Education in Chile: On the path to inclusion?

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Abstract

This chapter argues that the roots of current inequality in Chile's education, and in its social and economic order, were laid down during the colonial period of its history. The reduction of inequality requires uprooting all those structures and practices. Over the long term, the task for education is to employ content and methods personalised to match individual learners' ability and interests. At the same time, to achieve equality, the educational process should increase social cohesion across all individuals, fostering understanding of both differences and mutual dependence in the pursuit of justice and development.

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Education in Chile: On the path to inclusion?

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Introduction

> 'The "decolonisation of education" is a concern today because the same forces that have characterised early colonialism continue in new forms of penetration and domination. The intrusion of one people on the lives and land of another disrupts successful patterns of thought and behaviour. More complex forms of organisation are required to make full advantage of greater social diversity. Social institutions, such as education, must be designed and operated to match the complexity of the population they serve. The task is not to eliminate education but rather to ensure that its benefits (and costs) are distributed equitably across all members of society.'

Education is a central theme in current political unrest in Chile. Beginning in 2006 and continuing into the present, the nation has suffered consecutive waves of student unrest, first at the secondary level and more recently in higher education. Student discontent has included not only massive street demonstrations but also violent confrontations with police. Schools have closed, students have boycotted their universities (Cummings, 2015; Espinoza, González & McGinn, 2016; Jara, 2014).

With the restoration of democracy in 1990, progressive Chileans had hoped to recapture their reputation for political stability and representative government. Public spending on a dramatic expansion of education would, it was promised, reduce social and economic inequality and expand social justice. The reality has proved otherwise. Despite achieving near universal access to schooling and doubling university enrolments, Chile continues to suffer some of the highest levels of income inequality in the world. Especially affected were the native peoples of Chile, who faced the 'cruel choice' (Goulet, 1971): to surrender their identity to the dominant culture or to continue being denied access to the land of their ancestors (Barandiarán, 2012). What has been promised has not (yet) been achieved. After 30 years of democratically elected governments, sustained economic growth, achievement of universal primary education and near attainment of universal secondary education, society remains highly segmented and stratified (Espinoza, González & Castillo, 2013). What needs to be done?

This chapter argues that the roots of current inequality in Chile's education and in its social and economic order, are embedded in the colonial period of its history. The reduction of inequality requires uprooting all those structures and practices. The main task for education is to employ content and methods to match individual learners' abilities and interests. At the same time, to achieve equality, the educational process should improve social cohesion, fostering a common understanding of both differences and mutual dependence in the pursuit of justice and development.

Contextual background

In the colonial world of Chile, schooling imported from abroad began by segregating the few who would be taught and command from the many who would serve. Access was unequally distributed, favouring already privileged and politically powerful groups over others. Methods of instruction favoured the learning of those more advanced, further widening differences in the ability to learn. Assessment methods encouraged competition and differentiation rather than co-operation in learning. Level of attainment was used (falsely) to label the future productivity of graduates, affecting how they were seen by employers and society in general (Webb & Radcliffe, 2016).

The invaders imposed their philosophy, economy, social system and political structure constructed in and for a different context. The time-proven system of education of the native people was ignored. Successive waves of immigrants increased the complexity of Chilean society, yet schooling continued in its efforts to impose a model adapted to a different geography.

Geography

Chile is a relatively isolated country on the Pacific coast of South America, separated from Argentina in the east by the high mountains of the Andes and in the north from Peru and Bolivia by the Atacama Desert, an arid plateau between two mountain ranges that occupy about one-third of the nation's continental territory. Total territory is about the same as the State of Texas in the United States (US), and half that of South Africa.

Its unusual shape – more than 4 000 km long from north to south and on average less than 180 km wide – results in a variety of weather conditions and topographical features. The 'Big North' bordering Peru includes the most arid desert in the world that includes a region of saline lakes above 3 000 m in altitude. The 'Little North' is more temperate in climate, but criss-crossed with high mountain ranges and deep valleys, forming microclimates that permit some cultivation and livestock raising. A majority of the population lives in the Central Valley, which enjoys a Mediterranean climate. The Southern Zone is the lake region of Chile with many rivers and heavy rainfall. The South Zone, which extends to the tip of South America has a snow line as low as 1 000 m, deep fjords and glaciers. Chile has more than 500 volcanoes, 60 of which have been active during the past 450 years, and severe earthquakes.

Weather patterns are influenced by the low-pressure area of the South Pole, the cold Humboldt Current flowing north, as well as the coastal and Andean mountain ranges. Together they produce a relatively damp and cold climate in the southern third of the country, which contributes to the development of extensive semi-tropical forests of conifers and varieties of deciduous trees not found in other parts of South America or the world. The variety of flora and fauna in Chile is less than in other regions because of limited migration across the mountains and desert; about half the species are unique to Chile. The central region of the country has a more temperate climate, which favours

agriculture. The chilly water of the Humboldt Current flowing north discourages aquatic predators, resulting in large stocks of fish and shellfish along the northern coast. Deep ports facilitate inter-oceanic shipping.

Chile is one of the most richly endowed countries in the world in terms of mineral resources. It has the world's largest reserves of copper and lithium (Culver & Reinhart, 2009). Chile has extensive areas rich in sodium nitrate. It has the second largest reserves of iodine and silver, and the third largest reserves of molybdenum in the world. It has about five per cent of the world's deposits of gold. Other resources include coal, iron, sulfur, gypsum and limestone. Most of these resources are found in the Big and Little North regions.

Chile's geography limits communication and interaction of its inhabitants. Those Spaniards who settled in the Central Valley enjoyed much more favourable conditions than those who lived elsewhere, including the dislocated native peoples. This facilitated the concentration of political and economic power in a strong central government. Access to education was more plentiful in the metropolitan region, limited in other areas (Bindé, 2005).

Demography

Today's native people are descendants of humans who arrived about 17 000 years ago (Dillehay et al., 2015). By the 15th century about 10 groups speaking different languages lived in Chile, in extended polygamous family groups with little internal distinctions. Households were organised into villages that operated as communities, sharing land, labour and harvests.

Then the land was invaded by an army of the Inca empire. After a six-day battle, an alliance of the various native tribes defeated the Inca soldiers. Future attempts at conquest also failed and the Inca empire eventually withdrew from Chile. The various tribes coalesced to codify their language and religious beliefs, and to collaborate in the construction of a system of protective forts and roads. The Mapuche were the largest single tribe (as many as two million at that time); their language became the common means of communication.

When Spanish soldiers appeared in 1531, the Mapuche and others organised to resist their incursion and resisted Spanish domination for almost 350 years. The cost, however, was a reduction in their population and retreat further to the south.

The total population of Chile grew slowly during the 17th and 18th centuries. Soldiers and migrants were given land grants, relatively small parcels located in or near newly founded cities. More wealthy Spaniards were given large extensions of land requiring a workforce including African slaves and captured Mapuche. In the absence of European women there was considerable cohabitation between Spaniards, Africans and Mapuche. The *mestizo* (mixed-race) people lived principally among the Spaniards. Chileans born of two Spanish parents were called *creoles*.

Men from the Basque Country of the Iberian Peninsula were among the earliest immigrants to Chile. Their numbers grew over time, reaching as much as 45 per cent of all newcomers in the 19th century. Their high level of social cohesion and entrepreneurial spirit enabled some to marry into the Spanish elite. Overall about 30 per cent of today's Chileans have Basque surnames (Barandiarán, 2012). British immigrants arrived over the centuries. They settled principally in port cities and were involved with overseas shipping (Stone, 1968). German migration was encouraged by the Chilean government to occupy land held by the Mapuche (Young, 1971). A large number of immigrants from Palestine began arriving in the mid-1800s and continued into the 20th century. Today they constitute the largest Palestinian community outside the Middle East (Baeza, 2014). Other large immigrant groups include Italians, Croats, Greeks and others. Some members of each of these groups amassed wealth and joined the aristocracy. The groups maintained their culture and founded private primary and secondary schools, where some used the home-country language for instruction.

The colonists pushed the native people further and further to the south, taking the best land, and finally confining the Mapuche to reservations in 1881.

Studies using DNA markers indicate a continuous distribution of European and indigenous genes across the population. Slightly more than half the population (51,9 per cent) has a predominance of European genes, followed by indigenous (44,3 per cent) and African (3,8 per cent). Inheritance of indigenous genes is predominant among people living in the northern and southern regions of the country. Only in the more heavily populated central regions and coastal cities is the proportion of European genes larger (Fuentes & Pulgar, 2014).

Social system

Initially there were few social distinctions among the 200 Spaniards who entered Chile. The Crown, however, awarded large parcels of land to some of them. In exchange for paying taxes to the Crown, maintenance of roads and military service, the recipients were entitled to a given amount of indigenous labour for agriculture or mining.

This system persisted legally until 1789 when it was replaced by plantations, or *haciendas*. These very large estates were run as profit-making institutions based on ranching, agriculture or viniculture. They were the principal source of exports to richer colonies in South America. In exchange for a portion of their harvest, landowners allowed Spaniards and *mestizos* without land to work the land. In return, the landowner provided protection from marauding Mapuche, housing, some health services and access to markets. The *haciendas* provided wealth for the owners and relative security and stability for workers (Carriere, 2018).

Once well-established, landowners would move to nearby cities. They formed associations to protect their economic interests, as well as friendships and clubs to

promote marriages for their children. Ownership of the estates was passed from generation to generation, into the 20th century. Generally, the oldest son inherited the state, younger children were given an education and financial resources. While the *hacendados* (the owner of a *hacienda*) remained religiously traditional and politically conservative, their siblings often entered in corporate ventures with migrants from other countries, espousing more liberal economic policies and religious practices (Culver & Reinhart, 2009).

With the exception of Germans arriving in the mid-1800s, later immigrants sought employment in the cities, or in mining operations in the north. Migrant groups arriving with financial resources established businesses, schools, clubs and churches that facilitated maintenance of their language and culture, even while acquiring facility in Spanish. Their children were more likely to be bilingual and to have been exposed to knowledge and customs of other cultures. For those without wealth, however, adoption of Chilean customs and use of Spanish to communicate was essential.

Exploitation of the rich copper and nitrate deposits in the north of Chile required assistance from foreign banks and corporations. Advanced capitalist economies, on the other hand, were eager to acquire Chile's raw materials and agricultural products. Especially British interests formed close relationships with the rising capitalist class in Chile (Culver & Reinhart, 2009).

By the dawn of the 20th century, Chile had a fully developed owner class, closely linked to elites in other countries, composed of traditional landowners and wealthy industrialists and bankers. This group agreed on domestic policies but separated on issues of free trade and protectionism. A small but growing middle class included small businessmen and well-educated professionals, with limited political or economic influence. A large working class engaged in mining and industry made up one part of the working class; small landowners and agricultural workers constituted the better-off working class.

Economy

In the 17th century, Chile's economy was a mixture of subsistence farming for internal consumption on small plots and exports north to Peru principally of livestock raised on large holdings in the Central Valley. Economic growth essentially stopped during the struggle for independence (1810–1824). By the time of the declaration of the republic in 1830 the economy began to recover but slowed again in the mid-1800s as a function of increased competition, especially US production of copper and wheat production by Canada and Russia. World prices of silver declined, further depressing the economy.

Wealthy Chileans and foreigners shifted their interests to mining of sodium nitrate found in the north, competing with neighbouring Bolivia and Peru and eventually going to war (1879–1884) to settle territorial claims. Victorious Chile annexed all of Bolivia's coastline and large holdings in Peru, gaining rich deposits of sodium nitrate. Exports of

nitrate soon exceeded in value those of silver and copper, the national treasury growing 900 per cent between 1879 and 1902, even though foreign interests (largely British) were very large (Pregger-Roman, 2008).

With the defeat of the Mapuche, settlers shifted from free range livestock to farming and forestry, the latter for export through firms that were British-controlled. Meanwhile, the sudden wealth generated by world demand for nitrate exports (fertiliser and explosives) proved to be a mixed blessing for Chile's economy. On the one hand, it discouraged development of manufacturing (with the exception of sugar products and textiles), maintaining and exacerbating income inequality. The agricultural sector continued using methods from the 18th century. On the other hand, wealth permitted government spending on infrastructure and attracted more migrants.

The dependence of Chile on events outside its boundaries continued its uneven development. Income from Chile's ports declined seriously with the opening of the Panama Canal in 1914. The discovery of a means to produce ammonia chemically reduced the demand for nitrate. At the same time, world demand for copper increased, particularly from the US. American corporations invested heavily replacing Great Britain as principal exporter of goods to Chile.

The Great Depression is claimed to have affected Chile more than any other country in the world, with massive unemployment and the homeless living in caves around Santiago. Imitating the initiatives of the Soviet Union and other European countries with strong central governments, the government promoted industrialisation, including steel production and mechanisation of agriculture. To protect new industries, governments increased tariffs on imports, which contributed to the gradual expansion of local industry, beginning with textiles but also small machinery and chemical products.

Coinciding with the onset of the Second World War, Chile's industrial expansion contributed to a high rate of economic growth. Leading economists from other countries in Latin America flocked to Chile, championing a new perspective on development termed 'dependency theory', and encouraging further national industrialisation and import substitution (Chilcote, 1978). The economy grew at a healthy rate fluctuating with changes in government and external events, but over time high import duties contributed to rapid inflation and worsening income inequality.

In the ensuing turmoil, a socialist president elected in 1970 nationalised copper mining and imposed price controls on consumer goods. International economic interests (and foreign governments) reacted with sanctions and boycotts, further intensifying the Chilean crisis. Encouraged by foreign governments, the military overthrew the government. The military's economic advisors, trained in the US, recommended reversing the policies of the previous 50 years. Price controls were eliminated, import tariffs reduced, financial and capital markets deregulated, interest rates raised, trade unions were prohibited, and progressive income taxes were reduced or eliminated. The effects were dramatic; inflation went from 505 per cent a year to 20 per cent a year in nine years. The initial shock depressed the economy, but within

three years it started to grow again, only to collapse more severely with the World Recession of 1982.

Public policy since 1990 has emphasised maintenance of 'neo-liberal' economic policies predicated on a belief that with continued growth, wealth would 'trickle down' from the rich to the poor. The coalition of 'democratic' parties, centre and centre-left, has gained power by promising to expand social services, but this redistributive policy has been too weak to halt the widening gap between rich and poor.

Political system

Landowners were the de facto government of Chile until independence. The invasion of Spain by the French in 1810 (and events in other Latin American countries) prompted the Chileans to assume control of the country in the name of the deposed Spanish king. The first Constitution, proclaimed in 1818, named the victorious general (a *creole*) 'supreme director'. Within five years his antagonism toward conservative landowners and the church led to a forced resignation. A new Constitution in 1833 established a strong central government with an independent two-house legislature and an independent judiciary, legalised inheritance by the first born and named Catholicism the official religion. The electorate was defined by gender (male only), level of education and ownership of property.

Over the next 30 years, legislation was revised to eliminate wealth and literacy qualifications for voting in elections and the introduction of secret ballots. Other requirements for national elections, including complete secondary education, remained in place. In reaction to an arbitrary Liberal president in 1891, the ruling elites shifted some control to the legislature. During this period, the population grew rapidly as immigrants, particularly from Germany who had been politically active, moved to Chile.

Two new parties emerged during this period – the Democrats, who enrolled tradesmen and urban workers, and the Radicals who enrolled anti-clericals, middle class and provincial elites. After a few years the Socialist Workers Party split off from the Democrats, followed by the Communist Party. The Christian Democratic Party emerged from the Conservatives and focused on organising progressive Catholics, small farmers and urban lower middle class.

The activism of the Democrats and Socialists contributed to the election of a reformist president, Arturo Alessandri, in 1920. He pushed for a new Constitution that would strengthen the power of the presidency, permitting the presidential appointment of ministers, popular election of the president instead of by Congress, compulsory participation of all eligible voters and independent supervision of all elections (Stanton, 1997). Additional reforms, including women's suffrage (1939), made suffrage universal for all citizens over 17 years of age.

By the 1960s, presidential politics was dominated by the Conservatives, Radicals and Christian Democrats. Each took turns in winning office by a plurality. In 1970, the Radical candidate, Salvador Allende, won with the assistance of Socialists and

Communists. With the support of foreign governments and the Conservatives, the military took control in 1973. A new Constitution imposed in 1980 gave the military president, Augusto Pinochet, and his *junta* sole control for the next 10 years.

At the end of that period the military government, seeking legitimacy, called a national plebiscite, but was voted out by a coalition of Christian Democrats, Socialists and Radicals. Thus, the coalition has maintained a majority in the legislature, but constitutional amendments require a two-thirds majority to overcome a presidential veto. The coalition to date has been able to pass 10 amendments, including reducing the president's term from six to four years in office, eliminating appointment of senators and increasing their number, empowering the president to dismiss heads of armed forces and national police, as well as equal pay for men and women.

Opposed by a coalition of Conservatives, Opus Dei (a conservative Catholic organisation) and the business community, the more progressive parties have been unsuccessful in their attempts to date to write a new Constitution.

Religion and philosophy

The fervour of the Enlightenment that preceded the French Revolution encouraged some Catholic intellectuals in Spain to question traditional religious practices, arguing for a Catholicism more consistent with science and useful to society. Leading figures in the Independence struggle in Chile were practicing Catholic elites (mostly large landowners), as were authors of the 1823 and 1833 Constitutions.

The radical ideas of the Enlightenment came to Chile in part from immigrants, and in part from children of the wealthy sent to Europe for education. Andrés Bello, born and university educated in Venezuela and that country's ambassador in Great Britain, was invited to Chile and became highly involved in Chile's education. Bello's educational philosophy was fundamentally classical. The past tells us what can be, he thought; history should be learnt by memorisation of names and dates of heroic events. The school, and the university, was a place to acquire the wisdom that had been accumulated through the ages. The colonisation of Chile was therefore a positive event as it meant that the wisdom of other civilisations would be brought to the uneducated native people (Woll, 1973).

The most serious challenge to Bello's position came from a student who proposed that Chile's accomplishments were based on the exploitation of the indigenous people, restriction of individual initiative, and centralisation of power in the state. History as narrative obscured the actual causes of events; history should be taught as a political process in which individuals act on personal beliefs and interests. Bello eventually prevailed, imposing a philosophy text that emphasised ethics, natural law and deductive logic.

During this period, conservative and religious influences in Chile weakened considerably. New waves of migrants arrived espousing the tenets of positivism. They argued that education would promote economic growth and modernisation. Social and political cohesion would be enhanced by reducing the negative influence of religion and

traditional (including indigenous) values. Science, employing empirical fact, would lead to the discovery of laws, like those so evident in the physical world, that would enable a rational organisation of society. Government by the educated would bring progress to all Chileans. Positivists who had become freemasons were the dominant force behind the formation of the Radical Party in 1863 which espoused humanist ideas.

Science was introduced as a subject in public schools in 1879. A Radical Party member, impressed by the German educational system, published a *Philosophy of Education* proposing that metaphysics and theology had done little to inculcate a system of beliefs to unify the country. As rector of the University of Chile the author substituted logic for ethics in the national curriculum (Pregger-Roman, 2008). The positivists' emphasis on tangible or material facts provoked a counter-movement, with much more emphasis on interpretation than mere sense-based knowledge. Some people associated positivism with Marxist ideology and rejected both. Disciplines such as economics, experimental psychology and physics were associated with positivism, while sociology and anthropology were considered anti-positivist. Universities training teachers for primary and secondary schools differed in which of these positions they defended.

By the 1960s, ideological positions clustered under one of three broad umbrellas. The rights of capital and positivist individualism were promoted by traditional landowners and some of those whose fortunes were based on mining. Catholics supported the communitarian principles of European Christian Democracy, some were supporters of liberation theology. Communists, Socialists and some Radicals supported a critique of capitalism. Public support for these three positions was evenly distributed.

Education in Chile

Among the people who occupied Chile prior to Spanish colonisation, education was carried out within the extended family, in the 'learning by doing mode'. Emphasis was on learning to understand and communicate with others, nature and the divinity. There were no schools as such.

Beginnings of formal education

Once communities were established in the new Spanish colony, the colonial leaders began to establish institutions they had known in the mother country. The wealthy brought in tutors to educate their male children, in preparation for leadership as adults. Jesuit missionaries, charging small fees, began schools for the poor so that they would be able to read the Bible. The Jesuits also offered schooling to Mapuche children. There were no public free schools as such, and only a small fraction of the population was literate. In response to a petition by leading families, Spain established a university in Chile in 1758. By the turn of the 19th century four secondary level schools had been started, preparing for university but also providing semi-professional training.

Imitating the French who invaded Spain in 1810, *creole* Chileans calling for independence proposed that education was a responsibility of the state. The new republican government closed the Spanish university and replaced it with a National Institute of Education that would oversee elementary and secondary education.

Immigrants had a major impact on the new education system. After the proclamation of the first Constitution (1823), the University of Chile was founded by Bello. Domingo Sarmiento of Argentina founded in Chile the first normal school (a teacher college or teacher-training college) in Latin America for training primary teachers. Both men had studied the education systems in Europe. The required curriculum for secondary education (Spanish grammar and literature, a modern language, history, mathematics and science) was proposed by a visiting geologist from Poland, and became law in 1843 (Campbell, 1959). Near the end of the 19th century, German educators contributed to the reform of the secondary curriculum, establishing pedagogical institutes to train teachers in specific subjects (Martínez, 2013). As in Europe, secondary education was designed to train future elites. Graduation was made a requisite for admission to the university and confirmed by success on a comprehensive examination administered by the National Institute (Yeager, 1991).

In the first half of the 19th century, free elementary education was provided to only a portion of those seeking it. Teachers prepared in the National Institute were taught that most children needed to learn only basic skills and respect for authority, hence elementary education. In 1860 the state legally assumed responsibility for primary education, but schooling for at least four years was not made compulsory until 1920. This was increased to six years in 1929, and eight years (Basic Education) in 1965.

The military *junta* that took power in 1973 abandoned the 'teaching state' to become a 'subsidiary state'. Advised by economists from the US, the military sought to create a free market in education. A national test to measure achievement at the end of Grade 8 informed consumers; government vouchers allowed parents to send children to schools of their choice, including private schools. The effect was a significant shift in enrolments from public to private basic and secondary schools. The government reduced direct subsidies to public universities, but offered scholarships to high scoring learners to attend any university existing before 1980.

Aims/Objectives of education

The 1860 law of education did not state the ends or objectives of schooling (Newland, 1994), nor did the law of 1920. The purposes of education were, however, named by the Congress controlled by the military government in the 1990 Organic Constitutional Law on Education (LOCE) as:

> '… the permanent process that marks people's various stages of life and which has as its end moral, intellectual, artistic, spiritual and physical development by means of the transmission and cultivation of values,

> knowledge and skills framed in our national identity, enabling them to live together and participate in a responsible and active form in community.' (Congreso Nacional, 1990)

With the return to democracy in 1990, public dissatisfaction with the LOCE (expressed in national demonstrations of secondary school learners) prompted the new government to rewrite the law. The General Law of Education, published in 2009, made several changes including this addition to objectives:

> '(Education) is framed in the valuing of and respect for human rights and fundamental liberties, in multicultural diversity and peace, and in our national identity, enabling people to conduct their lives fully, to live with and participate in a responsible, tolerant, solidary, democratic and active way in the community, and to work and contribute to the development of the country.' (Congreso Nacional, 2009)

This law made specific reference to 'indigenous' learners, indicating that, at schools in which they are numerous, instruction should be conducted in the indigenous language and curriculum content should include indigenous history and culture.

In 2017 a new law, creating a System of Public Education, restated the former two definitions as follows:

> 'Public education is oriented toward the full development of students according to their needs and characteristics. It seeks an integral formation of persons, focusing on, among other outcomes, their spiritual, social, ethical, moral, affective, intellectual, artistic and physical development, and stimulation [of] the development of creativity, critical capacity, citizen participation and democratic values.' (Congreso Nacional, 2017)

Article 3 elaborated that the objectives of the public system are to provide a free, quality, secular education respectful of all religious expression, promoting social and cultural inclusion, respecting diversity, taking local and regional differences into account.

Article 5 specifies the principles of the system's operation. Terms such as 'comprehensive' and 'inclusive' are used often, and there is heavy emphasis on maintaining standards of quality and assessment to insure progress. Equality of opportunity and equitable development are to be achieved by avoiding or compensating the consequences that follow from inequalities in origin and condition of learners. Special attention is to be paid to learners who require special help and differential (individualised) attention, to allow them to reach their potential. The system should favour the expression and affirmation of differences between learners and their characteristics. That requires, throughout the educational trajectory, avoidance of discrimination based on social, ethnic, religious, political or gender differences, or any other kind that result in inequality in rights and opportunities.

In its 84 pages, almost every article of this law specifies attitudes and actions intended to reduce inequality. Specific attention is paid to education of 'indigenous' people, whose language is not Spanish.

Education ladder

Children up to the age of six years and six months attend pre-school; only children between five and six years of age are obliged to attend. The next eight years or grades of schooling are referred to as Basic General Education and divided into two four-year cycles. Attendance is obligatory. Prior to entering basic education, children can participate in a two-year kindergarten, the first year of which is obligatory. In remote rural areas schools may offer only the first four grades. All schools are co-educational.

On completion of basic education, children are obliged (up to 18 years old) to attend a secondary school which is a four-year programme. Most secondary schools offer two streams. The scientific-humanistic track is required for learners contemplating attending university. Learners choose which stream to follow at the beginning of their third year (Grade 11). The technical-professional track is intended to prepare learners for employment on graduation; they may also apply for admission to a technical-professional post-secondary programme. There are four kinds of technical schools: industrial, commercial, services and polyvalent. Graduates of these programmes are awarded a Professional Technician degree. A few schools also offer a third track, Arts. Graduates receive a licence in their specialisation.

A small number of public secondary schools are run by corporations; one secondary school is run by the Ministry of Education. Learners must apply for admission to public secondary schools, but admission to a particular school is denied only when no space is available. Until recently learners attending public secondary schools were obliged to pay monthly fees. Schools that include all 12 grades are called *colegios*, while those that only include secondary grades are called *liceos*.

Until the military coup in 1973, most *colegios* and *liceos* were publicly financed and administered by the Ministry of Education. The military government gave its 346 municipalities responsibility for management of public education in their district. Public and participating private schools were funded on a per learner enrolled basis (voucher system). Only recently abandoned, this system produced a dramatic increase in (subsidised) private school enrolments.

Curricula

From at least the last third of the 19th century, governments and politicians in Chile defined curriculum in terms of content and methods of teaching, to be applied in all schools, public and private. The curriculum was the principal tool by which the teaching state could achieve a cohesive society.

The military government in power from 1973 to 1990 operated with a different ideology. Education was defined as an individual right and therefore should respond to

the demands of its consumers (Chubb & Moe, 1990). Their new education law (LOCE) permitted individual schools to choose which elements of the curriculum they would implement, i.e. to develop their own programmes of study (but not to change objectives and content). Supervision of the curriculum was taken from the Ministry of Education and assigned to an autonomous National Council on Education. Municipal governments were assigned supervision of public schools (Cox, 2011).

The democratically elected governments that immediately followed the end of military rule proceeded carefully to amend the LOCE (Delannoy, 2000). Changes included increased length of the school day by several hours and intensified in-service teacher-training programmes (Osandón et al., 2018). Initially emphasis was on modernisation preferring consensus, especially with representatives of the economic sector, rather than debate about the purposes of education. A first modification listing fundamental objectives and minimal contents was changed by a one-term conservative government to emphasis on learning objectives, making the curriculum more aligned with contents of international achievement tests such as the Programme for International Student Assessment (PISA).

Results from this initial phase were disappointing. Average learner scores in the Grade 8 tests showed no significant change over a 15-year period. In 2006, a national mobilisation of secondary school learners complained that school was boring, that more time in school had meant more of the same. 'Teaching to the test' had reduced the scope of what was taught, resulting in encyclopedism, technification and fragmentation of learning (Gysling, 2016). The gap between high and low-scoring learners was not reduced and research showed that in some schools (principally in low-income neighbourhoods), learners were exposed to only 65 per cent of curriculum content (Arango, 2008).

Finally, by 2017 a centre-left government passed a new curriculum for basic education. The 1990 version had segregated bodies of knowledge by their original disciplines each with a unique terminology, emphasising cognitive knowledge (especially Mathematics and Language). The present curriculum focuses on issues or problems that cut across disciplinary lines, it engages learners' non-cognitive skills and relates material to personal and social development (Osandón et al., 2018). Emphasis is on knowledge production (as opposed to knowledge transfer).

Accordingly, the curriculum asks learners to evaluate traditional methods of organising knowledge, such as natural sciences, language, mathematics, music, technology and other subjects, in terms of their relevance for understanding the world in which the learners live. For example, the objective for natural sciences in Grade 1 of elementary school is to 'explore and describe the different types of materials in various objects according to their properties and identifying their use in daily life' (Ministerio de Educación, 2018). The new curriculum includes instruction in indigenous languages in schools where indigenous learners are a majority. Curriculum for upper grades is in preparation, to be submitted for approval in the near future.

Methods of teaching and learning

In Chile, the quality of a teacher is defined as a joint product of teacher knowledge of the subject taught, as well as knowledge of and skill in the use of effective methods of teaching that subject. Until recently, there has been little data available on Chilean teachers' subject knowledge or pedagogical knowledge. Relatively little is known about actual teaching practices; external supervision is infrequent and brief, and most school principals seldom observe teachers in classrooms. One study reports that the effectiveness of Grade 4 Mathematics teaching does not vary with teacher's understanding of maths (Olfos, Goldrine & Estrella, 2014). SIMCE, the national Grade 8 test introduced in 1990, offered no information about teachers' instructional practices. Anecdotal reports indicate that most teachers rely on (and frequently use) the whole class method of instruction and that most communication is teacher to learner. Research elsewhere has shown that the effectiveness of the whole class method is lower in classrooms with high levels of learner diversity – in prior knowledge, ability and interest (Scheerens, Luyten, Steen & Luyten-De Thouars, 2005). Class sizes in Chile are large and by law are allowed to reach 35; they frequently exceed 40 in public schools but seldom 30 in private schools.

The national teachers' union in 1993 initiated development systems to support teachers. The objective was a method that would contribute to teachers' development and respect their professional status. Only public schools were to be involved. The method, finalised by 2004, is now used to evaluate basic school teachers every four years. The most critical part of the method has three elements: plans used in teaching eight 45-minute lessons and the assessment device employed; description of what learners learnt; and a video recording of a lesson accompanied by its plan. Data is supplied by the teacher (Manzi, Strasser, San Martín & Contreras, 2008).

The video recordings for Grades 1–8 have been coded with respect to the frequency and time of use of different practices. The coding scheme includes seven practices on the classroom environment and nine about the strategy of the presentation. The majority of teachers use most of the practices during the video-taped class, but there are significant differences in frequency and sequence of use.

Researchers have catalogued teachers' patterns of instruction using data from 1 400 videos of classes of 1 400 teachers in public basic cycle schools (Manzi, González & Sun, 2011). On average, during the first 10 minutes of class, teachers asked fewer than three questions to focus learners on the lesson objective and stimulate higher-order thinking. Comparison of practices in language teaching showed that most class time was focused on the teachers' activities; learner work was predominantly individual and not in groups (even when learners were arranged in groups and teachers' activities were oriented toward oral speech rather than reading or writing) (Preiss, 2009). Observation of mathematics teaching showed that the most frequent and common presentation strategy is reasoning process; learning from mistakes and problem-solving strategies are less

frequent. Repeated practice with guidance of the teacher is the most common approach to problem-solving (Preiss et al., 2014).

Assessment

SIMCE, a national test of achievement applied at the end of Grade 8, made school-average test scores available to the public (with rankings of schools). Test results published each year have been consistent; overall public schools have the lowest averages, followed by private subsidised schools, with fee-charging private schools scoring the highest. The net effect of SIMCE over 20 years has been a shift of learner attendance, from public to subsidised private schools. Chile has more learners in private schools than any other country in the Western hemisphere (except Haiti). There has, however, been no significant change in average levels of achievement; average SIMCE scores have varied little from year to year. There has been some slight increase in average scores of private elite and private subsidised schools, and a slight decline in average scores of public schools, but if the socio-economic status of learners is considered, there is no significant difference between the three types of schools with respect to learner achievement. A recent study (Murnane, Waldman, Willett, Bos & Vegas, 2017) argues that the information provided by SIMCE was not used to improve quality of instruction, and that the system discriminated against lower income families, increasing inequality.

A newly created Agency for Quality Education proposes three kinds of assessment: formative, progressive and summative. Reporting of SIMCE data will shift emphasis from evaluation of schools to assessment of progress in specific elements of the curriculum. National tests, administered to representative samples, will assess progress in meeting curriculum objectives. These include SIMCE; Grade 2 reading; Grade 8 level citizenship formation, and physical education and health; Grade 11 English; and technical and professional skills for Grade 12 in the technical-professional track. Participation in international achievement tests (such as Trends in International Mathematics and Science Study – TIMSS, The Progress in International Reading Literacy Study – PIRLS and Programme for International Student Assessment – PISA) will provide a comparison with learner achievement in other countries. Individual schools will be encouraged and assisted to observe learner progress applying tests at the beginning, middle and end of each school year. Teachers and principals will discuss and use results in their planning (Agencia de Calidad de la Educacion, 2018).

Until 1966, admission to university had required a passing score on a test developed in 1850. In response to mounting evidence that it did not predict performance at university, a new test was introduced, based on the Scholastic Aptitude Test of the College Entrance Examination Board in the US. This test was criticised for not measuring knowledge of the Chilean secondary school curriculum. In 2002, a new test, based on the new basic and secondary school curriculum, was introduced. This test has been shown to be a relatively good predictor of university grades

(Pearson PLC, 2013), but no research has been done to assess its validity with respect to later life. The minimal score required for entrance can vary by programme and by university.

Teachers and teacher education

Teachers are trained in 38 universities and five professional institutes, each of which develops its own curriculum. In general, applicants rank among the bottom third of their secondary school graduating class on the university admission test. The 2016 Teacher Professional Law stipulated that for 2017 applicants to any of the teacher education programmes would have scored 500 points on the national admission test (top 50 per cent), rank in the top 30 per cent of their class or have passed a Ministry of Education (MINEDUC)-recognised qualifying programme. Requirements are set higher for future years (Veas, 2016).

Programmes that end with a degree in General Basic Teaching run from eight to ten semesters. Basic Education teachers in Chile most often teach all subjects; they are not trained as subject specialists. Most candidates spend no more than a semester in supervised practice. The government is, however, developing guidelines on the subject content and pedagogical knowledge they expect teachers to have (Tatto et al., 2012).

Much of the content of the proposed new policy can be traced to similar projects carried out in more developed countries, but in Chile the political justification or 'narrative' for these policies differs. In the US and other early industrialised countries, increased emphasis on the role of teachers is explained in terms of the crisis the country faces. In Chile, the narrative emphasises the requirements of development as a requirement for greater social and economic equality. Increase of teacher subject knowledge (as distinct from pedagogical skills) is seen as the principal means to reduce educational inequality, which contributes to social inequality (Fernández, 2018).

The Ministry of Education has published standards for initial teacher education and has funded programmes to improve quality of training. The establishment of a National Accrediting Committee for universities is now accrediting degree programmes. All programmes to train teachers provide field experience, but vary widely in the amount of supervised practice of trainees in classrooms. Most require less than a semester of supervision. There is no end-of-course examination to examine teachers' knowledge or practices. A review of studies of teacher training programmes concludes that little is known about the knowledge and skills of graduates, their actual classroom practices, and the difficulties they face (Cisternas, 2011). Similarly there have been no comparisons of the relative qualifications and practices of the professors who train teachers (Avalos, 2004; Avalos, 2018).

The new law of teacher development established an induction system which commits teachers to periodic assessment and participation in a new model of in-service training. The law indicates five levels of development, three of which are obligatory (Initial, Early, Advanced) and two for teachers who would like to perfect their

performance (Expert I and Expert II). Salaries are linked to development level, years of service, and assignment to 'priority' (vulnerable) learners (Veas, 2016).

Secondary teachers in public schools have higher development levels than those in subsidised schools; 89 per cent of the subsidised school teachers are at the Initial level, compared to 34 per cent of public-school teachers, 25 per cent are rated Advanced or Expert, compared to five per cent of subsidised teachers. In part this is a consequence of the increased enrolment in subsidised schools.

Enrolments

By 2016, enrolment in some form of pre-school education of children up to five years of age reached 52.8 per cent. Enrolment of five-year-old children in kindergarten, which had been made compulsory, reached 98 per cent of the eligible group. About 40 per cent of the total enrolment was in public schools, the rest in subsidised private (48 per cent) and private (12 per cent). About 17 per cent of children up to two years of age were in a daycare facility (Division de Planificacion y Presupuesto, 2018). As of 2015, the government had not yet developed standards for pre-kindergarten education (Alarcón et al., 2015).

Enrolments in basic education, compulsory through to Grade 8, totalled 1.9 million in 2016, 98 per cent of the eligible population. The number of learners has, however, declined slowly between 2010 and 2016 (-4.2 per cent for the period), explained as a function of a declining birth rate beginning before 2000. At the same time, the proportion of learners enrolled in public basic schools has declined, from 43.4 per cent of the total to 38.2 per cent of the total. Both subsidised private schools and fee-charging private schools have increased their share of enrolment, the former growing from 49.5 per cent to 53.5 per cent, and the latter from seven per cent to 8.3 per cent (División de Planificacion y Presupuesto, 2018).

Repetition rates are highest in public basic schools (in 2016 averaging five per cent a year), and lowest in fee-charging private schools (0.8 per cent). The dropout rate is one per cent per year.

About 16 per cent of learners are defined as 'special needs'; in 2016, about 73 per cent of children (74 per cent language problems, 23 per cent with intellectual deficiencies) were attending a regular basic school for some or all their instruction; about nine per cent were being taught in preschool establishments, and 18 per cent were in secondary schools.

The total population of children between 14 and 17 years of age declined between 2010 and 2016, with a consequent decline in enrolments in secondary schools from 992 000 to 848 000. In 2016, 96.7 per cent of 14-year-olds were in school, compared to 92.4 per cent of 17-year-olds.

Enrolments in subsidised secondary schools (2010–2016) increased from 48–51 per cent of the total and that in fee-charging private schools from seven to nine per cent. The proportion of learners enrolled in the scientific-humanistic stream dropped from

60.8–55.3 per cent. In 2016, women were more likely than men to enrol in the scientific-humanistic stream (53–47 per cent), men in the technical-professional stream.

Enrolments in the commercial programme (technical-professional track) declined from 16–30 per cent of the total; industrial enrolments grew from 26–29 per cent; technical from 18–24 per cent; and enrolments in the agriculture programme declined from seven to five per cent of the total. Women were more likely to enrol in the commercial and technical programmes, while men enrolled more often in the industrial and agricultural programmes.

Because of repetition, enrolments in the first year of secondary are 104.9 per cent of 14-year-olds; each successive year the proportion diminishes; the enrolment in 4th year of secondary is 74.3 per cent of 17-year-olds. This decline suggests that the repetition rate grade to grade is about 10 per cent. Class sizes diminished over time from 34–32 learners per class. The failure rate is highest in the first year, declines and then increases. The overall non-completion rate (permanent dropout) is about five per cent.

Between 2010–2016 the number of institutions of higher education declined from 175 to 152. Enrolments grew, however, from 930 000 to 1.18 million learners, or 33.8 per cent of the 18–24 age group to 40.6 per cent. The institutions include: 59 universities of which 20 are public, 44 professional and 49 technical training institutes, all private. At least 65 per cent of the learners entering universities in 2016 were graduates from subsidised or private secondary schools, only 25 per cent were from public secondary schools. Slightly more than 35 per cent of learners entering a post-secondary technical or professional institute were from public secondary schools (División de Planificacion y Presupuesto, 2018).

Conclusion

Chile, despite its reputation for political stability and economic growth, remains one of the most inequitable societies in the world. Highly integrated into the world economy and the home of many international organisations, its place in the pantheon of progress is blocked by policies and practices inherited from the earliest days of colonisation. Poised to become a dazzling model for other nations, Chile is tethered by the weight of history.

As many have noted, education shapes a people's path forward. In the Chilean case, this has meant persistence of social injustices inherent in the colonisation process. The challenge, for Chile and elsewhere, is to recognise the difference between education for reproduction of a society currently successful for some and education for the construction of a new society in which all benefit. Just as schools today are radically different from those imposed with the founding of the colony, so too the schools required for tomorrow must be radically different from those of today.

Although we cannot anticipate future challenges, we do understand how to maximise the probability that Chileans will respond appropriately. The likelihood of

future success increases directly with the proportion of its people who are fully educated. That sounds easy, but in fact is complex and has been proved difficult to achieve. Great progress has been made in the first necessary step, providing access to schooling, but even there, mistakes have been made. Improvements in the quality of education have so far benefitted principally the already privileged.

Most children are born with an innate capacity for learning; early experiences, particularly interaction with adults, expand and shape their various intelligences. The further contribution of formal education or schooling is moderated by abilities acquired at an earlier age. The social and economic return to investment in education is greatest in early childhood and diminishes as the child becomes an adult. Schools can ameliorate some of the effects of educational inequality in early childhood, but only by explicit, energetic efforts to counter the effect of earlier disadvantage.

Policies to reduce inequality include those that:

- Create a national system of early child care that provides intellectual stimulation to all;
- Equalise the finance, facilities, class size and qualifications of teachers across all public and private schools (primary and secondary). This can be done in various ways:
  - Restructure attendance districts to reduce income segregation.
  - Eliminate selective admission.
  - Rotate teaching staffs every five years (or so) to ensure equivalent quality of instruction.
- Adopt affirmative action policies to reduce disparity in university admission of social, economic and ethnic groups;
- Increase needs-based finance for university study, especially for highly-paid professions;
- Introduce a curriculum based on active learning or inquiry methods;
- Require all university teacher training professors to demonstrate skill in active and inquiry learning instructional methods; and
- Organise all levels of education to foster peer learning and co-operation, enabling all learners to develop their unique abilities in combination with those of other learners.

The impact of these actions on educational inequality will depend directly on engaging all of Chile's people in education. This in turn depends on providing an education consistent with the culture and beliefs of each of the peoples who live in Chile. This can only be accomplished by engagement of all people in the design and implementation of the structure, content and practices of the system. Active implementation of any and each of these policies will over time reduce educational inequality. Only if all are pursued, however, will there be a noticeable reduction in social and economic inequality.

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