EDUCATIONAL SYSTEMS: CASE STUDIES AND EDUCATIONAL INDICES: SOUTH AMERICA

N.M.V. Bizzo
Faculty of Education, University of São Paulo, Brazil

M.M.F. Mattos
National Institute of Pedagogical Studies (INEP), Ministry of Education, Brasilia, Brazil

Keywords: Education, educational systems, education equity, assessment, textbook assessment, education funding, education financing, sustainable systems, illiteracy, textbooks' ethic bias, textbooks' conceptual content, teacher preparation

Contents

Summary

A brief historical background is provided to show some very broad tendencies in the history of the continent. The division into two spheres of influence in Columbian times may explain the main tongues spoken in the continent.

A brief discussion presents South America and its main problems. One of the major problems is inequity, as different populations have to face huge differences in school offers and success.

A discussion about wealth and education is presented, as well as three case studies: Bolivia, Chile, and Brazil. One of the conclusions is that the problem of equity is common in almost all countries in South America, and that it has been faced in different ways. In Bolivia, access to education is still an issue, despite the great advances of recent years.

Chile has a major program aimed at identifying schools needing special attention as well as increasing the number of hours students spend in schools; in Brazil, access to schools is almost universal, despite the system lacking efficiency, the number of hours in classrooms being considered low, and teacher formation being an ongoing issue.

1. Historical Background

South America is a continent that was originally divided into two different areas of influence in Columbian times. Spain and Portugal signed an agreement at the end of the fifteenth century that established that land east of a certain meridian would be Portuguese; all land west of it would be Spanish. This line proved to be in the middle of Brazil, which was in fact colonized by Portugal. All other regions of the continent were thereafter under Spanish influence. The borders of Brazil were eventually extended over the agreed limits, including the state of Acre, the most western state of the country, at the end of the nineteenth century. This explains the existence of two dominant spoken languages in the continent: Spanish and Portuguese (Brazil only), despite the great number of aboriginal languages.

Independence wars at the beginning of the nineteenth century were the first young republican political experiences in almost all countries except Brazil. In this country a constitutional empire was founded following independence from Portugal, and the crowned emperor, Peter I, was the son of the King of Portugal, who eventually succeeded his father, returning to Europe to be crowned as Peter IV. A constitutional republic was established in the country by the end of the century (1889), just after slavery had been at last abolished (1888). Differences in educational indices in South America partly reflect this historical asynchrony between Brazil and other countries in the continent regarding real political independence and colonial relations.

In the second half of the twentieth century South America, reflecting a process common to all Latin America, experienced a major economic expansion in the post-World War II period, with increased production capacities allied with increased exporting potential, particularly in the primary sector. Between 1945 and 1980 the gross national product (GNP) more than doubled in the area, as did population size. Societies underwent a process of diversification that created an even more complex pattern of stratification and distribution of wealth. Concentration of property, land, and economic power accompanied a process of expansion of urban areas that concentrated segments of the middle class with political influence alongside huge numbers of poor people with little hope. These processes were seldom products of democratically elected governments, as many dictatorships were supported by, and contributed to, leading economic groups and political lobbies. In the period 1980–2000 the mean growth of GNP in the region was only 0.35% per year, which reveals the economic and social stagnation in all countries of South America.

In South America, industry is centered on agriculture products (such as coffee, cotton, sugar, and orange), which constitutes one-third of GNP, except in Paraguay, Uruguay, and Suriname where they are not so prominent, representing one-fifth of GNP. In Brazil and Argentina, industry is more diversified, including steel, metallurgy, petroleum refining (Venezuela is a major producer), and automobiles. With a GNP of US$804 billion, Brazil alone is responsible for three-fifths of the total industrial production of the continent, concentrated on emerging major companies such as Embraer, an aircraft producer whose exports to world markets reach US$2 billion a year. Since the creation of MERCOSUR (*Mercado Común del Sur*, a South American common market system), there has been more intense economic cooperation between Argentina, Paraguay,

Uruguay, and Brazil. Some 5% of the surface of the continent is devoted to agriculture, in which less than one-third of employees make their living and most of the production is destined for internal markets. In tropical areas there are some typical cultures for international markets, such as coffee, bananas, sugar cane, and cotton. Another important activity in Argentina, Uruguay, and Brazil is related to diaries and butchery, with great numbers of cattle, sheep, etc. Fisheries are important in Chile and Peru. Mining is a major economic activity in Andean countries such as Chile, Peru, and Bolivia that produce tin, copper, and silver, but Brazil concentrates on its major stocks of minerals for the production of iron, aluminum, gold, manganese, and tin.

In social terms, since 1970 in South America there has been a clear pattern of ups and downs. The 1970s saw a tendency of improving social indices that unfortunately was reversed in the 1980s. The 1990s showed a new reversion that brought new hopes, albeit modest, of once more improving social indices. It is important to take into account this broad picture when analyzing educational data in general. For instance, it is common to find enthusiastic reports about the raising of educational background of the South America population in the 1990s, but what is generally omitted is the fact that the previous decade saw a severe deterioration on all social, and economic, indices. It should be remembered that in the 1990s the main target was to recover what had already been achieved 20 years previously, an objective not always reached. Not surprisingly, the 1980s are called “the lost decade”; these are 10 years that many people do not like to remember.

During the 1970s, all Latin American countries had a modest but nevertheless significant reduction of the proportion of people below the poverty line. Population growth in the same period reveals a less clear picture, as the increase in absolute numbers may have veiled the reduction of relative numbers. In the 1980s, however, this tendency had a different trajectory, and the relative numbers of people below poverty line increased dramatically, reversing all the progress of previous years. Data from CEPAL (*Comisión Económica para América Latina y el Caribe*) indicate that the number of poor people in Latin America increased in both relative and absolute terms: in 1980, it was 41% of the population (136 million); in 1986, 43% (170 million); and in 1989, 44% (183.2 million). In other words, in less than 10 years more than 40 million people were added to the group of those who could not have access to the most basic public services such as education and health, and a means of earning a living. Recent data show that this tendency has not changed since then and prospects for the near future are not optimistic.

In the 1980s, public expenditure on education in South America, reflecting a tendency in all Latin America, dropped on average 25%, with serious consequences for the schooling of populations, especially the poorest. It is still possible to observe the effects of that reduction, which was reversed in the following decade. In the 1990s, educational indices in South America improved despite the fact that quality were earmarked as a new border to be extended. International economic groups and companies targeted local markets, and as a result competitive standards were elected as new goals for the future. As a rule, there have been signs of efforts to improve access to education and to improve further efficiency and quality. National assessment systems, educational attainment targets, and teacher training programs have been set up in several countries,

reflecting recommendations of international funding agencies such as the World Bank. In the past, these organizations have frequently provided funds for investments in higher education, but there was a sudden change in the 1990s, with a focus on basic education and setting up elementary teachers' pre-service and in-service training.

-
-
-

Bibliography

Bizzo N. (2000). Falhas no ensino de ciências. *Ciência Hoje* **159**, 26-31. [This article provides a detailed description of textbook assessment carried out in Brazil.]

Bizzo N., et al., eds. (2002). *Proceedings of the Tenth Symposium of the International Organization for Science and Technology Education* (2 vols), Foz do Iguaçu: IOSTE. [This two-volume proceedings bring articles dealing with education in South America, environmental issues, and science and technology education in general.]

Castro M.H.G. de (1998). *Avaliação do Sistema Educacional Brasileiro: Tendências e Perspectivas*, 59 pp. Brasilia: INEP. [In this work recent statistics about education in Brazil can be found.]

Castro M.H.G. de and Davanzo A.M.Q. (1999). *Situação da Educação Básica no Brasil*, 134 pp. Brasilia: INEP. [This work carries stimulating articles about education in Brazil based on very recent data.]

Catani A.M., ed. (1998). *V SOLAR, Congresso da Sociedade Latino-Americana de Estudos Sobre América Latina e Caribe*, Vol. 2, 639 pp. São Paulo: Universidade de São Paulo. [This work carries a number of contributions regarding education in Latin America from pre-school to university level.]

Ministerio de Educacion (1998). *Reforma en Marcha: Buena Educación para Todos*. 2nd edn. Santiago, Chile: Ministerio de Educacion. [A brief description of educational innovations in Chile.]

Reynolds et al. (1994). *Advances in School Effectiveness: Research and Practice*. Oxford: Pergamon. [A reference book on the effect of extending the time students stay at school.]

Statistical Abstract of Latin America. Los Angeles, Calif.: UCLA Latin American Center Publications, UCLA. [A source book of references.]

Téllez M. (1998). El declive de la educación como cuestión pública: una expresión de la lógica cultural del fin de siglo en América Latina. *V SOLARr, Congresso da Sociedade Latino-Americana de Estudos Sobre América Latina e Caribe, Vol. 2* (ed. A.M. Catani), pp. 441–446. [A stimulating contribution analyzing the decrease of public interest in public education in the continent.]

Wilson E.O. (1997). *Biodiversidade* (National Forum on BioDiversity, Washington, D.C., September 1986). Rio de Janeiro: Nova Fronteira. [This work is a result of a seminar carried out in Washington, D.C., by the National Academy of Sciences focusing on biodiversity.]

Biographical Sketches

Nelio Bizzo has a degree in biology (1981), and postgraduate qualifications in biology and education. He has been involved with science education since 1988 at the School of Education of the University of São Paulo where he is full professor and vice dean. He was coordinator of the official assessment of science textbooks in the period 1996–2002, during which time he originated a series of articles and academic theses. He has taken part in a number of educational projects, such as National Parameters for Science, official assessment of science textbooks, educational policies and research on science education. In 1998 he won a National Prize for services to public understanding of science given by the National Council for Science and Technology (CNPq). He was president of the Brazilian Society for Biological Education (1997–2002), and acts as consulting editor of educational journals such as *Interchange* and *Journal of Biological Education*. He is member of the Brazilian National Council of Education, where he is vice president (CEB/CNE).

Maria Maura Ferreira Mattos graduated in pedagogy (1992) and was awarded a postgraduate degree in educational administration (1994). She has been involved with educational policies since 1993, and represented the Brazilian Ministry of Education in the OEI (Organización de los Estados Ibero-Americanos; Organization of Ibero-American States) summit in Santiago, Chile, in 1995. She took part in the action team that organized the Education for All Conference in 1994, and in several regional seminars that led to the "decennial plan of education." She was involved with the official assessment of textbooks (1995–1999) by the Ministry of Education, and primary teachers' innovation prizes (1996–1999), and is currently coordinating assessment programs for higher education at the National Institute of Pedagogical Research (INEP).