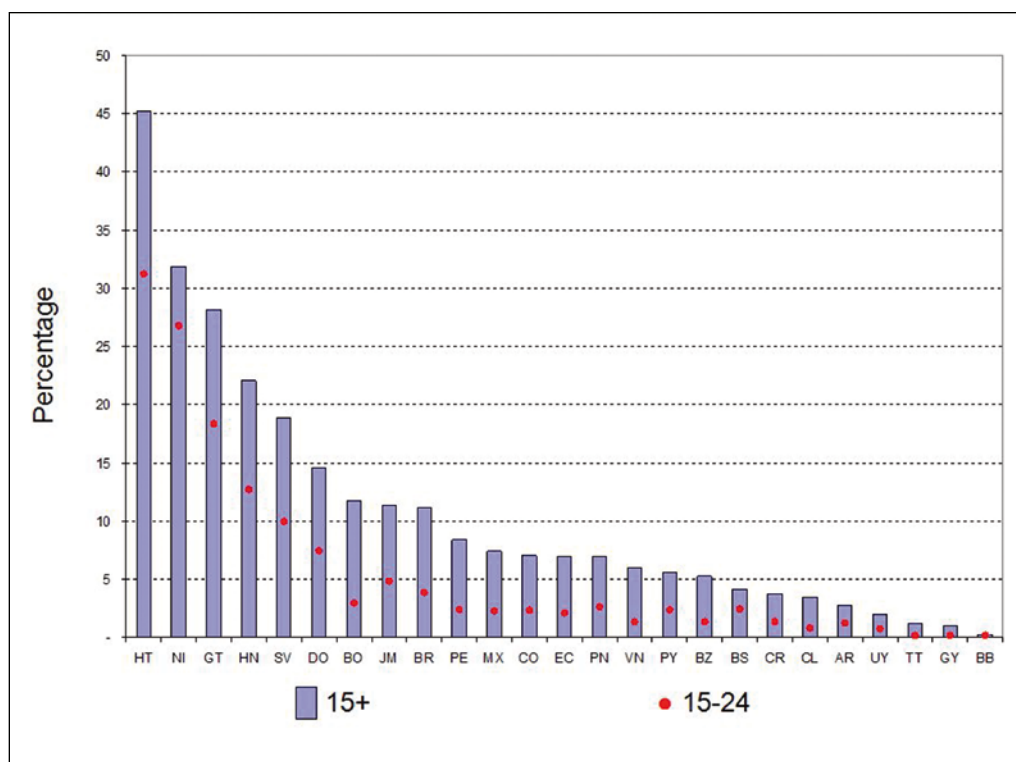
Its weakness is to be based on stated information and on a dicotomic classification which doesn't guarantee the person who states to be able to read to have an effective comprehensive reading, and it is possible to occur the same for writing skills. There is difficulty to have updated information when census is the only source available.

ii) Analysis and interpretation

An important number of adult population that state not to be able to read nor to write and/or (or any other criteria defined by the country, recorded in the population census or home surveys) a limited number of passed school years in informal education, still are adverse situations faced by some countries in the hemisphere. A low illiteracy rate in a young population (or a high rate of literacy) shows a perspective of improvement in the literacy level in the population of a country.

It is possible to observe the situation is highly heterogeneous among countries. As well as the percentages in the adult population with an age of 15 years or older, fluctuates between 0.3% in Barbados and approximately of 45% in Haiti. Besides, there are other four countries showing higher levels than 20% (Honduras, Nicaragua, Guatemala and Haiti). In every case, the relative magnitude of illiterate students (15-24 years old) are lower comparing to the total adult population, reflecting the results of the investments done by governments members of the LAC in the 1990s to increase the literate population. This is also a result of the expansion in access for population to primary education in the latest decades.

Illiteracy rate. 2005.



Source: Education Outlook 2007 from data by the UNESCO Institute for Statistics (UIS)

- **Average of school years in an adult population (25-59 years old) - Y_{25-59}^t**

The school levels reached in an adult population, measured by the average of school years, summarise the result of the efforts to have access, stay and progress through the education system. It is an important indicator to monitor the Third Goal, since it is a way to measure the achievement in the basic abilities in the population, conditioners for a permanent learning in a lifetime. This sustains in the fact that along the progression through the education system, the individuals keep on performing developing abilities in the same way, the achievement of a determinate level of school years in the population is linked to the getting of a minimal threshold to ensure the use of basic competences and/or the access to a higher income. Furthermore, there is evidence that shows an important association between the school levels completed and a competence development of literacy.

i) Methodology development.

Description.-

Is the average of the years studied which states having achieved a population with ages from 25 to 59 years old.

It is selected from 25 years, because this is the way the indicator would express a level relatively stable on the levels of instruction in the population.

Calculation.-

The quotient dividing the sum of the school years studied by the population by 25 and 59 years old, and the total population in such range of age.

Formula.-

$$Y_{25-59}^t = \frac{\sum_{i=1}^N y_{i,25-59}^t}{N}$$

Where

$y_{i,25-59}^t$ is the number of years passed by the person "i" within a range of 25 and 59 years, in the year t, and

N is the number of cases (total population with ages from 25 to 59 years old).

Required data.-

Population with ages between 25 and 59 years old as per courses or grades completed.

Source of information.-

Census, Home Surveys.

Unbundling.-

As per gender, geographic area, groups of age, socio-economic groups.

Strengths.-

It is a summarising which allows knowing in a synthesized way the level of instruction of the population, which indirectly records the knowledge and competences threshold for a certain group of population.

Furthermore, for its construction it is required data from a sole source of information.

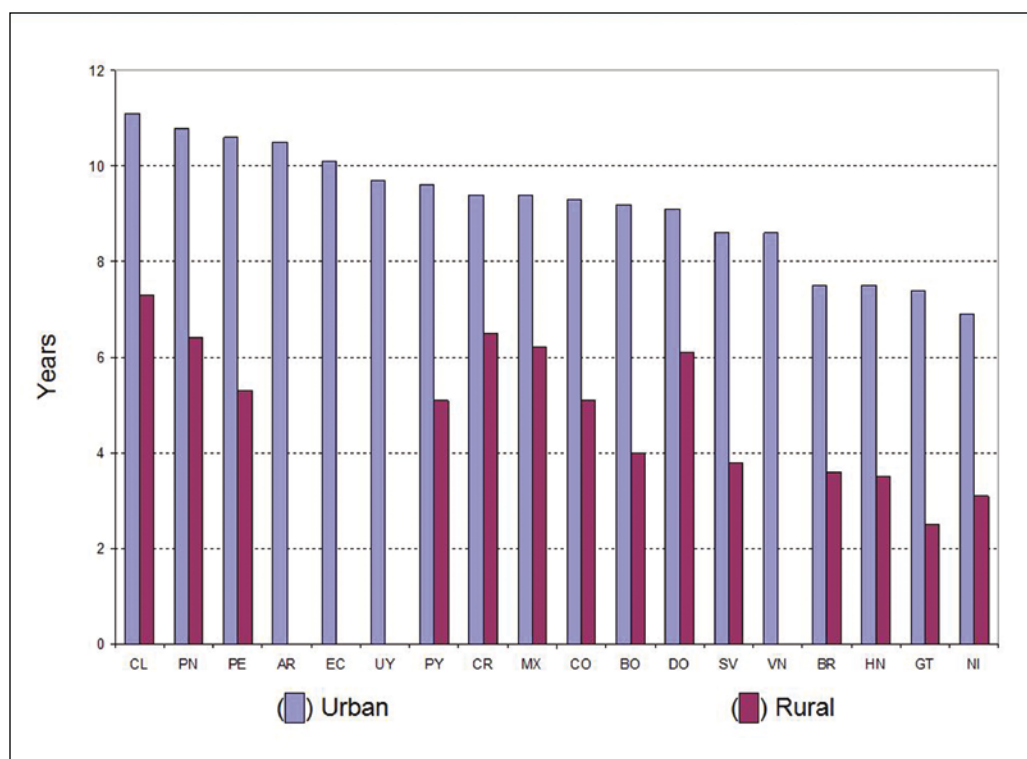
Weaknesses.-

It is based on statements from people and assumes that there are not differences in quality of the acknowledge acquired by the population. As any average measure, it besides may hide mismatches inside the population.

ii) Analysis and interpretation

As for the average of school cycles completed by a population with ages from 25 to 59 years old, it is noticeable that the information from the available countries, presents a lower number of years studied necessary as a minimum to guarantee access to welfare, since in every case, the averages are less than eight school years. As mentioned before, an study by the CEPAL shows the importance of having a 12 school year education and to complete the secondary education, since this will allow people to have a better chance, over 80 per cent to get an income which allows to overcome a poverty situation³⁰.

Average school years in a 25 - 59 year old population, as per residence area. 2005



Source: Education Outlook 2007 from data by the CEPAL, 2005 Social Outlook for Latin-America

As will be mentioned later, when analysing the equity problems to access to education, there are huge differences between the urban and rural zones in the average of school years referred. While in most of the urban zones the average in school years is 8 or more, in rural zones this average is lower to 6 years or less. Most of the differences between urban and rural populations are observed in Bolivia, Guatemala and El Salvador, and the lowest level in Costa Rica, the Dominican Republic and Mexico.

30 CEPAL (1998) Social Outlook for Latin America, 1997.

- **Students in third-stage education per 100.000 inhabitants.** TTe^t

To guarantee lifetime learning, means to have a formation offer for several options and to recognise diverse ways to achieve personal development, and the exercise of the citizenship. One way is to make possible the access to the superior education that, among other aims, has to promote the people to have autonomous acts and freedom as well as train them for a permanent education.

The selected indicator provides evidence of the levels of access for the population to access to a superior education, thus, its aids to provide better permanent learning possibilities and to elicit scientific and technological knowledge. The I Summit of the Americas (1994) established as an aim to “Increase the access and to reinforce the quality of the superior education, and promote the cooperation between the institutions that provide the scientific and technological knowledge needed to perform a sustainable development”.

This indicator is also considered to represent the residence condition, since for many countries, mainly located in the Caribbean, it is quite important to make evident the real level of access to third-stage education in the population of a country.

i) **Method development**

Description.-

Number of students registered for superior education per 100.000 inhabitants

Calculation.-

Is the quotient divided by the number of students enrolled for superior education in the year t and the total population for the year t.

Formula.-

$$TTe_r^t = \frac{E_{te,r}^t}{P^t} * 100.000$$

Where

$E_{te,r}^t$ = is the number of students enrolled for the third-stage level, in the year t,

P^t = is the total population in the year t.

r = residential condition (territory = enrolment in the country; resident = residents enrolled in the country or abroad.)

Required data.-

Number of students enrolled for superior education (numerator) and the total population (as divisor), and the number of foreign students per country of origin, enrolled in the country.

Source of information.-

Census, surveys and school records (as numerator); and census and/or population prospects (as divisor).

Strengths.-

Allows having an clear overview of the population with access to superior education.

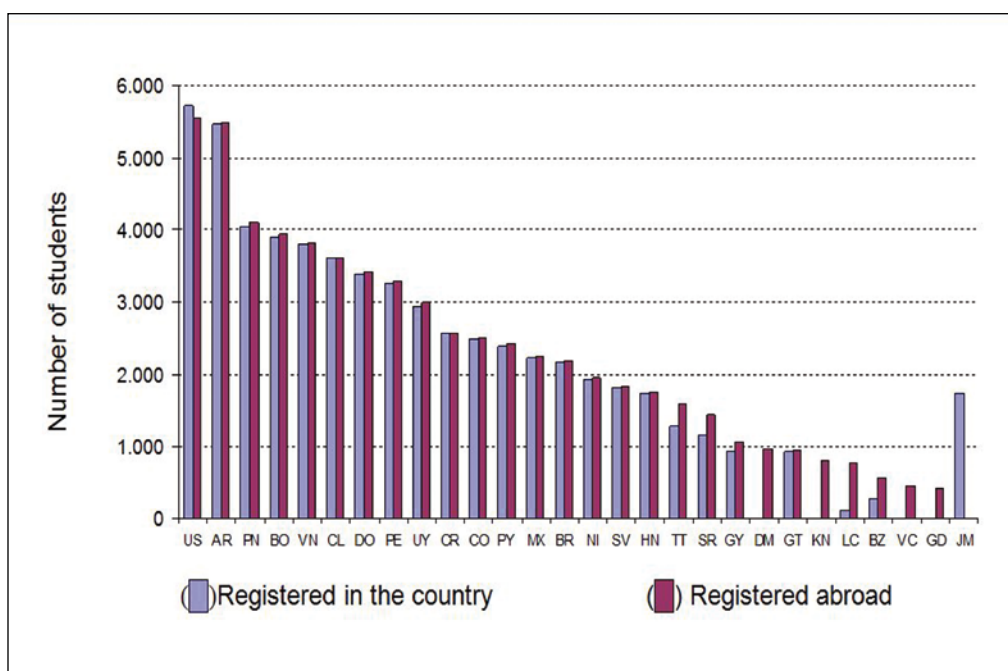
Weaknesses-

In some countries there is difficulty to have updated information since there is not a systematic Collection of information for third-stage education. In many countries, the Ministry of Education is not responsible for the statistics for such education level. it is necessary to take into consideration the mobility existing among students in this level of education, therefore, the information must incorporate not only the enrolment of the country (condition in the country), but also the residents' condition, who are enrolled in a established superior education abroad.

ii) Analysis and interpretation

The graphic shows a third-stage education enrolment in several countries members of the Summit of the Americas. The USA and Argentina have the higher number of students enrolled. In most of the countries, the number of students enrolled domestically and abroad except the countries in the Caribbean. In countries like Granada, San Vicente and the Grenadine Islands, San Cristobal de las Nieves and Dominique, students from third-stage education who wish to be enrolled for this level of education, must do it abroad.

Number of students in third-stage education per 100 thousand inhabitants. 2004.



Source: UNESCO 2007 Education situation in Latin-America and the Caribbean

D. EQUITY IN EDUCATION.

One basic condition to make effective the right to education is to guarantee the whole population to have universal access to education services. Nevertheless the historical experience has proven such access does not guarantee itself individuals to build a relevant leaning, nor educational experiences to fit in the people's condition, which may have a serious and negative effect in continuity and completion of the studies programme, and imitate all the leaning achieved. Furthermore, there is evidence on such difficulty are present unevenly in which sectors more vulnerable socially, or in sectors with a higher level of margination and exclusion, are the most affected ones. Thus, the action of the education programmes might end up reproducing already existing social inequities against its basic aim which is equity itself.

The Education Outlook produced in a PRIE environment provides abundant information on these inequalities, appointing the way the most unfavourable situations are related to countries with higher levels of demographic dependency, lower levels of urbanisation, relative development and less wealth per inhabitant.

Such differences are more evident when analysing the countries' internal situation, because in most of there are still concentrated higher levels of inequity, mainly, geographical, socio-economic, ethnics, and of gender. Such contrast make important once again, equity as a key element for education policies. In this way, as important as monitoring the progress in reaching the goals regarding the access, staying and completion of the primary and the secondary education, is to know whether the progress trend to education is equity, in a way that all the social groups receive the benefits in an similar manner.

To analyse the equity of opportunities for education in the countries located in the Americas, parity indexes are used. This index is a dicotomic measurement which allows comparing the behaviour of one same indicator by sub-populations. It is recommended to use it for divisible populations into two comparable parts, and when the purpose is to reach homogenously between both sub-populations.

By using the parity index as a measure of equity, when values close to the unit are adopted (between 0.95 -1.05) it is possible to obtain the parity situation, i.e. close to the equity between both sub-populations, and equity between them as a group. But when measurements get away from the unit, they reflect an advantage or disadvantage situation between the parts. If the parity index is lower than the divisor group, and the index is higher than one, it describes otherwise. In a conventional way, it is usual to place in the divisor the group expected to be in disadvantage³¹.

31 *The relations decribed above are for parity indexes in which indicators express positive situations, wishable, or achieved, i.e., universal access to education, literacy rate, etc. Otherwise, when an indicator expresses a negative situation, unwishable, i.e., illiteracy rate, index misinterpretation, is excatly opposite. Thus, when the indicator's value is lower than one, this means the sub-population of the numerator is receving more benefits, or there is a disparity favouring the numerator group. But, if the indicator's value is higher than one, this means the sub-population in the numerator is receiving less benefits, or there is a disparity favouring the divisor group.*

To achieve a territorial gender (man-woman) parity as per area of residence (urban-rural), socio-economic parity as per income level (higher quintiles-lower quintiles) and ethnics parity (indigenous groups and locally born and African-descendants) in the access, staying, progress and completion of the primary and the secondary education, are basic requirements to guarantee the universal achievement for universal education, i.e. for the whole society receives the benefits evenly.

The Education Outlooks 2005 & 2007 have get into the task to analyse every matter on equity mentioned before, and which are integral part of the necessary requirements to achieve the education goals set in the Summits. Due the dimensions of the matter, herein have been summarised the efforts and only will be described in the index below.

INDICATORS PROPOSED

- **Parity index at the completion of primary education for a population with ages from 15 to 19 years old as per area of residence (urban rural).**

$$IP_{-} \%PP'_{20-24,urbano/rural}$$

This index is very important to follow-up the equity commitment for the First Goal set in the Summit of the Americas, because it is a requirement to be universalised, the completion of the level in an urban and rural population.

Description.-

Is a comparison of the levels achieved in the rural and urban population from 15 to 19 years old at the completion of the primary education.

Calculation.-

It is the quotient divided by the percentage of completion of the primary education in the population within the ages mentioned above, recorded in the rural area versus the percentage of completion of the primary education in the population within the range of ages recorded in the urban area.

Formula.-

$$IP_{-} \%PP'_{15-19,urbano/rural} = \frac{\%PP'_{15-19,rural}}{\%PPB'_{15-19,urbano}}$$

Where

$\%PP'_{15-19,rural}$ is the percentage of people from 15 to 19 years old with a completed primary level in rural areas and

$\%PP'_{15-19,urbano}$ is the same concept, for an urban area.

Required data.-

Population from 15 to 19 years old who completed the primary education as per area of residence (urban –rural)

Source of information.-

Census, Home Surveys.

Strengths.-

It allows knowing in a simple and summarised way disparities between the urban and rural sub-populations for completion of the primary education, disparities, remained hidden in the national average indicators. Also allows to follow-up the evolution in the equity breach through the time by comparing the parity situation among different etaric groups.

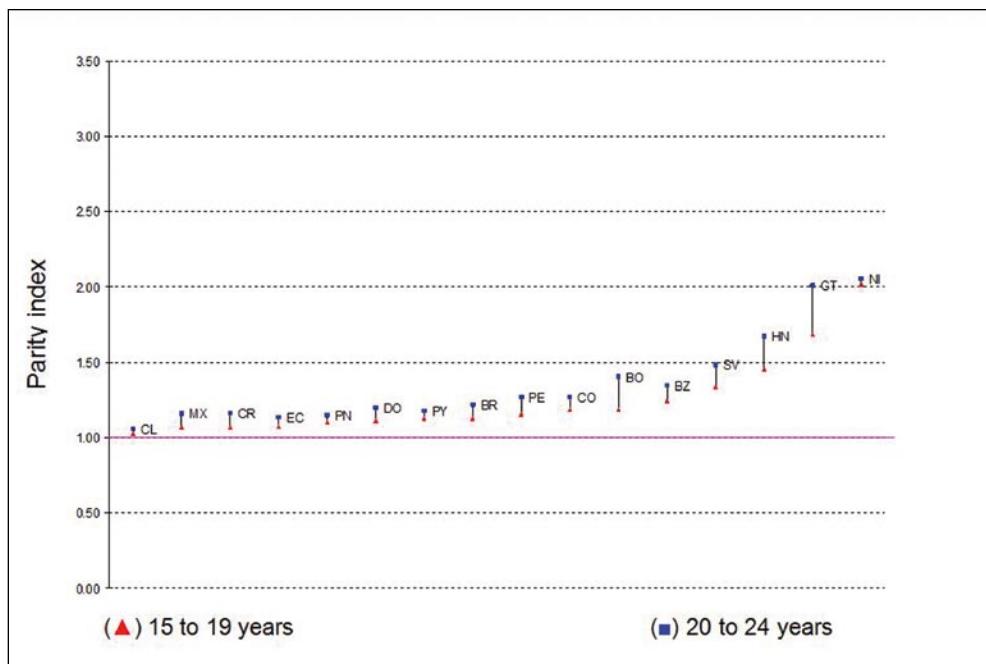
Weaknesses.-

It is important to mention that although the parity index provides homogeneity or heterogeneity levels between two sub-populations, in which case the completion levels for primary education in both rural and urban areas, provides no information on the bad situation of the phenomena. This is because there might be an index close to the parity, but the information provided reflects a low rate of completion situation for the primary level which has an effect similar to both sub-populations.

On the other hand, the construction of the index may confront difficulty related to the lack of information in the school census which may allow building parity indexes beyond the ones for genders. This leads to use home surveys as a source. However, its correct use demands a work articulated with the Institutes for Statistics. Difficulty may appear since the definitions used inwards the countries for home surveys, are not always equivalent or comparable to the information recorded for both rural and urban areas, and this situation might have an effect on international comparisons.

i) Analysis and interpretation

Parity at the completion of the primary education from 15 to 19 years old, and from 20 to 24 years old, as per urban-rural areas. 2005



Source: Education Outlook 2007 from data by Home Surveys collected and processed by the CEPAL.

Even though access to primary education in the countries of the region is a phenomena close to universalisation, the completion for such level is a situation which is not evenly distributed among several social groups and areas of residence. Since equity levels are analysed on territory basis, a wide difference is observed among the countries, since the urban parity indexes among the population within a range of age of 15-19 years old is of approximately 0.97 (Chile) and 0.50 (Nicaragua). The urban-rural equity in primary education completion represents a challenge not only for Nicaragua, but for countries like Guatemala, Honduras, Salvador and Bolivia, which indexes are lower than 0.80.

When comparing the immediate prior generation, the one rated in a range of age between 20 and 24 years old, it can be observed a diversity of situations, with indexes between 0.94 and 0.49. However, some cases record some important progress between both generations, specially Bolivia and Guatemala, which are the two countries that have shown a major progress on education progress among the inhabitants in these areas, since the difference between the parity index in the population goes from 15 to 19 years old, and from 20 to 24 years old is 0.13 and 0.10, respectively. Likewise, it is important to mention that Chile is the country that has achieved parity in completion for primary education among rural and urban inhabitants.³²

³² *Panorama Educativo 2007. Pág. 36-37.*

E. INDICATORS FOR ATTENTION TO THE EDUCATION DURING THE FIRST CHILDHOOD

As described before, the education goals set in the Summits of the Americas; do not include specific matters for the first childhood. However, the States Members of the Organisation of American States (OAS) have recognised the importance of improving the education quality; they have also underlined the importance of education during the first childhood in the education policies in the Americas. The Scarborough Statement, Trinidad and Tobago, August 2005, recognises the need to improve the educational structure from the initial education because its effect is quite positive in the quality of education and at reducing inequity.

Abording the social, economic and education inequity by integrated attention and care programmes for the first childhood may represent a very effective intervention to help children, families, communities and nations to break the intergenerational poverty cycle. Such importance was confirmed in the Convention for the Children's Rights (1989) and later in the Dakar Framework for Action (2000) for the first childhood, by recognising it as a necessary step for the child to reach its full potential.

The ISCED describes the primary education as programmes adopted through an holistic focus supporting the survival, growth, development and learning of the child from his birth to his enrolment to primary education, either in a formal or no-formal environment. Attention and education for the first childhood (AEFC) comprises a series of initiatives, such as programmes for parents, attention services for the childhood in a communitarian framework and formal pre-school teaching taught in schools. The programmes are oriented to two etarian groups: children younger than 3 years old and children from three years old to their enrolment for the primary school (usually at 6 years old).

- **Net rate of enrolment for Pre-primary Education - TNM'_{pp}**

The expansion and improvement of an integral and attention education during the first childhood is a concern for all the governments in the Americas countries, and represents the first goal for the Summit for Education for All, EFA. The Net Rate of Enrolment for Pre-primary Education is one of the international indicators chosen to record the progress in this goal. This indicator points the extended attention for the first childhood, particularly for the progressive increasing in the enrolment for pre-primary level.

ii) Method development.-

Description.-

Number of students enrolled for the pre-school level with the corresponding age for the level, expressed as the percentage of the population in the same range of age.

Calculation.-

Is the quotient divided by the people enrolled for the pre-primary level, with the suitable age for the level, respect to total population within the same range of age, multiplied by one hundred.

Formula

$$TNM_{pp}^t = \frac{M_{pp,e}^t}{P_e^t} * 100$$

Where

$M_{pp,e}^t$ = is the number of students enrolled for the pre-primary level with official age for the level, in the year t and,

P_e^t = is the total population with the official age for the corresponding pre-primary level, in the year t

Required data.-

Students from pre-primary level within the range of age corresponding to the level and population prospects for such range of age.

Source of education.-

Census, surveys and school records (as numerator) and population and census prospects (as divisor).

Unbundling.-

As per gender, by geographic area

Strengths.-

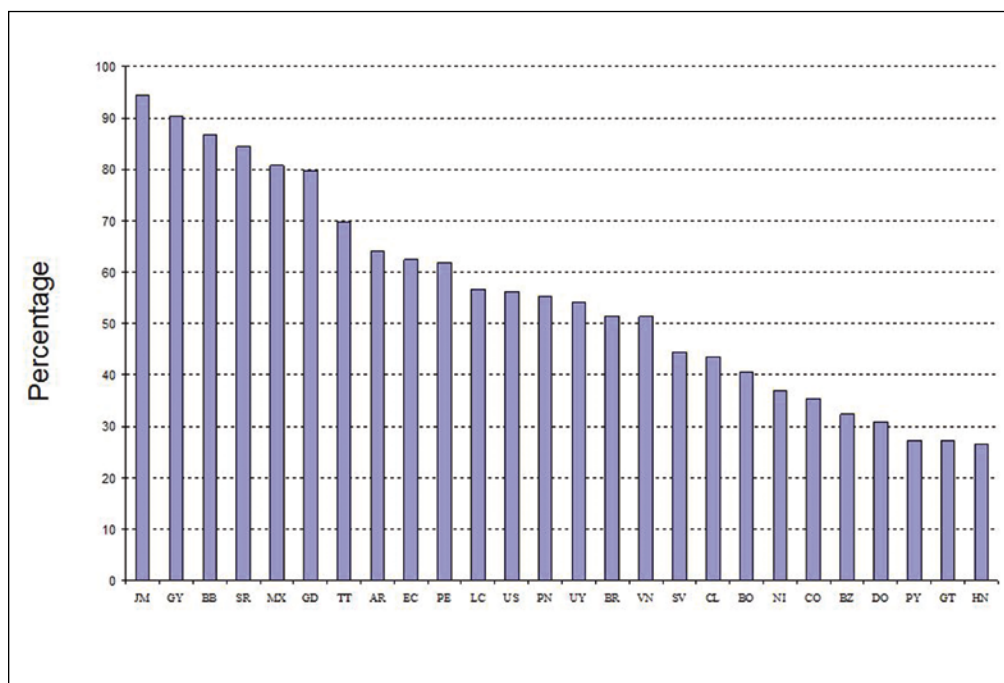
Provides the level of access in this group of age to pre-primary level.

Weaknesses.-

Only provides partial information of the education offer, the one related to the school structure. It doesn't consider any other services of attention for this group of age outside this constitutional framework. Thus, any decreasing in this rate is no necessarily related to the reduction of the education offer, and it might be the result of certain changes in the system.

iii) Analysis and interpretation

Net rate of Enrolment for Pre-primary Education. 2005.



Source: Education Outlook, 2007 from data by the UNESCO Institute for Statistics (UIS)

The indicator shows the different situations among the countries regarding the coverage in this level. As it can be seen in the chart above, in 2005 there are 15 countries in Latin-America and the Caribbean with a rate enrolment superior to 50% and from these, only 5 countries has superior rates than 80% (Jamaica, Guyana, Barbados Surinam and Mexico). On the other extreme are Paraguay, Guatemala and Honduras, which goal for net enrolment is lower than 30%.

- **Enrolment rate by specific age. Children between 3 and 8 years old - TEE'_e**

The expansion of the first childhood attention is completed by analysing the access to the education system of the children with ages between 3 and 8 years old. This is taking into consideration any formal education offer, i.e., either pre-primary education services as primary education. This enables to dimension the coverage of the education services for all the range of ages, generally associated with the first stages of the childhood. In this, we incorporate the specific indicator for such age, which considers literate children in both education levels. Also allows to identify the percentages in a population within a specific age, the moment (if any) in which the access universalisation occurs, and in which etarian groups, it remains.

iv) Method development.-

Description.-

Number of students with certain specific age enrolled for the education system, expressed as the percentage of population in the same range of age.

Calculation.-

Is the quotient divided by the number of students with an specific age enrolled at education centres for all the levels of education, and the population with the same age, multiplied by one hundred.

Formula.-

$$TEE'_e = \frac{M'_e}{P'_e} * 100$$

Where

M'_e = is the number of students enrolled in the education system with the age "e", in the year t and,

P'_e = is the total population in the range of age "e", in the year t

Required data

Students by simple ages and population for such ages.

Source.-

Census, surveys and school records (as numerator) and census or population prospects (as divisor).

Unbundling.-

As per gender, by geographic area.

Strengths.-

Provides the access level for this group of age to the education services as a whole.

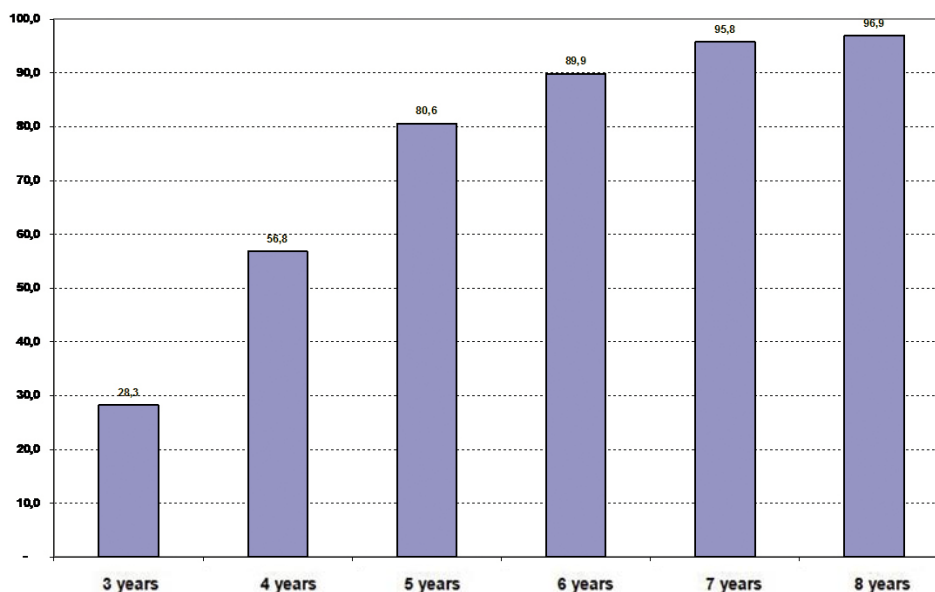
Weaknesses.-

Only provides partial information of the education offer, the one linked to the school structure. It doesn't consider any other services of attention for this group of age out of this institutional framework, mainly those programmes organised in facilities as day care centres and kindergartens of the services provided at home or in a family environment. Thus, any decreasing in this rate is no necessarily related to the reduction of the educational offer, and it might be the result of certain changes in the offer.

v) **Analysis and interpretation**

Specific rate of enrolment for ages in a 3 to 8 year old population. Year 2005

Specific rate of enrolment for ages to a population from 3 to 8 years old. Year 2005



Source: Own elaboration with information from the UNESCO Institute for Statistics (UIS).

The indicator shows that the coverage increases as the analysed age's progress. In general, the access levels are higher in ages that match with literacy at the primary education, generally associated to compulsory ages. This indicator analysed for every country, represents a varied map of situations, showing the different policies and education offers for the first literacy years. But in almost all the cases the access increases as considered ages increase.

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ATTACHMENT I .

METHODOLOGY SYNTHESIS OF THE INDICATORS DEVELOPED

Indicator	Description	Equation	Source	Apotation to the goal follow-up	Strengths	Weaknesses
First goal: The 100% of the children complete the quality primary education						
Net rate of admission (enrolment) to the first grade	Total number of students who are enrolled for the first time to the first grade of primary level, expressed as the percentage of population in the same range of age.	$TNA' = \frac{E'_e}{P'_e} * 100$ <p>Where</p> <p>E'_e = is the number of students enrolled for the first time in the first grade with the corresponding age for the official enrolment to the first level in the year t,</p> <p>P'_e = is the total population with official age to be enrolled to the first level in the year t</p>	S c h o o l census for the numerator, and census or population considerations for the divisor.	Provides information of the initial requirement to universalise the education primary education, the universal access to the level. Provides information of the timely enrolment to the level, key feature for education history.	Provides the coverage of the population incorporated to the first grades in relation to the one which theoretically should be attended. Allows knowing the level of timely enrolment to the primary level.	Breaches in relation to a 100%, they observe a late enrolment or population that is left out of the system. There may be disadvantages from using population considerations to build the indicator and because of the reference dates to relevant the students' ages.
Net rate of enrolment for primary education	Students enrolled for the primary level with official age corresponded as the percentage of population in the range of age.	$TNM'_p = \frac{M'_{p,e}}{P'_e} * 100$ <p>Where</p> <p>$M'_{p,e}$ = is the number of students enrolled for the primary level with official age for the first level in the year t,</p> <p>P'_e = is the total population in the range of official age for the primary level in the year t</p> <p>P = primary level</p>	S c h o o l Census for the numerator, and the census or population considerations for the divisor.	Provides information of the initial requirement for education universalisation of the primary education, the universal access to the level. Provides information of the timely enrolment to the level key feature for education histories.	Provides information of the initial requirement incorporated to the first grade in relation to the theoretically established for attendance. Allows knowing the level of timely enrolment to the primary level.	Breaches in relation to a 100%, has a double meaning: population out of the system, or might be enrolled a different level of school. May be disadvantages from using population considerations to build the indicator.

Indicator	Description	Source	Apotation to the goal follow-up	Strengths	Weaknesses
<p>Rate of survival to the final grade of primary.</p>	<p>Percentage of a children cohort enrolled in the first grade that will manage to get the last year of primary education.</p>	<p style="text-align: center;"> $TS_{up}^t = \frac{\sum_{k=1}^m P_{g,up}^k}{A_g^t}$ </p> <p>Where up refers to the last grade of primary level, and k refers the years for follow-up for the cohort. (1,2,...,m)</p> <p>A_g^t is the number of students who are part of the cohort g in the year t. In this case, since it is calculated from the cohort method, this amount matches to the students enrolled for the first grade of primary in the year t.</p> <p style="text-align: center;"> $P_{g,up}^k = A_{g,up}^t - R_{g,up}^t$ </p> <p>Where $A_{g,up}^t$ is the students enrolled for the last grade of primary en the year t, and</p> <p>R_{up}^t is the number of repeating students in the last grade in the year t</p>	<p>Provides information of the requirement for primary education universalisation: universal staying until completing the level.</p>	<p>Provides information of the cumulated staying of the students and the capacity of the system to retain them until completing the level.</p>	<p>Might be subject to distortions since it is based on a construction cohort model, which considerations (stability in time of rates or promotion and repetition) are not always achieved.</p>

Indicator	Description		Source	Aportation to the goal follow-up	Strengths	Weaknesses
First goal: The 100% of the children complete the quality primary education						
Percentage of population from 15 to 19 years old who has completed the primary level.	Is the population between 15 and 19 years old who has completed the primary level expressed as the percentage of the population in this group of age.	$\%PP'_{15-19} = \frac{PP'_{15-19}}{P'_{15-19}} * 100$ Where PP'_{15-19} = is the amount of population from 15 to 19 years old who completed the primary P'_{15-19} = is the total population from 15 to 19 years in the year t	Population census and Home Surveys	Provides direct and complete information of the progress towards the goal of universalisation of the primary education.	Is the indicator more complete because refers to all the population and to all the requirements to reach universalisation of the level: access staying, progress and completion.	Provides the results obtained in the immediate past, without having the chance to take into account the current performance of the education system.
Gross rate of completion for the primary level	Is the number of students who have successfully completed the last year of primary education expressed as the percentage of the total population in the theoretic age to complete the level.	$TBGP' = \frac{G'_p}{P'_e} * 100$ Where G'_p the number of graduated students from the primary level in the year t , and P'_e is the population with theoretic age ("e" of graduation from the last year of primary, in the year t	School census for the numerator, and population considerations for the divisor.	Provides information of the requirement for primary education successfully completion of the primary level of the whole school population	Provides the population volume that completes the cycle of primary education, which is why is useful for the purposes of educational planification.	Since it is a percentage volume measure close or higher than 100% does not mean the universality has been reached, since it considers the number of students that may record sobriety..

Indicator	Description		Source	Apotation to the goal follow-up	Strengths	Weaknesses
Expected gross rate for graduation from primary level	It is a consideration of the population that volume that is expected to complete the last grade of primary education due to the current enrolment volume and the enrolment pattern.	$TBEGP^t = TBAE_{up}'' \frac{G_{up}^t}{NI_{up}^t}$ Where $TBAE_{up}^t = TBA_1^t * TS_{g,up}^t$ is the enrolment gross rate for admission (enrolment) expected to the last grade of primary school year in the year t TBA_1^t is the gross rate of admission (enrolment) to the first grade of primary in the year t $TS_{g,up}^t$ is the rate of survival of the cohort g, to the last grade of primary in the school year t. And G_{up}^t number of graduate in the last year of primary in the school year t. NI_{up}^t are the new enrolments to the last grade of primary in the school year t.	S c h o o l Census for the numerator, and population considerations for the divisor.	Provides information of the requirement to universalise the primary education, the successful completion of the primary level of the whole school population.	Allows assuming the future completion of the primary level from the current behaviour. Allows providing potential outcomes from policy interventions.	It may be distortions from being estimations based on a closed system of cohort reconstructions, which considerations are not always achieved.

First goal: The 100% of the children complete the quality primary education

Indicator	Description		Source	Apotation to the goal follow-up	Strengths	Weaknesses
Second goal: at least 75% of children to have access to quality secondary education, with a higher number of children completing the secondary studies						
Net rate of the enrolment in secondary education.	In the number of students enrolled to the secondary level with official age corresponding, expressed as the percentage of the population in this range of age.	$TNM_s^t = \frac{M_{s,e}^t}{P_e^t} * 100$ <p>Where</p> <p>$M_{s,e}^t$ = is the number of students enrolled to the secondary level with official age corresponding to the level in the year t,</p> <p>P_e^t = is the total population in the range of official age corresponding to the secondary level in the year t</p> <p>S = secondary level</p>	S c h o o l Census for the numerator, and population considerations for the divisor.	Provides information of two requirements to accomplish the goal: access and staying of the school population in the secondary level.	Provides the coverage of population incorporated to the secondary level in relation to the theoretic population that should be attending. Avoids distortions in the volume measurements like the gross rate.	Breaches in relation to the 100%, has double meaning: population left out of the system or might be enrolled in a different level of learning. May be disadjustments in the population to build the indicator.
Percentage of population from 20 to 24 years old who completed the secondary level.	Is the population from 20 to 24 years old who has completed the secondary level expressed as the percentage of the population in this group of age.	$\%PS_{20-24}^t = \frac{PS_{20-24}^t}{P_{20-24}^t} * 100$ <p>Where</p> <p>PS_{20-24}^t = is the number of students who completed the secondary level in the year t,</p> <p>P_{20-24}^t = is the total population from 20 to 24 years old in the year t</p>	Population Census and Home Surveys	Provides direct and complete information of the progress towards the goal to improve the completion of the secondary education.	Is a complete indicator because refers the whole population and to all the requirements to achieve the level completion: access, staying, progress and completion.	Provides the results obtained in the recent past, but it does not provide information of the current performance of the education system.

Indicator	Description		Source	Aportation to the goal follow-up	Strengths	Weaknesses
<p>Second goal: at least 75% of children to have access to quality secondary education, with a higher number of children completing the secondary studies</p> <p>C u r r e n t c o m p l e t i o n r a t e f o r t h e s e c o n d a r y l e v e l</p>	<p>Is the number of students who has completed successfully the last year of education expressed as the total population with theoric age to complete the level.</p>	$TBCS^t = \frac{G_s^t}{P_c^t} * 100$ <p>Where</p> <p>G_s^t is the number of students who completed the secondary level in the year t, and</p> <p>P_c^t is the population in the age "c" which is the official age to complete the secondary level, in the year t</p>	<p>S c h o o l Census for the numerator and population estimations for the divisor</p>	<p>Provides information of an important aspect to accomplish the second goal: to improve the completion of the secondary education.</p>	<p>Provides the volume of population who that completes the secondary cycle education, therefore is useful for the purposes of education plannification.</p>	<p>Since it is a measurement of the percentages of volume achieved they cannot mean improvements on the goal, since it comes from students who complete may record sobriety..</p>

Indicator	Description		Source	Aportation to the goal follow-up	Strengths	Weaknesses
Third Goal: To guarantee education opportunities during a lifetime for the general population						
Illiteracy rate	Is the percentage of population from 15 and older who states not being able to read nor write to the total population in the same range of age.	$TA' = \frac{A'_{15+}}{P'_{15+}} * 100$ <p>Where A'_{15+} is the population with 15 years old and older why states not to be able to read nor write, and P'_{15+} is the total population with 15 years old and older</p>	C e n s u s and Home Surveys.	Provides information of the illiteracy levels, which reduction is fundamental to guarantee the basic competences to the population and the learning conditions throughout a lifetime.	Provides in a simple and summarising way the failures in the population regarding to the availability of having basic competences. The requested information for its calculation comes from a sole source.	It is based in statements from the population only, and on a dicotomic classification which does not guarantee that the people who state not to be able to read nor write have competences.
Average of school years in an adult population (from 25 to 59 years old)	Is the average of years studied having the population with between 25 and 59 years old.	$Y'_{25-59} = \frac{\sum_{i=1}^N y'_{i,25-59}}{N}$ <p>Where $y'_{i,25-59}$ is the number of years passed by the person "i" with an age between 25 and 59 years old, in the year t, and N is the number of cases</p>	C e n s u s and Home Surveys.	Provides information of a relevant aspect to accomplish the third goal: the achievements of the population in the acquisition of basic competences.	It is a summarising measure that provides the synthetic way the threshold of basic knowledge of the population.	It is based on population's statements only. Assumes that there are not differences in the quality of the learning acquired by the population. As a measure for average hides existing disparities.

Indicator	Description		Source	Apotation to the goal follow-up	Strengths	Weaknesses
Third Goal: To guarantee education opportunities during a lifetime for the general population						
S t u d e n t s in the third-stage education per 100.000 inhabitants.	Is the number of students enrolled to the superior education per 100.000 inhabitants of certain country.	$TTe^t = \frac{E_{,te}^t}{P^t} * 100.000$ <p>$E_{,te}^t$ = is the number of students enrolled in the third-stage in the year t and, P^t = is the total population in the year t</p>	Records of the Ministry of Education and population considerations	Provides information of the access of the population to permanent opportunities of learning and to scientific and technologic knowledge.	It is a relative measure that allows knowing the access level of the population to superior education in relation to the size of the population.	It is necessary to take into consideration the students' mobility in this education level. This information should incorporate enrollment in the country and also enrollment of residents enrolled in institutions in a different country.

Indicator	Description		Source	Apotation to the goal follow-up	Strengths	Weaknesses
Equity in education: equity access to quality education						
P a r i t y index of the completion of the primary education as per area of residence	Is a comparison between the levels achieved by the rural and urban population from 15 to 19 years old, at the completion of the primary education.	$IP_{15-19,urban} = \frac{\%PP_{15-19,rural}}{\%PP_{15-19,urban}}$ <p>Where</p> <p>$\%PP_{15-19,rural}$ is the percentage of people with ages from 15 to 19 years old with primary completed in rural areas and</p> <p>$\%PP_{15-19,urban}$ is the same concept, referred for the urban area.</p>	Census and Home Surveys	Provides information of the equity levels in the achievement of the goals set in the Summits.	Allows knowing the disparity levels existing between two sub-populations and that might be hidden in the average measures.	Establishes a comparison between levels achieved between two sub-populations but does not provide information of the intensity of the phenomena that affects each sub-population.

Indicator	Description		Source	Apotation to the goal follow-up	Strengths	Weaknesses
Attention to the First Childhood: to expand and improve the integral attention for the first childhood						
Net rate of enrolment for pre-primary education	Is the number of students enrolled for pre-school level in with the official range of age corresponding expressed as the percentage of the population in the same range of age.	$TNI' = \frac{E'_i}{P'_i} * 100$ Where E'_i = is the number of students enrolled in the pre-primary level with official age corresponding to the level, in the year t and, P'_i = is the total population in the range of official age corresponding to the pre-primary level, in the year t	S c h o o l Census for the numerator and population estimations for the divisor.	Provides information of the progress in attention to a type of service to the first childhood and the evolution throughout the time.	Provides the coverage of the population enrolled to the pre-primary level in relation to the theoretic population that should be attending.	Refers to a one single type of attention service.
Enrolment rate by specific age. Children from 3 to 8 years old	Is the quotient between the number of students in an specific age enrolled in institutions in all the levels of population, and the population in the same range of age, multiplied by one hundred.	$TEE'_e = \frac{M'_e}{P'_e} * 100$ Where M'_e = is the number of students enrolled for the education system with an age "e", in the year t and, P'_e = is the total population in the range of the age "e", in the year t	C e n s u s , surveys and school records (as numerator) and census or population estimations (as divisor).	Provides information of the progress in the enrolment informal of the first childhood and its evolution throughout the time.	Provides the level of access in this group of age to the education services as a whole.	Provides only a part of the education offer. Linked to the school structure. Doesn't consider other services of attention in this group of age located out of this institutional framework- Thus, the diminishing of the rate is not necessarily associated to the reduction of the education offer, making possible the result of its own changes instead.



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