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Policy Formation and
Implementation in Secondary
Education Reform: The Case of
Chile at the Turn of the Century

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Introduction

Throughout the 1990s and into the present decade, Chile's educational system has undergone major changes. After a prolonged seventeen-year authoritarian military regime, three successive democratic governments and the country's economic and political *elites* identified education as strategic for achieving economic development and a more just and integrated society. Public and private educational expenditure increased in the context of economic growth, political stability, and consensual policies—by as much as threefold. Between 1990 and 2003, major programs for both educational quality and equity improvement were agreed upon and implemented, based on a set of reforms to the curriculum, school hours, and institutional regulations (e.g. the teaching profession).

This case study examines secondary educational reform in a favorable social and political context—one of consensus and continuity and in which education received high political priority and resources—by examining its policy process, contents, implementation, and results. The viewpoint is that of the government, in terms of: diagnosing needs and designing and implementing policies and programs, reforming institutions, interpreting results, building agreements, and negotiating conflict.¹

These educational strategies, spanning more than a decade, and developed across three governments of the same political alliance, are accumulative and consistent: their evolution has impacted the school system and subsequently redefined issues and challenges. Accordingly, the evolution of these policies is an important analytical thread, together with issues of construction of agreements; design and implementation of strategies; and speed, timing, and continuity of change.

This book is organized into seven chapters. The first chapter will describe the political and institutional contexts of the policies. Chapter Two, “Macro” Process: Strategic Options in Educational Policy provides a general characterization of the strategies chosen by the government regarding secondary education between 1990 and 2006, and will focus on policy generation and evolution, distinguishing between

¹I participated, as member of the teams that led the Ministry of Education of Chile between 1990 and 2006, in the design and implementation of much of the policies to be described and interpreted. This closeness to the object of analysis is a mixed blessing I need to declare.

“improvement programs” and “reform.” A third chapter will describe the content of policy and reform in the 1990s, referring to its key characteristics. Chapter Four, “Micro” Process: Different Political Economies for Different Contexts returns to a more detailed analysis of three strategic policy components, examining their origin, politics, use of resources, and tools (technical, political, bureaucratic, financial), to reveal marked variations in the policy process of different parts of the reform. The three policy areas are: i) a system-wide program of investment in learning resources and support for process innovation in school work and teaching (the MECE program); ii) a comprehensive curriculum reform; and iii) a large-scale change in school infrastructure and attendance hours. Chapter Five analyses results of the policies of the 90s, distinguishing four dimensions: access, conditions for learning, teaching practices, and learning outcomes. Chapter Six looks at the key challenges facing Chilean education from the 2006 perspective, after a decade or more of investments and innovations. The case study closes with an attempt to draw some general conclusions based on the Chilean reform process in education.

1. The Reform Context: Favorable Political and Institutional Conditions

Policies, in any domain, are context-dependent, and the way in which “context” is conceptualized is highly relevant for understanding the processes and content under review. We shall distinguish two dimensions: a *political context*, which embraces the more macro features of power and ideology in Chilean society, and an *institutional context*, the basic “rules of the game” and organizational features that define the educational system and its relationship with society.

1.1 Political context

The most decisive feature of educational policies and reform of the 1990s is the political consensus, shared by government and opposition, about education’s strategic importance for economic growth, social integration, and democracy, and on the necessary fundamental policies. Throughout the 1990s and up to the present day there has existed a set of factors that has helped government and opposition to agree on the fundamentals of a rich range of state-led interventions in education. These factors reflect the deep and prolonged political conflict and trauma of the 1970s and 1980s (the breakdown of democracy in the early 1970s, and the ensuing 17 years of authoritarian military government), followed by a politically sophisticated and successful transition to democracy, and the widely shared vision that modernity at the end of the twentieth century requires the ability to use and apply knowledge.

As an authoritarian regime with sweeping powers, Chile’s military government (1973–1990) profoundly transformed the administrative and financial model applied to the school system. The military regime decentralized school administration, introduced financing instruments based on subsidized demand, eliminated teachers’ status as public employees, and used legal instruments and market incentives to stimulate the creation and growth of state-funded private schools—a “big-bang,” “regime-changing” sort of reform (Delannoy 2000; North 1990). In 1990, a democratic government, led by a centre-left political alliance, began to apply a new educational agenda, with policies focused on the *quality and equity* of the school system, *processes*, and *learning outputs*. It also provided a new national-level statute for teachers.

Overall, policy implementation has depended on two state roles: ensuring the minimum conditions for the functioning of education (subsidiary role), as it did in the 1980s, and defining and leading policies for sector development (leadership role) (Brunner, Cox 1995; Cox, Lemaitre 1999; Cox 2003; OECD 2004).

In 1990, the new democratic government made a strategic decision neither to reverse the “*municipalización*” process (decentralization to the municipalities) nor to change the financing mechanisms established in the early 1980s. It did so despite the opposition of teachers, among others, who objected to the authoritarian origins of these policies and methods used to apply the changes. Thus, the key institutional “rules of the game” established in 1981 were accepted.² The new agenda moved the balance in favor of the state without abandoning the market. This mix assured a high degree of agreement and political consensus.

The three democratic governments initiated and applied policies that were conceived, developed, and implemented as state, not party, strategy. This was made possible because the most important changes were agreed upon and supported in Congress by the opposition or gained consensus through specially formed national commissions. The policies were guided by the objectives of educational quality and equity and relied on a combination of state and market instruments, which also characterized their implementation (Gauri 1998; Cox and Lemaitre 1999; Delannoy 2000).

Strong agreement does not mean, of course, an end to an educational policy debate fuelled by ideas and interests; nor does it imply the end of competitive politics—far from it. During these thirteen years, government and opposition have had major ideological differences over, for example, the regulation of the teaching profession, autonomy versus state regulation of the private sector in education (expressed historically in the Chilean tradition as the opposition between the principles of *libertad de enseñanza*, freedom to educate, versus, *derecho a la educación*, or the right to be educated), the appropriate role of state and market mechanisms, and sexual education. What

² “Conceptually, what must be clearly differentiated are the rules from the players. The purpose of the rules is to define the way the game is played. (...) Modeling the strategies and the skills of the team as it develops is a separate process from modeling the creation, evolution, and consequences of the rules.” North (1997: 4).

characterizes policy evolution in the 1990s is the search for transactional or compromise solutions, and the broad support of actors and institutions in their implementation. In 1990, the dividing issue was how much the decentralizing, pro-choice, and pro-market reforms of 1981 would be reversed. The transactional solution created a new equilibrium by which inherited policies and their institutions (municipal administration, financing of education via per-student subsidy) were maintained, together with a new statute for teachers, and the new state programs to improve the quality and equity of publicly funded education, particularly for less well-off students. In 1994, at the start of the second *Concertación* Government, there was a new occasion for defining strategy, this time in terms of increasing educational expenditure (an approach favored by government supporters) versus tightening “pressure and incentive” mechanisms for schools (an approach dear to the opposition). These policy prescriptions were managed by the government not as alternatives but as options, i.e. by increasing expenditure with centre-led programs but also pushing for changes to teacher and school incentives. At the end of the decade, the lines of debate had moved closer to the inner core of schools’ and teachers’ work: curriculum, pedagogy, and evaluation.

1.2 Institutional context

Chile’s present-day schooling system has organizational roots that go back to the mid-nineteenth century, when Napoleonic and highly centralized administrative structures and norms, which ruled the system until 1981, were put in place. This state and centralist matrix was transformed by the radical decentralization and privatization policies of the 1980s. The resulting combination of state and market institutions and mechanisms characterize the institutional context of the policies in the 1990–2006 period. Chile’s school system has centrally defined curriculum, provision of texts, normative structures, and supervision of schools; these combine with total freedom for the private sector to set up schools and recruit students from any area, an attendance-based per pupil subsidy which make schools compete for enrollment, and a system in which 48 percent of enrollment belongs to private institutions.

In terms of policy generation and implementation, the school system of Chile and its Ministry, in a fundamental way, “work.” An authoritative analysis of ministries and schooling systems in low-income countries lists failings or difficulties: teacher

appointments that can take years, ghost teachers, curriculum reforms that do not exist or take a long time to be reflected in textbooks, absence of a culture of evaluation and evaluation mechanisms, high turnover of higher-level staff, etc. (Reimers and McGinn 1997). These features of organizational precariousness are not present in Chile. There may be organizational rigidities, delays and anachronisms, but the institutions are reliable and predictable, with little corruption, and national culture and opinion condemns clientelism and overt partisanship.³ Chile's educational institutions support an ample range of mechanisms and tools for implementing policies, using both centralized and decentralized repertoires. In the policies and reforms of the 1990s, "top-down" and "bottom-up" strategies, norms and incentives, and state and market rules and mechanisms have all been used.

There are two other relevant institutional features. First, there is a greater availability of information about the functioning of the educational system. During the 1980s a system of annual language and math evaluations were set up for complete cohorts, providing a crucial information base for the quality and equity agenda. Second, the Government—not only the Ministry of Education—took responsibility for the design, approval, and implementation of educational policies. Unlike other countries, there was a strong agreement between the ministries of finance and education (Corrales, 1999). The Chilean case is one of marked government consistency and agreement. In the 1990s educational reform in Chile involved the President of the Republic, the Finance and Education ministers, as well as constructive relations with Congress.

1.3 School system context

The structure of the school system is, without question, the key component of the "context" of educational policy. We shall outline the main features of the school system affected by educational policy during this period.

³ In 1991, when the Ministry of Education proposed to the World Bank in Washington, as part of a major program for improving primary education, and then again in 1994, with regards to a similar program in Secondary education (see section 3.2), a component of these programs whereby a small fund (US\$ 6,000) would be allocated to project-winning schools, the WB staff in Washington questioned it on grounds of "high risk" for the funds being put to serve other purposes than the stated ones. The Ministry defended its position on grounds of its institutional robustness to control this risk, but more so, on the basis of a culture, in the teaching profession and in schools, of extreme care about the use of public funds. The component was approved and became quite effective in mobilizing teaching energies. The annual competition for school projects funded by the state is now routinely part of the educational system.

Chile's school system has an 8-4 structure: eight years of primary education are compulsory for pupils ages six to 13 years old. These are followed by four years of secondary education, which, until 2003 was not compulsory for pupils between the ages of 14 and 17. A reform to the Constitution, passed in May 2003, which came into effect in 2004, makes 12 years of education mandatory. The division between secondary general and vocational education was redefined by a curricular reform in 1998.

Chile achieved universal coverage of eight grades of primary education in the early 1970s and since then, the expansion of secondary education enrollment (years 9 to 12) has been consistent throughout the 1980s (when its expansion was not a governmental priority) and the 1990s (when it was).

Table 1 Enrollment and coverage, primary and secondary education: 1970–2004

Year	Enrollment		Coverage		Average years of schooling 15+ year-old population
	Primary	Secondary	Primary	Secondary	
1970	2,200,160	306,064	93.3	49.7	4.3
1982	2,116,397	565,745	95.2	65.0	7.7
1990	2,022,924	719,819	91.3	77.0	8.6
2000	2,355,594	822,946	97.0	85.0	10.2
2004	2,269,388	989,039	99.0 (*)	93.7 (*)	-----

(*) Coverage figures for year 2003. MIDEPLAN, Encuesta CASEN 2003.

Source: Ministerio de Educación (1991–2005).

As shown in Table 1, secondary education coverage increased 15 percentage points between 1970–1982, 12 points in the following eight years, and 16 percentage points between 1990 and 2004; all this in a period of three decades which saw Chilean educational policies go from a socialist orientation (1970–73), to a mix of authoritarian and neo-liberal ones (1980s), to a new combination of state and market mechanisms in a democratic political context (1990s). This relentless demographic and social pressure for secondary education expansion, independent of political and policy-related factors, is a major feature of this case study.

1.4 Finance: Student attendance subsidy (voucher) to both publicly and privately managed schools

The financing of the schooling system in the 1990s was established by the radical pro-market and pro-choice educational reform carried out by the military regime at the start of the 1980s. Prior to 1980, school budgets were largely determined by the need to sustain an existing plant of teachers and facilities. “If budgets adjusted in response to the level of student enrollment, they only did so at a sluggish pace” (Carnoy, McEwan 2000). Under the reform, the Ministry of Education began disbursing monthly payments to both public (municipal) and private-subsidized schools based on a voucher mechanism: a fixed per capita amount per student enrolled attending classes.⁴ Thus, payments to schools fluctuate in direct proportion to their enrollment and their attendance rates. Legal regulations of *subvención* (subsidy) established a base voucher level, which varied according to the level and modality of education, as well as other factors.⁵

Co-financing

In 1993, in the context of a broader tax reform, private-subsidized primary schools (not municipal schools), and *liceos*, whether municipal or private-subsidized, became allowed to charge families a fee. The proceeds can be used to top up the state subsidy as a form of co-financing. After a certain limit in family fee revenues is reached, the state subsidy is reduced proportionately (Cox, Lemaitre 1999).⁶ In 2004, co-funding of this kind resulted in revenues of well over \$200 million⁷ to 1,922 schools (1,806 private subsidized and 116 municipal secondary schools). The system, which started with 143,000 students in 1993, reached 1,413,514 students in 2004, or 42 percent of the total who are publicly subsidized. Two thirds (67 percent) of enrollments of private subsidized

⁴ The Chilean term for the per-capita, attendance-based grant system established in 1981, is *subvención*, or public subsidy. This corresponds to a voucher (or capitation grant) which is not paid to students or their families, but to the school owner or administrator. The voucher is calculated monthly based on the average attendance rate in each school during the previous three months.

⁵ For example, the voucher for technical education students (secondary level) is the base voucher multiplied by a factor of 2.16, whereas for general secondary education students the factor is 1.76 and for primary education students is 1.45. The 1990s policies added several other adjustment factors to the base voucher, on positive discrimination and other policy-related criteria (Carnoy-McEwan 2000; Gonzalez 2003; Mizala, Romaguera 2005).

⁶ These discounts are applied progressively on the portions that exceed the value of the subsidy scale: if the fee is less than half the value of the subsidy, there is no reduction; if the fee is between 1 and 2 times the subsidy, the discount is 20 percent, etc.

⁷ All dollar amounts are in U.S. dollars unless otherwise indicated.

schools (primary and secondary) and 6 percent of enrollments of municipal schools (only secondary level) participate in the co-payment system (Molina 2005).

The success of the co-funding formula in attracting private resources for education has had segmentation consequences (differentiation of subsidized schools by level of family income) and social segregation implications (exclusion of families that cannot pay). Government policies reacted to these, establishing, in 1997, a school-based scholarship fund for students from poor backgrounds. The fund increases with the level of the charges to the families and is financed by resources from the school operator, in the form of a percentage of fees charged to families, and a small amount from the general government subsidy. Approximately 8.6 percent of students in private subsidized schools that charge tuition receive the scholarship (OECD 2004).

Chilean schools compete for students in the quasi-market system established by the pro-efficiency reform of the 1980s. The advantages and disadvantages of this system have been at the center of educational policy debates in Chile for the last quarter of a century.⁸ Undisputed values of the system are its contribution to improvements in the efficiency of the allocation of resources and expansion of coverage of the schooling system through the *subvenciones* system's capacity to quickly respond to variations in the demand for education. Thus, secondary education enrollments expanded during the 1980s *against* government priorities at the time, pushed "automatically" by the demand of families.⁹ A central and also widely recognized disadvantage of the present system is its social segmentation effects, produced by schools selecting their students (and their families) in order to obtain better results. Governments since 1990 have introduced mechanisms to control or neutralize these effects, which have fallen short of their goals (Molina 2005). A new attempt, perhaps the most ambitious so far, is in the law-discussion phase: government presented to congress in the last quarter of 2005 a law-

⁸ There is a significant amount of research on systemic effects of school choice, and on comparisons between private and public students' learning outcomes in Chile. In a recent meta-analysis of 10 econometric studies of private school effect on test-scores Cristián Bellei (2005) has shown that the answer to the question about whether private or public schools are the most effective is extremely sensitive to the methodological decisions made by the researchers. Their results do not converge and at present there is no empirically robust conclusion for the public/private school debate on the Chilean case.

⁹ Law allowed any proprietor of a school with enrollments to obtain the per-student voucher. As demand for secondary education was strong, many new schools opened and coverage increased 12 percentage points between 1982 and 1990 (see table 1), in spite of government definitions that its priority was primary education and that secondary level education was to be selective (Lemaitre, Cerri, et.al. 2003).

project proposing a substantial differentiation of the voucher in favor of the two lower income quintiles.

Four administrative categories of schools

Chilean schools as defined by their administrative and funding relationships fall into four categories created by the decentralizing and privatizing reform of 1981:

- *Municipal* schools are financed through the per-pupil, attendance-based voucher and administered by the country's 342 municipal governments. Only some secondary municipal schools (6 percent in 2004) participate in the co-payment system.
- *Private subsidized* schools are financed through the same attendance-based, voucher, and are privately owned and administered. Subsidized private schools can be non-profit or for-profit. Non-profit private schools include church schools and those dependent on foundations or private corporations. For-profit schools mostly operate like firms, generating returns for their owners. In 2004, 40.7 percent of the private subsidized schools charged fees to parents under the co-payment system.
- *Private paid* schools receive no government subsidies and operate entirely on parental contributions.
- *Corporation schools* are vocational high schools managed by business corporations with government funding, especially established for this purpose (not a per-pupil voucher).

The relative sizes of these categories, in terms of the past decade's enrollment and their evolution appear in Table 2.

Table 2 Enrollment by school administrative categories in percentages, primary and secondary education, 1990–2004

	1990	1995	2000	2004
Municipal Education	57.7	56.8	53.7	49.3
Private, state-subsidized education	32.4	32.5	35.8	41.5
Private, paid education	7.9	9.1	8.9	7.7
Corporation schools	1.7	1.6	1.6	1.4
Total enrollment	2,973,752	3,150,629	3,508,509	3,638,417

Source: Ministerio de Educación. 2003. *Estadísticas de la Educación*, 2002. Santiago. Table 2.7.

Municipal education enrollments decreased throughout the 90s, albeit slowly, in favor of private subsidized schools; a movement that accelerated after the year 2000.

2. The “Macro” Process: Strategic Options in Educational Policy

It is important to note that secondary school reform policies are part of a broader set of educational policies which together set the pace and created momentum for change.

The following table sets out three key educational policy domains in the Chilean case: the first (columns 2 and 3 in Table 3) is strategic, consisting of political and policy decisions which established the *conditions* for secondary school reform. The second corresponds to programs of direct government intervention (column 4); and the third (column 5) includes the key reforms of the period—extension of school day and curriculum change.

The first domain shows the political and financial conditions in which the secondary school reform was embedded. This domain is politically the most sensitive of the three, from the perspective of the institutions and key players involved, and because of its macro-economic implications. Its key components are: a) the shift in the policy-organizing paradigm from a subsidiary to a proactive state; b) a national vision which emphasized education’s high policy priority of establishing framework agreements and the low degree of conflict; these elements are to be found in the politically plural and very influential national commission for modernizing education, convened by the President of the Republic in 1994 (*Comisión Nacional de Modernización*, 1994); c) the sustained growth of education spending from both public (from \$907 million in 1990 to \$3,017 million in 2002) and private (from 1.8 percent to 3.3 percent of GDP) sources, expressed in the laws on shared financing and educational donations (1993); d) the laws from 1991 and 1995 defining the status of teachers, and the evaluation and individual incentives for the best teachers (2001 and 2003); and e) a reform to the Constitution which made the completion of secondary education obligatory.

Table 3 Synoptic view of policies and reform measures affecting secondary education: 1990–2003

Government	Year and budget	Conditions: Labor, financial and legal framework	Programs for improving quality and equity of secondary schooling	Reforms: School day and Curriculum reforms
Presidency of Patricio Aylwin (1990-1994)	1990 Budget: \$907 million	Change of educational policy paradigm: leadership role for the State; education for quality and country competitiveness; equity, affirmative action.		
	1991 \$1, 035 million	Teachers' Statute (No. 1)		
	1992 Budget: \$1,176 million			
	1993 Budget: \$1, 328 million	Shared Financing. Tax incentives for donations to education.		
	1994 Budget: \$1, 461.3 million			
Presidency of Eduardo Frei (1994-2000)	1995 Budget: \$1, 620.2 million	Consensus-building: national commission for modernizing education; agreement among political parties on an Educational Agenda Teachers' Statute (No. 2): more flexible; collective performance incentives (SNED)	MECE-secondary schools (1995-2000)	
	1996 Budget: \$1, 840 million		Fellowships for teachers to study abroad	
	1997 Budget: \$2, 017 million		Montegrando project. 3 Teachers' initial training & professional development programs	Law for the full school day. National consultation on the new secondary education curriculum.
	1998 Budget: \$2, 214 million			New curriculum for secondary education
	1999 Budget: \$2, 412 million			
Presidency of Ricardo Lagos (2000-2006)	2000 Budget \$2, 617 million	Ministry – Teachers' union agreement: individual performance incentives Law to improve wages; teachers' network; individual performance assessment.	Focused strategy to reduce drop-out rates from secondary education (high school for all)	
	2001 Budget: \$2, 788 million			
	2002 Budget: \$3, 017 million	Voluntary system for evaluation of teachers of excellence is put in place.		
	2003 Budget: \$3,097 million	Reform to the Constitution: extension of compulsory education to 12 years		

Source: Cox (2003).

Budgets in constant US dollars from the year 2001.

2.1 Programs and reform

The second policy domain (column 4, Table 3) lists all direct interventions to improve learning quality and equity. This domain shows, in terms of its development and implementation, a simpler political economy as it falls entirely within the government's educational responsibilities. This domain is made up of three programs to improve secondary education quality and equity, principally by investments and support strategies: MECE-Secondary Education, *Montegrande*, and *Liceo para Todos* (High school for all).

Finally, a third domain (column 5 in Table 3) identifies policies that deal directly with teaching and learning quality and which, unlike specific improvement programs, are compulsory throughout the system and affect its structure. The key reform components are the change in the school day that began in 1997 and the curricular changes initiated in 1998 at the secondary level. These presented the greatest challenges. Both the political context and financing were more complex than for the improvement programs. The full school day, for example, required legislation, and hence prior agreement between government and opposition; curriculum reform involved highly participatory processes and inter-institutional mediation (Ministry of Education and Higher Education Council).

2.2 Governance and resources

The necessary conditions for the secondary education reform, as itemized in columns 2 and 3 of Table 3, are a high degree of agreement concerning the need, orientation, resource availability and conditions for good governance. We shall expand on these aspects, highlighting key events and data.

2.3 High-level, politically plural, national commission for consensual agenda setting

The single most important consensus-building initiative of the 1990s was the National Commission on the Modernization of Education. Appointed by President Frei in 1994, its mission was to diagnose the country's educational system and make proposals for its upgrading and modernization. The membership included representation from the country's political, business, cultural, and academic leadership. A technical committee had the task of producing the diagnosis and a first draft of proposals. This committee was

chaired by the leading social scientist and educator José Joaquín Brunner, later to become the Government's Secretary General, and was made up of 18 members hailing from politics, business, the Church, policy-oriented think tanks, science, universities, and school education. Most decisively, the Technical Committee was politically pluralistic and included leading opposition figures. The Committee arrived to consensus on a report, *Los desafíos de la educación chilena frente al siglo XXI* (The Challenges Facing Chilean Education into the Twenty-first Century), which was then sent to the full 32-member National Commission, chaired by the Minister of Education Sergio Molina. Among its members were rectors of the three main universities, representatives of the Senate and Chamber of Deputies, the Association of Municipalities, the National Teachers Union, business associations, parent associations, Catholic education institutions, and student associations. The National Commission broadened its discussions through a consultation process carried out in the regions by questionnaire (answered by 2,100 persons between September 26 and October 28, 1994) (Comisión Nacional de Modernización 1994; Delannoy 2000).

The National Commission approved the Technical Committee's report and five principal recommendations:

- 1) The need to make quality education for all the highest priority
- 2) The urgency of reforming secondary education
- 3) The necessity of strengthening the teaching profession
- 4) The desirability of increasing school autonomy in order to increase effectiveness
- 5) A national commitment to increasing total spending for education

(Comisión Nacional para la Modernización de la Educación 1995: 138)¹⁰

The National Commission's diagnosis and proposals became, for the rest of the decade, the key reference for practically every major policy discussion and decision-making process. Their proposals for secondary education reform, with their arguments in favor of more flexible structures, "alternative options" for students, and deep curriculum reform, greatly enhanced the acceptability of changes proposed in 1997–1998. Even

¹⁰ The Committee proposed to increase spending from 4.5 percent of GDP to 8 percent in eight years. The National Commission did not commit itself with any figure. Chile spent 7.1 percent of its GDP on education in year 2000 and 7.6 in 2002. See below, table 5.

more, the Commission's endorsement of key value orientations created a common framework, which, when the moral orientations of the new curriculum were disputed, proved of great strategic value.

Box 1 About "national consensus" documents

It is important to note that the "consensus document," *Los desafíos de la educación chilena frente al siglo XXI (Comisión Nacional de Modernización de la Educación (1994))*, was not so general that it had no value for policy design and prioritizing. It contains 218 paragraphs organized in four chapters, with "state-of-the-art" conceptualizations and information, plus specific proposals. Naturally, it does not totally represent the views of each one of its members (personal or institutional). Rather, its key value is in partially representing the views of all members, and encompassing a *national political will* by setting out a common definition of educational problems and solutions. Its importance cannot be exaggerated. It defined an *ethos* that helped transform Chile's educational system throughout the nineties and into the present decade. Of course, political and policy-making competition between different positions and visions continues, but within shared boundaries and a will to cooperate.

2.4 Expenditure

Public expenditure on education in Chile grew from 2.4 percent of gross domestic product in 1990 to 4.4 percent in 2001, whilst GDP's average annual rise in the same period was 6 percent. Education's primary importance to individuals and governments was clear in the magnitude of the new resources invested in the sector (see Tables 4 and 5). Public expenditure in education almost tripled, from \$907.8 million to \$3,017 million (in constant dollars) between 1990 and 2002; per-student spending rose accordingly, and per-student public expenditure by educational levels shows that secondary education's increase was the largest, increasing in constant dollars by almost 200 percent between 1990 and 2001.

Table 4 Public expenditure in education; spending per student, by level, 1990–2002

YEAR	Public expenditure on education: \$ million 2001	Public expenditure on education:		Ministry of Education spending per student: Each year, by educational level (in \$ from the year 2001)		
		a) percentage of GDP	b) percentage of total public expenditure	Primary	Secondary	Post-Secondary
1990	940.3	2.4	12.5	231.8	213.8	832.3
1991	1,035.5	2.6	12.6	244.8	216.5	1,109.3
1992	1,176.4	2.7	13.7	270.1	270.7	1,111.9
1993	1,328.5	2.8	13.9	302.8	296.3	1,097.4
1994	1,461.3	2.9	14.6	325.5	324.5	1,148.0
1995	1,620.2	2.9	15.3	371.0	396.3	1,180.0
1996	1,840.6	3.2	15.8	402.3	441.1	1,240.1
1997	2,017.8	3.4	16.5	443.4	494.3	1,319.5
1998	2,214.7	3.7	17.0	480.5	546.0	1,333.0
1999	2,412.3	4.0	17.4	518.7	550.0	1,417.1
2000	2,617.8	4.1	18.1	539.5	609.6	1,374.0
2001	2,788.8	4.4	18,5	582.8	623.5	1,360.5
2002	3,017.7	4.3	--.	--.	--	---
% growth in per-student spending				151.4	191.7	63.5

Source: Ministerio de Educación, Estadísticas de la Educación (Education Statistics) (2001). Table 4.5, p. 131. For year 2002, Ley de Presupuesto 2002 and Banco Central de Chile.

In the 1990s, private expenditure, mainly by families and largely on post-secondary education, rose substantially. The country's total expenditure increased from 3.8 percent of GDP in 1990 to 7.4 percent of GDP in 2000, as shown in Table 5.

Table 5 Total expenditure in education as a percentage of GDP, 1990–2002

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Public expenditure in education/GDP	2.4	2.5	2.6	2.7	2.8	2.7	3.0	3.2	3.5	3.8	4.0	4.1	4.3
Private expenditure in education/GDP	1.6	1.7	1.8	1.9	2.1	2.1	2.4	2.3	2.7	3.0	3.1	3.2	3.3
Total educational expenditures/GDP	4.0	4.1	4.4	4.7	4.9	4.9	5.4	5.5	6.2	6.9	7.1	7.3	7.6

Source: Arellano (2004) based on MINEDUC data. Private spending: estimated by MINEDUC, Div. de Planificación, Departamento de Estudios, based on information from Central Bank of Chile.

2.5 Teachers' salaries and incentives

Salaries and teacher incentives are an inseparable component of the secondary school reform. It is a major topic and here we shall only sketch the major elements.

In the 1980s, the military government changed, as part of its privatization and pro-market reform, the special status of teachers and placed them under the Labor Code (like any private sector worker). The first democratic government in 1990–91 reestablished a new Teachers' Statute (1991). This was a major policy change and restored the power of the teachers' union. Teachers regained job stability in the most radical form—centrally determined life tenure, rigid conditions of service, and centrally negotiated salary increases (Delannoy 2000; Gauri 1998). The Statute was much debated within the government and since its approval in 1991, has been condemned by the opposition as a serious policy shortcoming (Beyer, Eyzaguirre, Fontaine 2000). However, it had the political goal of reconciling the teaching profession to state leadership, perhaps a political necessity for their so accepting (and promoting) educational reform.

In 1995, a “second Statute” was approved which allowed greater flexibility, permitting, for example, the possibility of municipalities making teachers redundant if school enrollment dropped, and establishing a system of bonuses (collective) for the teachers at the better performing schools based on learning results (SNED system).¹¹ The bonus is equivalent to an additional month's salary per year, and is awarded to the winning team of teachers for two years.

Table 6 SNED beneficiaries and resources

	1996-97	1998-99	2000-01	2002-03
Award-winning schools	2,274	1,832	1,699	1,863
Award-winning teachers	30,600	31,400	32,600	34,400
% of teachers receiving awards		27.3%	27.7%	25%
Annual average amount per teacher (2003 CLP)	232,000	244,000	284,000	288,000

Source: Mineduc SNED (2002–2003).

In 2001 the government established a scheme (agreed to by the teachers' union, and approved in Congress) for *voluntary* evaluation with rewards for individual excellence.¹² In 2003 a *mandatory* scheme was piloted with 6,000 primary teachers from 31 *comunas*

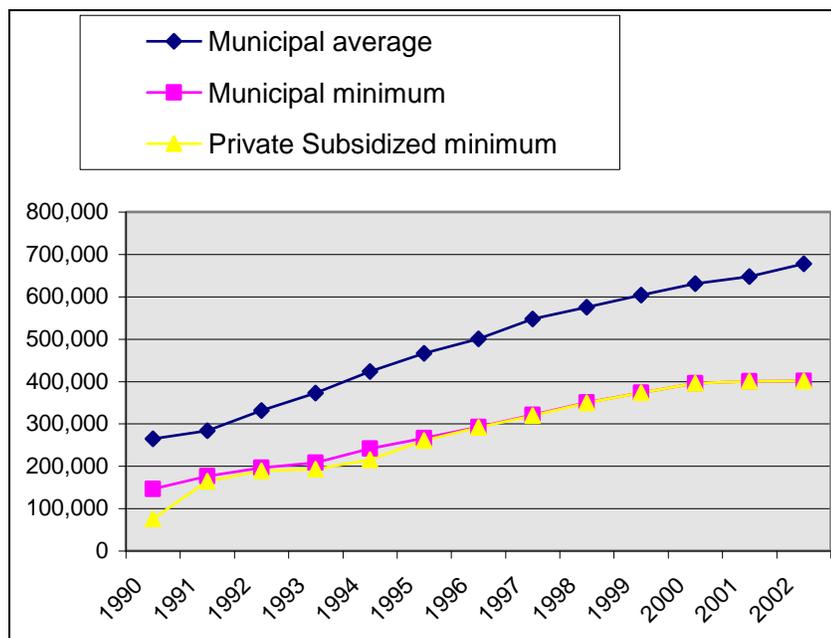
¹¹ SNED stands for *Sistema nacional de evaluación de desempeño*.

¹² Law 19.175 of January 2001.

(municipalities). As the evaluation system was deemed viable and effective by all key parties concerned, a *mandatory evaluation* for all teachers was agreed upon in 2005 among the Ministry, the *Colegio de Profesores* (teachers' union), and the association of municipalities, and the key features of the system of evaluation became a law. As part of the evaluation, the following materials are reviewed: a knowledge test, of both disciplinary and pedagogical knowledge, a video of an hour's of class-room teaching, which is assessed by two reviewers, plus a dossier of evidence on planning and evaluation of classroom activities. Additionally, the evidence for the evaluation also includes an interview by a peer teacher and evaluative reports by the director and academic coordinator of the school of the evaluated teacher (Ministry of Education 2006).

The evolution that took place, from the Teachers' Statute of 1990 to the acceptance by the teachers' union of mandatory evaluation for teachers and the linking of its results to salary increases and penalties, is tantamount to a cultural redefinition of teachers' relationship with the state and society: from *functionaries* to professionals, and its importance for the transformation of Chilean education is enormous. The process cannot be separated from the consistent and substantial improvement of wages of the profession. The following figure shows the teaching profession's wage increases throughout the nineties and into the present decade.

Figure 1 Teachers' average monthly wages, 1990–2002 (44 hours per week, 2002 CH \$)



Source: Ministerio de Educación (2002). *Estadísticas de la Educación. Año 2002*. Average salaries in constant Chilean pesos for the year 2002. (1 US\$ (year 2002) = 689 CLP \$).

Teacher wages recuperated in the 1990s what they had lost during the 1980s and at present “are aligned with the market and international standards” (Mizala, Romaguera 2005). The salary of a secondary teacher in Chile with 15 years of experience, in relation to the per capita GDP is 1.33. The comparable figure for highly developed countries is 1.32 (and 1.70 for Finland, South Korea, and Sweden) (OECD, 2004a, quoted in Mizala and Romaguera 2005)

In the close to 16 years between March 1990 and December 2005, there were 40 days when teachers were on strike in Chile (equivalent to 38 days of lost classes, affecting mainly municipal education), of which 20 correspond to a single conflict, in 1998, as the following table shows. Every strike was in the context of salary negotiations with the exception, in 1991, of a day of protest against the recently approved Teachers’ Statute.

Table 7 Days of teachers’ strike 1990–2005

Years	1990	91	92	93	94	95	96	97	98	99	2000	01	02	03	04	05
Strike days	---	1	---	1	4	---	14	---	20	---	---	---	---	---	---	---

Source: Based on data from Minister of Education’s cabinet and *Colegio de Profesores*.

In general, the *Colegio de Profesores* discursively opposed the reform and government policies, notably between 1995 and 1999, when its leadership allied itself to the extra-parliamentary Left and considered educational policies as little more than a continuation of those of the military regime (Colegio de Profesores 1997). In 2000, however, this same leadership reached an agreement with President Lagos’s new government explicitly supporting the Full Day School reform. Moreover, in the following period, the same leadership would push for an acceptance by teachers of the need for evaluation and performance-linked compensation. As previously mentioned, in 2004–2005, after years of work and a plebiscite among teachers, a tripartite agreement between government, the teachers’ union, and municipal mayors was signed regarding a system for evaluating teachers’ performance, and has been translated into law.¹³

¹³ *Ley de Evaluación del Desempeño Docente*, August 9, 2004. For a thorough and insightful account of the evolution of the teaching union’s views on teacher evaluation and the successive agreements with the government, see Nuñez (2003) and (2004).

It seems clear that the professional collective identity of the teaching corps has been undergoing a rapid evolution. In brief, they have moved from a highly centralist, state-based school system culture (*estado-docente*), to one that is more willing to accept changes in the culture of work, labor relations, and the profession, and hence the educational reform. Chilean teachers, according to a recent analysis, are experiencing a shift from “...civil servants bureaucratism, a humanism distant from realities of the productive world, social closure, and pedagogical conservatism,” to notions of “...professional performance, orientation to technological efficacy, openness to society, the external world, modernity, and change” (Bellei 2001).

2.6 Three governments, one process: stages in secondary education reform

The educational policies relating to secondary education in the 1990s and beyond have four stages, with their respective foci and strategies.

A first stage corresponds to what the literature on policy-making labels “*Agenda Setting*” (Kingdon 2003; Grindle and Thomas 1991; Grindle 2004). This stage covers the period of 1991–1994 and is a reform preparatory phase consisting of the development of a diagnosis and the carrying out of the reflective processes required to reach fundamental agreements on the secondary education that the country had and the one it required. It also included some trials and false starts, as will be further discussed in Chapter 4. Thus, in Figure 2, this first stage’s key components are referred as “knowledge and consultation for policy design,” as a set of major research projects instrumental for policy design were commissioned and a high-level and politically plural commission for determining priorities in education was convened by the President of the Republic.

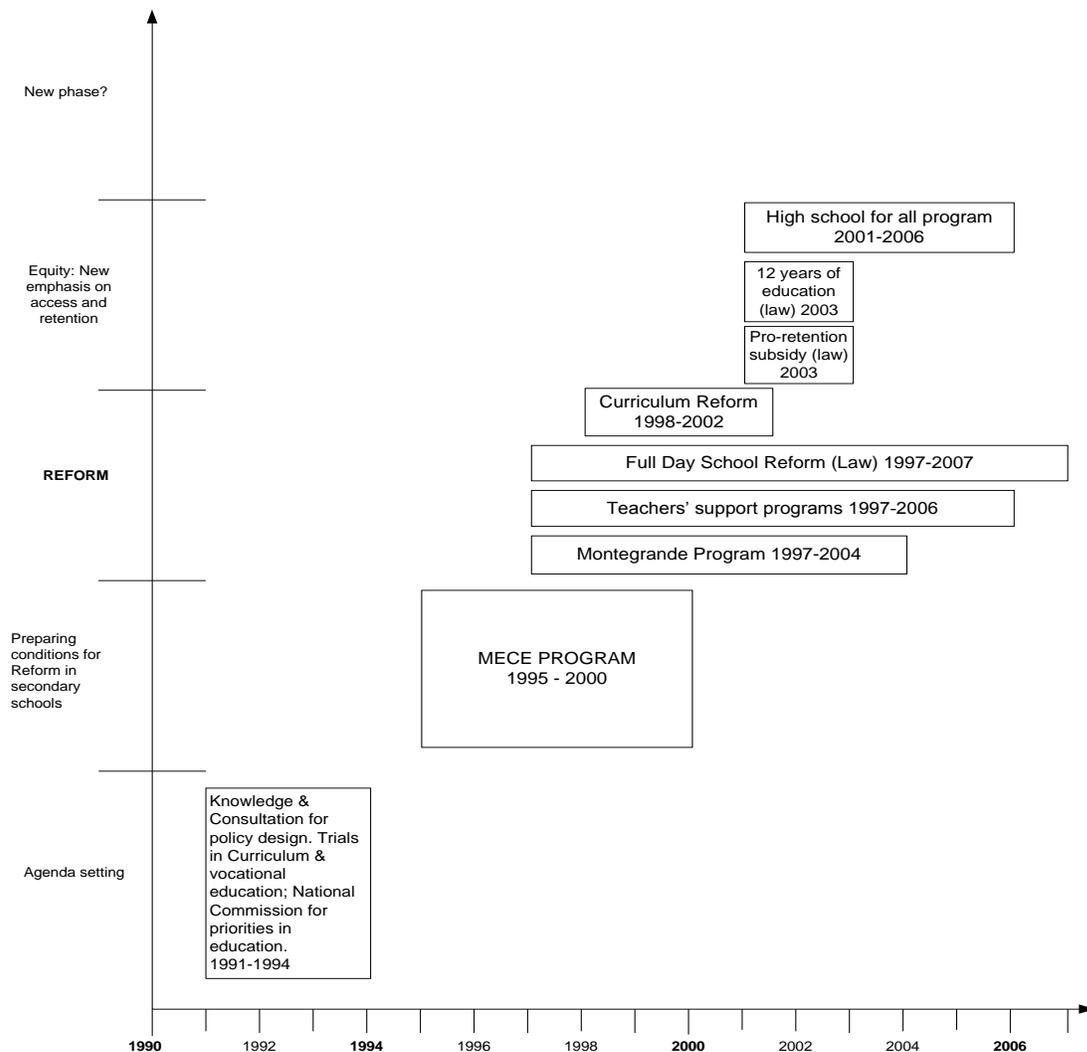
A second stage corresponds to the implementation of a comprehensive program for the improvement of the quality and equity of publicly subsidized (both municipal and private) secondary schools. The MECE program (1995–2000), a combination of investments in educational inputs (texts, computers, libraries), and technical assistance for innovations in teaching practices, was conceived as constructing conditions for reform.

The third stage is the reform proper. Announced by President Frei in May 1996, at its core were a curriculum reform and a proposal to extend the length of the school day, effectively ending double shift school management.

Post-2000, a new phase within the same policy parameters and philosophy, began, with emphasis on access for and retention of poorer groups. The extension of the mandatory period for schooling—from 8 to 12 years—defines the core of this fourth phase of the process.

A sketch of the evolution of policy initiatives that make up Chile’s secondary education reform is portrayed in the diagram in Figure 2. The vertical axis represents the four phases of the process. The continuous line does not imply that in 1990 an all-embracing design or blueprint already existed that was then implemented in subsequent years. It should be remembered that, in 1990, the initial time horizon for the policy-makers was only four years; in the subsequent governments, it was six years.

Figure 2 Policy components and phases of the secondary education reform, 1990–2006



In bold, years, of change of government: 1990-94, President Aylwin (Ministers Lagos and Arrate), 1994-2000, President Frei; (Ministers, Schiefelbein, Molina, Arellano); 2000-2006, President Lagos (Ministers Aylwin, Bitar and Hornkohl).

We need to refer to both the discontinuities and continuities that cut across a decade and a half of policy making, spanning three governments from the same political alliance, and facing differing circumstances and a quickly evolving educational system—a result of government actions as well as broader social change.

The programs demonstrate strong continuity between governments. All policy components (except for those decided after 2002) cut across more than one government in their *agenda-setting—decision-making—implementation* cycle. The preparation of MECE started during President Aylwin’s administration but its implementation belongs to President Frei’s period; the new curriculum development commenced in 1996, (Frei Government), whereas its implementation began during the following administration, and so on. This continuity facilitated important learning processes and the accumulation of experience for both the “top” and the “bottom,” as well as more precise designs and more effective implementation processes. Moreover it allowed for other strategic, value-oriented, and procedural continuities:

- A belief in the need for gradualism and the value of incrementalism predominated. This entails cyclical processes of trial, scaling-up, correction, and adjustment. Few of the reform components were designed and implemented as a “one-shot” event. Instead, cycles of trial and implementation that are increasingly scaled up, consultation processes, and pilot schemes predominate. In all these cases, gradual change builds to produce larger effects.
- For secondary education policy it was strategic that the MECE program *preceded* curriculum reform. When curriculum reform was eventually implemented, schools and teaching systems had been subject to a comprehensive improvement program for some time. The curriculum reform and questions about its organizational structure, such as whether to devise specialized or comprehensive curriculum and in which institutional forms, could be considered *after* ministerial programs had an impact on learning contexts. As a consequence, the reforms were improved, both in terms of materials and process.

- Participatory strategies prevailed throughout. Politically, educational policy needed to be state (national), not just governmental, in character. Every major stakeholder needs to feel, to some extent, benefited by change. The participatory process confirms the principle that complex problems are better understood and dealt with when all actors are involved. This can be helped by an external point of view (at the national level this means the contribution of international expertise).
- It was a process that gave central importance to the robustness of knowledge and international comparative evidence for the design and monitoring of implementation and results.

3. Policy Contents

The eight components of the secondary education policies, in chronological order, are:

- Building of political and knowledge basis for changing secondary education; pilot trials in vocational education and curriculum reform (1990–1994);
- Secondary education quality and equity improvement programs (both general and vocational streams) (MECE 1995–2000);
- Curriculum reform of both secondary education modalities (1998–2002);
- Full Day School Reform (1997–2006);
- Targeted support programs for the most robust and most disadvantaged secondary schools (*Montegrande* and *High School for All*) (1997–2006);
- Teacher support programs (1997–2006);
- Constitutional reform that changed the legally mandated years of education from 8 to 12 thereby making four years of secondary education mandatory (2003);
- Pro-retention subsidy for the poorest students (2003);

We shall briefly describe each one of these policies and programs, after first sketching the key issues for secondary education at the start of the 1990s.

3.1 Key issues at the beginning of the 1990s

The research, consulting, and participatory processes (1991–1992) undertaken to examine the current state of secondary education and its needs, provided the following diagnosis: the main problems facing Chile's secondary education were its *anachronism*, *poor quality*, and *inequity*.

Secondary education was, as a whole, lagging behind society with institutional structures and curricula adequate for a system that had served only 15 percent of the relevant age group three decades earlier. They were now anachronistic in the face of the massive student presence and heterogeneous youth in its classrooms, hoping to prepare for a substantially altered economy and society.

The *curriculum* demonstrated the outdated nature of secondary education, characterized by a traditionally academic orientation and encyclopedic methodology. These

may have worked for a system with low enrollment rates and students with greater cultural resources, but it now lacked meaning and failed to engage many new groups of students, more than half of whom belonged to a first generation in secondary education.

On another level, the anachronism of the secondary system was manifested in the lack of differentiation and flexibility in its structure: it had structural rigidity and simplicity that impeded responding to the multiple paths of development, which, however, had to be prepared in accordance with the diversity of interests and aptitudes of the students, as well as to respond to a growing complexity of society and its formative requirements.

In both *teaching* and *evaluation*, typical practices often tended towards the reduction and trivialization of knowledge, favoring a passive learning relationship, in which students were asked only to reproduce and memorize contents. The diagnostic studies revealed: i) generalized pedagogical strategies involving dictation, and evaluations that required only textual repetition of contents;¹⁴ ii) aspects of childish treatment towards students; and iii) discrimination in terms of race and gender. In addition, regardless of the type of institution, secondary education defined young people in terms of their student status, homogenizing them, and failing to understand and respond to their interests, culture, and identity as young people. The strongest conclusion of the diagnosis was that the secondary school experience was marked by a style of relationship (both of managerial staff towards teachers, between teachers, and most importantly, of teachers towards the students) that failed to produce an active and creative teaching environment.

In the area of the *learning results*, the application of a series of tests to a sample of 9th, 10th, and 12th grades in 1992, revealed a precarious grasp of the materials. The percentage of correct answers was low, and, in many cases, correct replies tended to decrease as the grades advanced.¹⁵

In terms of *equity of educational access*, in 1990, there was a difference of over 20 percentage points between the first and fifth income quintiles. Regarding dropout and graduation rates, in 1992, 91 percent of students in private schools reached the 12th grade, and

¹⁴ One of the investigations entrusted by the MECE program revealed that in less than 3 percent of the Spanish test samples studied was there a question that required original work by the students (Trufello, Irene, et. al. 1993).

¹⁵ The study by Erika Himmel, et. al. (1993) was applied to a representative sample of 6,000 students from 138 schools of the two modalities and from different socio-economic back-grounds, in five regions including the Metropolitan one.

88 percent graduated; whereas in municipal schools, 67 percent reached the 12th grade and 59 percent graduated.¹⁶ The dropout rate was the main issue in terms of internal efficiency. In the period from 1985 to 1991, depending on assumptions and calculation methods, the dropout rate ranged from 8 percent to 12 percent per grade. In the aggregate, this meant that approximately one third of those who entered year 9 (or the first grade of secondary education) did not complete year 12 (or fourth grade of secondary education).¹⁷

This portrait of problems and challenges¹⁸ should be complemented with a notion of the *strengths* of secondary education on which the reform was built. Among these are: i) its broad coverage; ii) institutional robustness with a body of teachers of whom over 90 percent had four to five years of university training; iii) the high social value assigned to education by both parents and students; iv) the esteem for their teachers held by students, especially those from the lowest income groups; and v) examples of curricular innovation and links to the outside world (especially in the technical-professional schools) (Ministry of Education 1997).

3.2 Comprehensive and targeted quality and equity improvement programs

The reform of secondary education in Chile encompassed three school intervention programs: i) *Programa MECE*, with universal coverage, implemented between 1995 and 2000 with the goal of improving and modernizing material inputs (including everything from physical plant to pedagogical resources) throughout the whole system, and preparing teachers for new methods and a more ambitious curriculum; ii) *Programa Montegrande* (1997–2004), a targeted program aimed at fostering innovation with a network of 51 secondary schools; and iii) *Programa Liceo para Todos* (High School for All, 2000–2006), set up after MECE's completion, targeting the 25 percent of secondary schools with the worst learning records associated with difficult social conditions. This program provided specifically designed support systems for improving learning in key curriculum areas and lowering school dropout rates.

¹⁶ All of the data in the main document of the Secondary Education Quality and Equity Improvement Program (MECE), Ministry of Education, Programa de Modernización de la Educación Media. Fundamentos, Estrategia, Componentes, Santiago, September, 1994.

¹⁷ Ibid. above

¹⁸ This list of problems does not intend to be exhaustive. Management problems have been left aside; although important, they were not specific to the secondary level.

These programs were designed and financed by the Ministry of Education.¹⁹ They were conceived as investments to modernize and upgrade the material inputs to schooling (from buildings to learning resources), and to stimulate innovations in teachers' work and school management. The program components included direct and "top-down" interventions as well as indirect and "bottom-up" ones; interventions which sought to "push" the organizations, and others meant to "pull them" toward a different, longer path of improvement, by encouraging schools to respond to new challenges through their own means and capacities.

The following table provides a synoptic view of the programs' key features.

Table 8 Three programs for improving educational quality and equity in secondary education: Components, coverage and annual resources

Programs	Components and/or distinctive strategy	Units covered	Coverage (a)	Average annual resources (b)
MECE 1995–2000	ICT investments (<i>Enlaces</i>), textbooks, libraries, School-based quality improvement projects, teachers' professional working groups, students' extra-curricular activities, infrastructure, technical assistance network.	1,350 general and technical secondary schools	100% secondary school enrollment	\$34.5 million
<i>Montegrande</i> 1997–post 2004	Substantial resources and technical assistance for an innovative institutional project. Administrative autonomy.	51 secondary schools anticipating reform	5.4% secondary school enrollment	\$6.4 million
High school for all 2000–2006	Educational support and special assistance to reduce drop-outs and improve learning.	432 secondary schools suffering from educational and social poverty	33% secondary school enrollment	\$3.5 million

(a) Figures for coverage refer to subsidized enrollment in secondary education, excluding the paid sector, which accounts for about 8 percent of total enrollments.

(b) US\$ million for year 2000.

¹⁹ MECE, as shall be explained, was financed with the participation of the World Bank.

We describe the contents and implementation of these programs in the following sections.

3.2.1 MECE Program (1995–2000)

Secondary education quality and equity improvement program

MECE's strategic purpose was to upgrade and modernize conditions and capacities in secondary education, by making them stronger and more able to incorporate future curricular changes. There were two fundamental objectives: first, as noted, to upgrade the material inputs for learning in every *liceo* of Chile, in order to approach average OECD standards; and second, to initiate the transformation of teaching practices for substantive pedagogy and content/related features, as well as their relational and managerial dimensions. In terms of strategy, it was assumed that once these conditions and capacities were installed in the system, it would be possible to advance on a more secure basis to *reform* proper: i.e., changes in the structure, timetable, and curriculum of secondary education.

The MECE program combined three types of school interventions: improvement of the material basis for learning, direct (or “push,” supply driven) actions to ameliorate the teaching/learning process, and indirect (or “pull,” demand driven) actions to create the conditions and incentives for school improvement.

First, there were five investment areas to substantially upgrade the *material basis for learning*: The three most important were: textbooks for every student (language, math, history, science, and English); a high quality learning resource center for all schools, including library books, newspapers and magazines, videos, and educational software; and a computer lab for every school. The two complementary investment areas were infrastructure and equipment (supplies for the operation of the new libraries); and teaching materials (maps, charts, kits for science teaching and the like).

Secondly, the program had two *direct action* lines of intervention in schools. The first aimed at supporting teachers in their work: the *Teachers' professional development component*. It consisted of organizing, in every school, a time for professional development, based on teachers' discussion of their schools and students' realities. Discussions were informed by ministry-provided relevant materials on curriculum,

pedagogy, and evaluation. The other direct action, the *Students' extra-curricular activities component*, was targeted at students in order to deal with youth culture and motivations. This approach was distinct from that of the traditional *liceo* with its only too common features of unresponsiveness, authoritarianism, and disinterest in students' lives. Systematic extra-curricular activities, such as art, sports, communications, and outdoor activities, were provided on a voluntary basis, defined mainly by the students themselves, and carried out on Saturdays and during vacations.

MECE's *indirect actions* consisted of two components. First, *school-based quality improvement projects*, a mechanism for stimulating teachers teams' capacities to autonomously respond to new challenges. Projects were submitted to an annual competition and judged (by Ministry of Education teams at the provincial level) for relevance and learning quality in core subjects. Secondly, technical assistance was made available through the program for school and project support. Centrally provided funding allowed schools to contract technical assistance according to their needs. Information was made available about technical assistance services in each region. A *Directory of Technical Assistance* was produced, listing academic consultants and university teacher training faculties, and was distributed to schools, together with funds to pay for contracting the services.²⁰

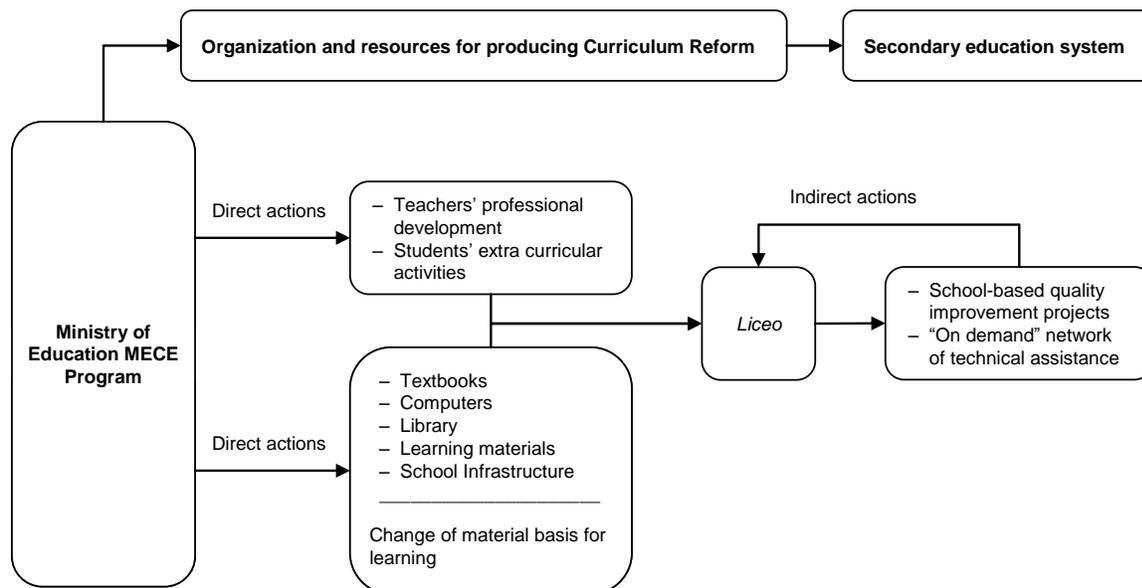
Between 1995 and 1998 the program's Coordinating Unit, based at the Ministry of Education, played a crucial role in the curriculum reform, acting as a bridge to the *Consejo Superior de Educación* and ensuring approval of various initiatives.

Thus, MECE combined "top-down" centralized strategies of intervention, with "bottom-up" actions, decentralized in their design and execution, as well as "lateral" networking activities. This combination generated a synergy that is distinct from a simple aggregation of actions, sketched out in the following diagram.²¹

²⁰ "School-based improvement projects" were a radical innovation at the beginning of the 1990s. They were an effective tool for establishing or enhancing team-work and project-oriented work among Chilean primary and secondary teachers. Since the mid-nineties, the World Bank has used the concept and the procedures in many of its projects throughout the world. See, The World Bank (1999, 2001); García-Huidobro, Sotomayor (2001).

²¹ For more about the MECE program in secondary education, see: Mineduc (1994); The World Bank (2001); Bellei (2003a, 2003b).

Figure 3 Components and strategies of the MECE program in secondary education



Starting in 1995, MECE was originally estimated to cost \$207 million executed over six years. The government financed 83.1 percent and the World Bank 16.9 percent.²² At its closure in July 2001, the program had executed 74 percent of its original budget, yet accomplished all its objectives. The lower expenditure was a result of reduced ICT component costs (computers cost 35 percent less than 1994 estimates), and the fact that the *School-based quality improvement projects* component found that fewer schools were eligible than initially planned.²³

MECE implementation followed an incremental approach. Schools were introduced into the program gradually; after a pilot phase involving 124 schools in 1994, 325 were included in 1995, 440 schools were added a year later, and 585 in 1997. Thus,

²² The bank chose to fund the investments in computers, the School-based quality improvement projects, and the unit coordinating the program (World Bank 1995).

²³ See: World Bank (2001). Implementation Completion Report (CPL-38830; SCL -38836), Annex 2. For all its large scale features in terms of coverage and political visibility in terms of its innovations—think of ICT in every school, the annual competition of school-based projects, or students and teachers involved in weekly or fortnightly special program-generated activities—average annual MECE resources represented only 13 percent more of the expenditure in per-student subsidies. The pro-choice opinion-makers of the opposition criticised the “centralist” nature of the program and argued that it would have been a better strategy to have added the MECE annual budget to the per-capita subsidy, allowing each school administrator to decide on the use of his or her resources. This critique abated soon though, as it became evident that it was not possible to have ICT in every school, nor texts or libraries, had they been acquired in a piece-meal way by every school.

by MECE's third year of operation, the whole of the intended school population (at the time 1,350 publicly financed secondary schools) was reached. Indirect actions—regarded as more demanding for the schools—were not implemented during the first year of schools' program participation but later, thus providing another example of incrementalism. It was important that institutional learning anticipated both school-based quality improvement projects and the autonomous contracting of external technical assistance to increase the probability of later success.

Outputs

In terms of outputs, MECE achieved its implementation targets and can be considered a successful and efficient program:

- Regarding the upgrading of the learning resources, the program provided 2.8 million textbooks, initially covering two curricular areas (language and mathematics) in the first two grades of secondary school. By program completion (2000), it had added history, science, and English. All subsidized secondary schools were provided with computer labs and incorporated into the learning computer network financed by the program (*Red Enlaces*). Each school on average had seven computers, two printers, and software, plus connections between schools and a network of 16 supporting universities, and free Internet connection. Every subsidized secondary school was provided with a multimedia Learning Resource Center, including more than a thousand books, newspapers and magazine subscriptions, and videos and educational software.
- According to the World Bank's "completion report," the *Teachers' professional development component* created "legitimate, school-based, reflective spaces, used mainly for in-service teacher training purposes" (World Bank 2001, par. 4.2). They were fully functional in about 1,200 municipal and private subsidized schools (90 percent of the total), with regular meetings to implement the new curriculum, use the new inputs (textbooks, computers), and discuss school-based projects and materials for the Learning Resource

Centre.²⁴ In the *Students' extra-curricular activities* component, about 40 percent of the enrollment in public and subsidized secondary schools participated. The impact among schools was uneven.

- The program financed 1,108 *School-based quality improvement projects*, selected from more than 3,000 that participated in five annual competitions held between 1996 and 2000. The projects, according to the World Bank's Completion Report, "generated a pedagogical space by which school stakeholders addressed quite effectively, quality issues related to their school" (World Bank 2001, section 4.2). More generally, the Ministry evaluation showed that this program helped create teamwork among teachers, which in turn enhanced their work because of their proactive commitment (OECD, 2004). The *Technical Assistance* component provided each subsidized secondary school with a fund of about \$2,500 to contract technical expertise to address school-defined issues. The component showed supply-side as well as demand-side weaknesses. With hindsight it overestimated capacities of both schools and universities and was not continued after program completion in 2000.
- The program was decisive in developing in the Ministry of Education, the organizational framework and expert capacities which provided the foundation for the curriculum reform of secondary education. Later, the Ministry of Education's *Unidad de Curriculum y Evaluación* was established building upon these capacities.

Outcomes

From 1996 to 1997, the program transitioned into the major secondary school reform (curriculum and extension of school day, professional development for teachers, etc.) launched by the government. Consequently, it is difficult to distinguish MECE's specific impact on Chilean secondary education's internal efficiency, curriculum

²⁴ The "new libraries" component of the program developed catalogues comprising lists of the best books and learning materials available in Chile and abroad. Teachers in each school had to make their own selection and inform program of their choices, which then carried out the procurement process. This selection procedure was intended to trigger relevant and professionally motivating discussions and decision-making processes in schools.

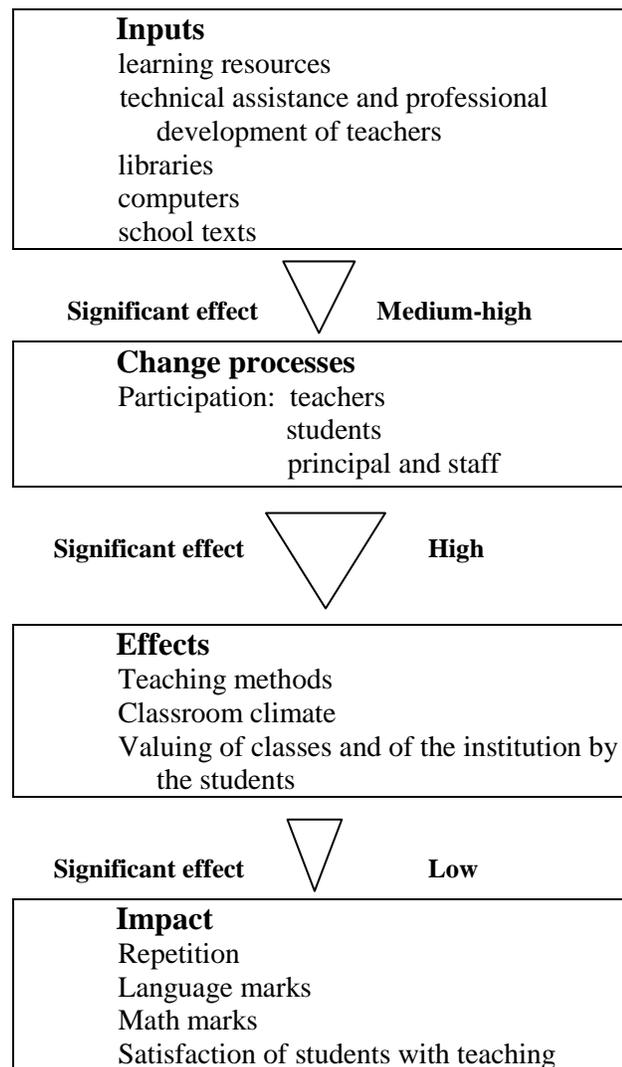
pertinence, quality, and equity. Be this as it may, the program's impact was externally evaluated at mid-implementation (CIDE 1999) and the conclusions are enlightening and consistent with similar assessments for primary education. As the relationships between *inputs, change processes, effects, and impact* of MECE show, as seen in Figure 4, there was a direct and clear impact of MECE-Media on classroom climate and levels of participation of both teachers and students, who claim to have experienced a substantially better platform of learning conditions and resources, which is valued and appreciated. The same evaluation shows that there was only a slight impact, though, on the pedagogic content knowledge of teaching (as distinct from the social relationships between teachers and students, the basis of a "good classroom climate") and, not surprisingly, on learning outcomes.

The program was highly effective in transforming the availability of learning resources of all subsidized secondary schools, and this was important for changing teachers' attitudes prior to curriculum and assessment reform. Moreover, although this was not part of CIDE's evaluation, it most probably contributed in a decisive way to the betterment of at-risk youth's school experience, thereby impacting the coverage and retention increases visible at the end of the nineties onwards.

The conclusions of the CIDE study and its interpretation by Bellei coincide with analyses of the impact of MECE-Básica and other programs in primary education, both by the World Bank (2000) and later by OECD (2004): The programs were effective in positively impacting material conditions as well as social relations, favoring adequate climates for learning, but less clearly so regarding actual teaching of content knowledge and, as said, learning outcomes (see diagram in Figure 4). This provided the government's teams with a fundamental lesson: that the creation of capacities among teachers required more than spaces for self-reflection and incentives (monetary or symbolic). The realities of a "capacity-gap" facing teachers was now clearer, and after the year 2000, the Ministry initiated more direct and explicit capacity-building approaches in its teachers' professional development programs.²⁵

²⁵ In 2002, the Ministry redesigned the reformed 1997 curriculum for the initial four grades in primary education, and it launched a "reading, writing, and arithmetic" campaign in 2003, much more directive, structured, and focused regarding pedagogy, than the mid-nineties approaches.

Figure 4 Impact of MECE program



Source: Bellei, C. (2003b) based on CIDE (1999) *Evaluación intermedia del programa MECE-Media*, Santiago.²⁶

3.2.2 Montegrande Project (1997–2004): Targeted program for fostering innovation in selected secondary schools

As well as the extension of the school-day, and special measures to support the professional development of teachers, in 1996, the government established a project to

²⁶ The CIDE study included an analysis of canonical correlations between sets of variables in each of the four distinguished dimensions: *inputs*, *processes*, *effects*, and *impact*. The analysis assessed significance of correlations between independent variables (like inputs provided by MECE) and dependent variables (like “processes” in the *liceos*). The magnitude of this relationship was assessed in terms of the proportion of the variation of the dependent set explained by variations in the independent set of variables. The percentages of explained variations were categorized by Bellei as *High*, *Medium-High* and *Low*, symbolized in the diagram by the width of the arrows.

promote a network of secondary schools which had the capacity to “anticipate” the reform and become exemplars of quality, equity, and innovation. With maximum political support, the *Monte grande* Project²⁷ was initiated as part and parcel of secondary level reform.

The *Monte grande* Project was also known as “*liceos de anticipación*,” because its purpose was to establish a network of select schools with a potential for innovation and the subsequent dissemination of their best practices throughout the secondary school system. The program altered the idea of targeting in Chile; the selected schools were not necessarily the poorer or most in need (although the program included these), but because they possessed the potential for innovation and were disposed to become points of dissemination and influence (Weinstein 1999).

Liceos competed to become part of the program. They had to present a project that satisfied the following criteria: substantive impact on student learning levels; responsiveness to students’ social and cultural characteristics; and potential for dissemination. Further, each applying school had to have at least 15 percent of its enrollment in conditions of “social vulnerability” (defined by an official indicator), together with sound institutional conditions and commitment. More than two hundred (222) presented proposals and 51 schools were selected. The winners represented every region of the country and both secondary education modalities. The selection was made by a specially appointed, politically plural, high level commission, which guaranteed transparency and legitimacy for a process which would provide substantial public resources to only a few schools—in some cases not more than two or three per region.²⁸ Each school received a fixed amount of \$100,000 per year, for four years, plus \$100 per each student over an enrollment of 100 in the four years. Over the course of the project, *Monte grande* schools received sums which varied between \$410,000 (the smallest *liceo*), and \$610,000 (the largest one). In terms of per-capita expenditure, on average the *Monte grande* schools received 25.9 percent more than schools receiving the normal per-

²⁷ *Monte grande* is named after a small town in northern Chile where the Nobel laureate Chilean poet, Gabriela Mistral was born. The notion that every secondary student of Chile, regardless of origin, could consider a journey as long as that of Mistral’s thanks to their education was a foundational notion of the program. See: Ministerio de Educación, Proyecto Monte grande (2000).

²⁸ The commission included the whole of the political spectrum: from an ex-educational authority of the Military regime (María Teresa Infante) to an ex-senator from the Communist Party (Volodia Teitelboim), educational experts from the government and the opposition think-tanks, representatives from the Catholic Church, business and the regions.

student subsidy (Mineduc *Montegrande* 2004a, 2004b). General and vocational, municipal and private subsidized schools participated within a broad socio-economic profile. Vulnerable students made up between 15 and 70 percent of total enrollments. In total, these schools enrolled about 40,000 students, or 7 percent (in 1997) of the total of the publicly funded secondary education system (Weinstein 1999).

As project execution commenced it became clear that the designed pre-requisites of “institutional robustness” and “potential for innovation” varied enormously between schools. Although understood by the selection committee, the heterogeneity between, and weakness of, many of the institutions became much more salient during the first stages of implementation. Without altering the “decentralized” nature of the implementation process, the ministry responded by organizing its school support in different ways—helping the weaker ones and leaving the stronger to carry out their projects with greater autonomy.

The schools’ innovation projects had diverse and broad foci. Examples are: intercultural education, capacity building in initiative and proactivity (entrepreneurship), use of ICT, preparation for the world of work and employment, citizenship education, and social responsibility.²⁹

The ministry supervised each school’s *annual operational plan*, against which it allocated resources to be administered by the school head. This required a major administrative innovation, as no school director in the municipal system had faculties to administer financial resources, which were the exclusive responsibility of the Municipal administration. The *Montegrande* Project became a particularly rich laboratory in practical decentralization, reaching the school level for the first time in Chile. The Ministry provided intense and systematic educational and management assistance to the schools. It did this via a centrally managed, national level team, using different support strategies, relative to their strengths and needs, for each *liceo* and *colegio*. The program conceptualized and put into practice a new concept of supervision, based on principles of “management of differences” (to each school according to their needs) and “support and pressure” (*Montegrande* tutors were credible on both counts). The school projects

²⁹ For description of components, strategy, and achievements of the *Montegrande* program, see: Ministerio de Educación, Proyecto Montegrande (2000).

followed a clear pattern. They started with all-encompassing goals and strategies, spending their resources on hardware (buildings, computers, equipment); in the final three years, the projects focused on the need to improve learning results and expenditure moved towards “educational software,” teachers’ professional development, and technical assistance for curriculum, pedagogy, and evaluation.

Results

At project completion (end of 2004) the 51 *Montegrande* schools, when measured against criteria specifying the degree of comprehensiveness of the changes brought about by participation in the program, fell in three categories. Thirty *liceos* satisfied the criterion of “reform anticipation” schools, successfully completing a comprehensive set of improvements and innovations, and became illustrations of exemplary practices for other institutions. Twelve other schools made partial institutional innovations and improvements, while nine schools dropped out of the project, as they were unable to meet minimal change requirements (Ministerio de Educación, Programa Montegrande 2006).

Between 1998 and 2003, *Montegrande* schools, on average, obtained significant increases in language and mathematics learning results, as measured by SIMCE national tests, irrespective of the socio-economic level of the school. As we shall describe in Chapter 5, the increases were more marked in the last third of the program, when the school innovations and improvements could be said to have taken root.

3.2.3 High School for All Program (2000–2006): A program for reducing dropout rates and improving learning results among the poorer 25 percent of secondary schools

When nearing completion, the MECE program recommended that an external expert team carry out an analysis of all secondary schools in the country, looking at the social characteristics of their enrollment (education and income of parents, social vulnerability of students), dropout rates, and institutional features.³⁰ In March 2000, the new government, with a diagnosis of secondary school heterogeneity, decided to launch a program specifically

³⁰ Mizala, A., Romaguera, P. (1999).

targeted to the poorer *liceos* in Chile. The primary objective was to improve youth access and retention rates, and also to increase language and math learning results.³¹

The program consisted of 424 *liceos* (32 percent of which were subsidized secondary schools). In 2001, their students represented 28.4 percent of the total subsidized secondary enrollment. Two key features characterized their socio-economic institutional profile: parents' average schooling was 7.2 years, (as compared to 9.2 years in the average of the *liceos*) and 73.9 percent of the parents belonged to the lowest income quintile.

The program had three components. The first was “retention scholarships,” or money directly assigned to selected students through a savings instrument administered by a state bank.³² The grant is given to students identified by the school as “most at risk” of dropping out (those who fail to attend classes, receive low grades, are a year older or more than the class average, and who tend to work for an income). The following table shows this component's evolution, which leaped from 3,125 beneficiaries in 2000 to 16,000 in 2004.

Table 9 Scholarships for at risk of dropping out students 2000–2003

Year	2000	2001	2002	2003	2004
N° of students	3,125	6,125	10,000	13,000	16,057

Source: Ministerio de Educación (2005). *Programa Liceo Para Todos*.

The second component is targeted at those students who drop out during the first grade of secondary education (year 9) and consists of a set of pedagogic actions to “level out” knowledge, language, and math abilities not achieved in primary education, to the grade minimum (as defined by the national curriculum).

The third component of *Liceo para Todos* can be considered an adaptation of the *School-based quality improvement projects* of MECE. It consists of a “Plan of Action” defined by each school, against which the Program allocates resources (dependent on enrollment). The school has to propose ways to reduce dropout rates in terms of the following dimensions: teaching, personal and social needs of the students, school management, and relations with the community.

³¹ The new Minister of Education, Mariana Aylwin, responsible for the initiative, had been the Coordinator of the MECE program in 1998–1999. To shared orientations and strategic aims between President Frei and President Lagos governments, the continuity added in this case that of the top leadership in the Ministry.

³² The grant's amount was US\$200 per student, per year, in 2003.

The program's main cost component—scholarships to lower the risk of dropping out—was drastically expanded in its coverage and importance when, in 2003, the government established by law a differential subsidy for every student in conditions of extreme poverty who completes his or her grade and is enrolled in the subsequent one. This applies to grades 7 up to 12. The subsidy increases with the grade—as the risk of dropping out also increases—and costs around 25 percent more on average than the normal subsidy, as it is paid to the school owner or administrator only when the student is enrolled in the subsequent grade. The total number of students who have benefited is estimated to be around 126,000, of which approximately 84,000 are in secondary education (Lemaitre, Cerri, et.al. 2003).

As of yet there is no evidence about this strategy's impact on student access and retention, and more time is required to assess the most difficult aim of *Liceo para todos*: to “level out” educational achievements of the poorer secondary students.

3.3 Curriculum reform

The reform of the secondary education curriculum of 1998–2002 involved three issues: legal, social, and economic. The legal requirement was part of the law passed in the last day of the military regime (*Ley Orgánica Constitucional de Enseñanza*, LOCE, March 1990) which established the decentralization of the school curriculum and an end to the Ministry of Education's sole control over it. For the first time since the end of the nineteenth century, schools could define their own programs of study, provided these complied with the national curriculum framework, which was to be developed by the Ministry of Education and approved by a new public body, the *Consejo Superior de Educación*, mandated to be the final authority for the regulation of the school curriculum.³³ Socially, curriculum reform had to respond to a very diverse student body—a result of the sustained expansion of enrollment—while the economic challenge entailed providing families and labor markets with an opportunity to

³³ The *Consejo Superior de Educación* (Higher Council of Education) is an autonomous public institution whose functions include: the official recognition of new universities and other tertiary level institutions; approval of the official school curriculum elaborated by the Ministry of Education; and appeals instance for schools whose autonomously defined curricula had not been approved or recognized by the latter. The *Consejo* is presided over by the Minister of Education and is made up of eight members, designated by institutions from the following domains: state universities, the scientific community, the Supreme Court and the Commanders in Chief of the Armed Forces. It is evident that the Council has a composition which is not harmonious with its functions regarding the school system's curriculum; and it is surely difficult to find comparable institutions in complex educational systems with representation by the Armed Forces.

upgrade their skills and ensure that secondary education offered adaptable, appropriate, and higher standards. Curriculum reform had to meet these demands.

Overall curricular structure

A key decision regarding secondary education curricular structures concerns the boundaries (curricular, temporal, institutional, etc) by which to draw a line between general and vocational education. This line can be said to characterize secondary education models worldwide. Its absence defines secondary education in England, the USA, Australia, Canada, and New Zealand. Germany has a dual model, with early institutional and curricular definition, and a strong link between work and industry; while France provides a third model which moves from a general to a highly differentiated *baccalaureat* structure (Moura Castro, Carnoy 1998; Trow 1977). The Chilean secondary education structure has been closer to the French model, and the reform operated within this historical matrix. Without altering institutional features, i.e., the existence of two types of *liceos*, general and vocational, the reform changed the structure of their curricula, narrowing the gap between the two modes of formative experience, and redefining the contents of each of the two experiences.

The difference between the two modes was narrowed from four to two years. The grade in which the curriculum became differentiated was postponed from grade 9 to grade 11 (or from 14 to 16 years of age). Now, the first two years (grades 9 and 10) consisted of a common general education curriculum for both academic (general) and vocational (known in Chile as “technical-professional”) education. Prior to the reform the common curriculum ended with primary education, or grade 8. Now students would share a common learning experience until grade 10.³⁴

In the two final years (grades 11 and 12), the curricula of both the academic and vocational strands combine general with specialized education. In the academic (or “humanistic-scientific”) stream, approximately two-thirds of the time is spent on general education, including nine traditional areas: *language, math, history and social sciences, philosophy and psychology, science, technology, physical education, art, and religion.*

³⁴ This was a major direction decided in 1996, in agreement with mainstream ideas on curriculum reform at the secondary level. See for example, the World Bank’s *Secondary Education Policy Note (28 July 2003)*, which, drawing on world-wide assessments of the issue states: “The type of knowledge, competencies and skills demanded by the society of the 21st century are better addressed through and academic-oriented curriculum.”

Conversely, in the professional-technical strand about two thirds of the time is devoted to specialized education.

Prior to the reform, the technical-professional school system offered as many as 400 vocational specialties. Meanwhile, the reform identified 46, which expert groups organized into 14 economic sectors or occupational groupings: *administration and commerce, metalworking, electricity, chemicals, construction, logging, mining, graphics, food technician, garment industry, social projects, hotels and tourism, farming, and fisheries*. The new specialties have a stronger bias toward general education, and their specific contents and practices were designed to prepare students for a life of work in a particular *occupational sector* rather than for a *particular job*. The difficulty is to predict changes in technologies and occupations, and so the need to prepare students with flexible skills. The new specialties were defined by “graduating profiles,” capacities to perform an occupationally defined set of tasks and functions, and that a student should acquire before leaving school (Miranda 2003).

The new technical-professional education curriculum meant a drastic redefinition of the times allocated to the specialized areas. Table 10 illustrates the very wide time variations in twelve specialties before and after the reform.

Table 10 Time differences in the plans of study of 12 selected technical-professional specialties; comparison with time frame established by the curriculum reform

Specialty	Number of plans of study examined Pre-Reform	Total number of hours, years 9 to 12 Pre-Reform		Total number of hours Reformed Curriculum Years 11 and 12
		Minimum	Maximum	
Farming	71	2,418	4,290	2,028 + optional 312
Pre-school assistance	45	2,223	3,861	
Secretarial studies	156	2,457	3,900	
Textiles	14	2,184	3,588	
Electricity	46	2,652	4,017	
Car mechanics	56	2,769	4,095	
Accountancy	124	2,418	3,705	
Building	26	2,496	3,783	
Forestry	23	2,574	3,783	
Food technician	46	2,379	3,549	
Fisheries	11	2,379	3,510	
Mining	20	3,081	3,549	

Source: Ministerio de Educación, Unidad de Currículum y Evaluación (1998). Decreto Supremo de Educación 220 (1998) and its modifications (2000 and 2001).

Specialized education within the academic strand (in the last two grades) requires that part of students' plan of study be devoted to a combination of courses (not less than two and not more than four). Schools autonomously define which courses to offer, but within the subjects (and their contents) defined by the national curriculum framework. Students themselves choose the combination of courses based on preference and personal interest. The courses making up this specialized mode, while belonging to the same previously mentioned curricular areas of general education, treat contents and objectives in greater depth and breadth, allowing for a significant measure of specialization in the final two years of the schooling sequence where there was almost none before the reform.

Tables 11 and 12 show the time frame for "humanistic-scientific" and "technical-professional" modes of secondary education, as well as of "non-regulated" time, allocated by each school to its own curriculum.

Table 11 Time-frame, Humanistic-Scientific secondary education

Grade	General formation weekly hours	General formation yearly hours (*)	Specialized formation weekly hours	Specialized formation yearly hours	Non-regulated weekly hours	Non-regulated yearly hours
1° (year 9)	33	1,287	0	0	9	351
2° (year 10)	33	1,287	0	0	9	351
3° (year 11)	27	1,053	9	351	6	234
4° (year 12)	27	1,053	9	351	6	234
TOTAL Four years %		4,680 71%		702 11%		1,170 18%
TOTAL number of hours 4 years: 6,552						

(*) Note: The yearly total of hours corresponds to 39 weeks of classes per year, with Full School Day reform implemented.

Source: Decreto Supremo de Educación 220 (1998) and its modifications (2000 and 2001).

Table 12 Time-frame, Technical-Professional secondary education

Grade	General formation weekly hours	General formation yearly hours (*)	Specialized formation weekly hours	Specialized formation yearly hours	Non-regulated weekly hours	Non-regulated yearly hours
1° (year 9)	33	1,287	0	0	9	351
2° (year 10)	33	1,287	0	0	9	351
3° (year 11)	12	468	26	1,014	4	156
4° (year 12)	12	468	26	1,014	4	156

TOTAL						
Four years		3,510		2,028		1,014
%		54%		31%		15%
TOTAL number of hours 4 years: 6,552						

(*) Note: The yearly total of hours correspond to 39 weeks of classes per year, with Full School Day reform implemented.

Source: Decreto Supremo de Educación 220 (1998) and its modifications (2000 and 2001).

The contents and focus of subjects

The reform included subject changes in *orientation* and *content*, according to three criteria: i) changing from an emphasis on contents to skills or competencies; ii) updating and enriching subjects, or requiring higher standards of achievement in them; and iii) ensuring meaning or relevance of the curriculum by pursuing connections to students' lives. Given the needs of an information and knowledge-intensive society, the skills that are emphasized by the new curriculum are: ability for abstract and systemic thought, experimentation and learning to learn, communication and co-operative work, problem resolution, managing uncertainty, and adapting to change. The new curriculum also promotes civic habits and attitudes built upon democratic values and human rights. It underlines the importance of students' understanding of the inherent tension between rights and obligations, solidarity and competition, loyalty and skepticism, order and criticism, openness to globalization, and identity. Values education should develop students' moral sensibilities and understanding in ways that are relevant outside school (Ministerio de Educación, Report to OECD, in OECD 2004).

New university entrance examinations and their impact on the implementation of reformed curriculum

In 2000, the national university entrance examinations were changed by agreement between the consortia of traditional universities and the Ministry of Education. The examinations had followed the model of scholastic or academic “aptitudes,” adopted at the end of the 1960s, and closely following ETS’ Scholastic Aptitude Test (SAT). The new examination is now based on a curriculum-referred model, similar to university entrance examinations in Europe and beyond (“A level” examinations of England, *Baccalaureate* of France, *Abitur* of Germany, *Bagrut* from Israel, etc), (Britton and Raitzen 1996). The new examination is to be coherent with the knowledge explicitly set out in the secondary education national curriculum. The principal reason is to align a very high-stakes examination with the formative experience provided by school curriculum, thus enhancing students’ and teachers’ motivations and, from the universities’ viewpoint, strengthen the preparation of their prospective undergraduates (Comisión Consejo de Rectores, Ministerio de Educación 2000). (This will be explored further in Section 4.2.)

Curriculum reform and international trends

In closing this brief account of the key features constituting the backbone of the *reform* dimension of the educational policies being analyzed, it is relevant to consider them against world-wide trends in secondary education curriculum reform.

The above mentioned re-orientation of contents can be described more generally in terms of a double orientation, labeled by a recent World Bank study on global secondary education reform trends as: “building metacognitive capital and creative capital” on the one hand, and “building social capital, preventing social conflict, and learning to live together,” on the other. Both orientations lie at the basis of the new “desired” curriculum, and are upheld as worldwide educational requirements for the knowledge society (World Bank 2005: pp.80–82).

Regarding the combination and balancing of the three fundamental variables of secondary education curriculum policy—selection and specialization, academic-vocational balance, and the disciplinary or non disciplinary nature of curriculum design and development—the Chilean case matches most of the features described by the aforementioned World Bank study as an example of “Scenario 2.”

Specialization and selection deferred to the end of the lower secondary level. System of elective subjects as a device to introduce limited internal

differentiation. Vocational education pushed to the upper secondary level. Some emphasis on introducing vocational elements in the common curriculum. Cross-curricular issues and interdisciplinary approaches are considered, but traditional areas continue to frame the secondary curriculum. (World Bank 2005: p. 93)

3.4 Full school day (FSD) reform: expansion of the time-frame of schooling

The decision to extend the school day was based on three criteria: international comparisons that showed that the Chilean educational system operated with a shorter school-day than most developed countries; new, and more demanding, learning objectives established as part of the curriculum reform; and a comparison with elite Chilean schools, most of which operated under a full-school-day system (Bellei 2005). The decision taken by President Frei Ruiz-Tagle and his Ministers of Finance and Education (Eduardo Aninat and Sergio Molina) in May 1996, meant the redefinition of the time-frame of schooling, abandoning the two shifts of six pedagogical periods, predominant since the 1960s, to the full school day, consisting of eight 45-minute pedagogical periods. The change allowed the student more time for curricular subjects and extra-curricular activities—now only one group of students would make use of school facilities. This change required major infrastructure investments and organizational adjustments in schools, but with encouraging possibilities for both quality and equity goals.

According to a 2003 report of the Ministry of Education to the OECD, “The longer school day was based on quality requirements: the higher cognitive skills required by the new curriculum to meet teaching objectives take more time; the time required for exploring and analyzing is greater than that occupied by lectures and dictation; developmental tests and project pedagogy assumes longer test times than multiple choice tests or responses from ‘closed’ sources, such as summaries and fact sheets. The decision to move to a longer school day was also based on criteria of equity: there is an intimate link between the time factor and learning in socially vulnerable contexts. For poor groups, with different socio-linguistic codes from those of the general school culture, this experience requires learning a whole new code, which takes them more time than students from middle and upper income groups, whose family socialization already includes school codes” (OECD 2004: p. 31). Further, for socially

at-risk groups, the FSD reform directly lowers risks by increasing time at school and decreasing time in the streets.

The scale of the Full School Day reform was enormous. Its implementation increased annual instructional time (meaning “classroom-time;” this does not include lunch and recess time) from 955 to 1,216 hours (about 27 percent) at the secondary level. The impact of longer school hours for each system level and costs (paying the extra teaching time) is found in Table 13.

Table 13 Increase in teaching hours (weekly and yearly), by grades and modality of secondary education as a result of the full day school reform; percentage increase in per-student subsidy

	Weekly hours Pre-reform	Weekly Hours Post-Reform	Yearly Hours Pre-reform	Yearly Hours Post-Reform	Percentage increase in Yearly hours	Percentage increase in Per-student subsidy
Humanistic -Scientific; Grades 1° and 2°	33	42 (*)	1,287	1,638	27%	34%
Humanistic -Scientific; Grades 3° and 4°	36	42	1,404	1,638	17%	34%
Technical-Professional, Grades 1° and 2°	36	42	1,404	1,638	17%	24%
Technical-Professional, Grades 3° and 4°	38	42	1,482	1,638	11%	24%

(*) For the first two grades of humanistic-scientific secondary education, the FSD reform means an extra 351 classes per year, equivalent to close to three additional months of pre-reform school-work (11.7 weeks of 30 hours).

Source: Ministerio de Educación, UCE 2003.

The investment in school infrastructure as a result of the change in the length of the school day amounted to about \$883 million between 1997 and 2003, and more resources for hiring teaching hours, as the last column in the preceding table shows. Between 2004 and 2006, another \$800 million will be invested in infrastructure (Ministry of Education, Departamento de Infraestructura Escolar 2006). In 1997, the country had 9,013 schools with public funding. By the end of 2005 this number had reached 9,495. Of the initial total of schools, 3,384 (mostly rural) established the full school day that same year as they already had the necessary infrastructure. As of December 2005, 7,115 schools (primary and secondary, municipal and private subsidized) with an enrollment of 1,950,870 students, (64.6 percent of the subsidized enrollment) had applied the full school day. In seven consecutive public competition processes for building school infrastructure between 1999 and 2005, 3,731 schools were expanded or

completely rebuilt (Ministry of Education, Planning Division, JEC program 2005). (See Section 4.3 for main features of the process.)

A rigorous econometric study, which was carried out to estimate the causal effect of the FSD reform on secondary schools students' learning outcomes as measured by SIMCE (Bellei 2006), concluded that the FSD program had a statistically significant positive effect on students' achievement in both mathematics and language. Albeit small, (about 0.05 to 0.07 standard deviations), the estimated program effect-size was particularly robust in language (not sensitive to select student and school covariates, other control groups, and control for historical trends).³⁵ Furthermore, the program had larger positive effects on rural students and on students who attended municipal schools.³⁶ Finally, the study also demonstrates a larger positive effect on the upper part of the students' achievement distribution.

3.5 Legal redefinition of mandatory years of schooling

The Economic Commission for Latin America (ECLAC) defines twelve years of education as the minimum needed to build skills for future employment (CEPAL 1996). With the highest coverage in secondary education in its history, Chile decided to make secondary education obligatory, changing the legal definition of the mandatory years of schooling from 8 to 12 years. Congress approved the required constitutional amendment unanimously on May 7th, 2003. The reform established the right for every person, up to the age of 21, to attend a secondary education institution, thus legally enforcing secondary school opportunities for those who have dropped out or lag behind their age cohort. This norm is aimed at youngsters who have failed to complete their secondary education and will require continued government support through the *Liceo para Todos* program, strengthening social assistance policies for

³⁵ Regarding this small estimated effect-size, it should be noted that not all extra time provided by the FSD reform was allocated to instruction in language and mathematics. As previously mentioned, for years 9 and 10 there was an increase in time of about 27 percent, and secondary schools allocated, on average, about 42 percent of that time to academic instruction (DESUC 2001). This means that, by strict definition, Bellei's study evaluated the impact of about an 11 percent increase in academic learning time.

³⁶ Bellei advances the hypothesis that a longer school day implies a greater change in the daily routines for rural than for urban students, as the former frequently spend part of their out-of-school time helping in the labor activities of their families. Thus, the FSD would potentially increase the available learning-time proportionally more for rural than urban students. Regarding the greater effect on municipal students, Bellei's study hypothesizes that it is possible that these students have, on average, fewer educational resources at home not included in the SIMCE information (e.g. available time, physical space, and help with homework). Thus, an extended school day would imply for these students a comparatively larger increase in the available educational resources (Bellei 2006: Section 7).

students at risk of deserting school, and special programs that offer second chances and possibilities of “catching up” for grade repeaters and dropouts. The special subsidy for students coming from families living in extreme poverty (see section 3.2.3 on *Liceo para Todos*) will provide financial incentives to strengthen the law.

3.6 Professional development programs for teachers

All three programs targeted to improve secondary school quality and equity—MECE, *Montegrande* and *Liceo para Todos*—contained important professional development components for teachers. A transversal feature of these is that they rest on peer-learning and school-based professional development activities. The reform that started in 1996 added significantly to these “bottom-up” and “peer-group self-reflection” approaches to the challenge of upgrading professional capacities within the school system. Two new programs supported university training institutions and scholarships for teachers to study abroad, and should be understood within the context of the Full School Day and curriculum reforms. In addition to these, in 1998, a massive training and upgrading program was added for all teachers in every grade adopting the new curriculum. The fundamental components, strategy, and annual costs of all three programs are detailed in the following table.

Table 14 Three programs for upgrading teacher capacity

Programs	Components and/or distinctive strategy	Units covered	Coverage (a)	Average annual resources (b)
Initial teacher training institutions 1997–2002	Substantial resources for institutional and curriculum enrichment at university teacher training centers	17 University Faculties of Education	79% of enrollment of teacher training institutions	\$4.9 million
Fellowships abroad, 1996–post 2002	Fellowships to study abroad for six to eight weeks and six-month diplomas, (three months abroad and three in Chile)	800 teachers per year (primary and secondary)	4.4% of total teachers from 1996–2003	\$5.4 million
Curricular training 1998–2002	Training in the new curriculum, provided by universities	37,264 teachers (average per year, primary and secondary)	Over 90% of teachers involved in implementing the new curriculum (1998–2002)	\$7.5 million

Source: Cox (2003).

Teacher training for implementation of the curriculum reform

A massive effort to support teachers in their appropriation of the new curriculum was implemented between 1999 and 2002. Courses corresponding to the curricular areas and grades to be implemented the following year were offered in the summer of each school year. The training courses were free and voluntary for teachers and management and consisted of a 70-hour course during summer holidays, and upgrading activities during the winter holidays, either in person or through distance learning, particularly in those subjects where the curricular reform implied more complex and demanding changes. The courses were provided by universities, which competed for Ministry of Education contracts, and which had vast coverage, reaching over 80 percent of all teachers in the relevant grades each year, but having small impact on classroom teaching.

Table 15 *Teachers participating in courses for implementation of the new curriculum*

	1999	2000	2001	2002
Primary	22 143	27 050	26 615	23 530
Secondary	11 174	13 107	15 672	9 770
Management	5 504	6 634	5 674	-----
TOTAL	38 821	46 791	47 961	33 300

Source: Ministerio de Educación, CPEIP (2003).

There is no room here to expand on the well-known shortcomings of “cascade” models of in-service teacher training. The Ministry itself conceived of these courses as “familiarization” with the new curriculum, and put the emphasis on reaching the whole of the teaching population, which it achieved. Starting in the year 2000, the Ministry opted for other strategies, offering reduced coverage and more intense, practical (as opposed to discursive), and classroom-focused activities.³⁷ A recent report by the Ministry assesses that the supply of opportunities for professional development to in-service teachers “*are not always relevant...as they do not provide sufficient orientation for understanding and putting into practice the curriculum and pedagogical changes favored by the reform.*” Furthermore, it states, “*there is a lack of modalities of in-service training which provide*

³⁷ Two primary-level programs have been in progress since 2003. One (LEM Program) focused on language and mathematics teaching for the first cycle, based on tutorial support and supervision of classroom teaching; and another (ECBI Program) for the teaching of science, based on hands-on, experiential methodologies. Both imply intensive practical tutorial work with teachers and, until now, reduced scales (in 2005 the programs included 285 primary schools and just over 2,300 teachers).

explicit references to, and support in, classroom teaching” (Ministry of Education 2006: 37–36). Official data from the *Registro Público* of accredited courses provided by universities and other institutions for 2001–2004, shows that only 19 percent of the total courses are oriented toward secondary teachers, and of these, only a small percentage (2 percent) referred to pedagogical content knowledge in the key disciplines of the curriculum. We shall come back to this in Chapter 6.

Initial teacher training

Between 1997 and 2002, 17 university institutions involved in teacher training (covering about 78 percent of students studying education) implemented comprehensive reform projects. These projects were won through a competitive process among a pool of 32 institutions. The Ministry of Education set the parameters and guidelines, placing a high priority on student practices, and commitment to and strategies for linking education faculties to disciplinary faculties in universities, as well as to the school system.

Each university received on average \$1.7 million between 1997 and 2002. The program also included grants to cover tuition and study materials for high school graduates with good academic records who applied for teaching careers.

According to the often mentioned report of the Ministry to OECD, three results stand out:

At the curricular level, student teachers’ practicum [sic] were viewed as more important and moved up from the end of the process to the beginning. They also ceased to be treated as a poorly supervised formality and became a major factor defining training. Second, universities and the ministry of education jointly developed graduation standards for teachers, which make it possible to evaluate student teachers’ performance at the point when they complete their studies and the institutions where they are trained. Third, scores for entering teaching programs also rose, through a strategy of providing grants and support to excellent applicants. (OECD 2004: 24)

The program, together with a substantial increase in teachers’ wages and improvement of their working conditions, is yielding important results. Throughout the eighties and until the mid-nineties, places in university teaching programs often went

unfilled. In contrast, in 2002, for the first time, education was the university program of study with the most applications in Chile, displacing engineering. Moreover, this change was not the product of reduced standards. On the contrary; the quality of students admitted has risen significantly with higher-than-average university admission examination scores (*Prueba de Aptitud Académica—PAA*) as the following table shows.

Table 16 Average score for admission to a teaching program: 1998–2003

Admission Year	Average PAA Score	% Change
1998	536.5	
2000	590.93	10.1%
2001	604.80	2.3%
2002	616.65	2.0%
2003	624.29	1.2%

Source: DEMRE, University of Chile (2003).

Fellowships abroad

Since 1996, teacher upgrading has included study-abroad scholarships, (*Programa de Becas en el Exterior para Profesores*). Every year, between 1996 and 2003, the Ministry of Education has selected a group of teachers to study best practices abroad, to strengthen their professional knowledge, and encourage innovation. Teachers have attended educational centers in Argentina, Belgium, Bolivia, Brazil, Canada, Colombia, Cuba, England, France, Germany, Israel, Mexico, The Netherlands, New Zealand, Peru, Puerto Rico, Spain, and the United States. The following table shows the number of teachers who have benefited by year.

Table 17 Grants for teachers to study abroad: 1996–2003

Year	1996	1997	1998	1999	2000	2001	2002	2003	Total
Teachers	588	796	902	936	916	462	460	400	5,460

Source: Ministerio de Educación, CPEIP (2004).

4. The “Micro” Process: Different Political Economies for Different Contents

The three main components of secondary education reform—the MECE program, the new curriculum, and the Full Day School reform—even though they form part of an overall strategy, were initiated, determined, and implemented in very different ways. In this section we will attempt to compare these differences and provide a perspective on the reform process by using three sequential categories from which we can draw some tentative conclusions: generation of ideas or agenda setting, decision making, and implementation

4.1 MECE

Political and knowledge basis

The government’s preparation for secondary reform, which became an agenda-setting process, rested on a set of strategies. These included: to build research-based knowledge about the secondary education system and its future challenges and to organize a consensus-building process aimed at public opinion in general and national leadership in particular. This process was possible because the new government had made primary education its first priority.

Research projects instrumental for policy design and implementation

In 1990, the government could rely on valuable research on primary and higher education in Chile, carried out by a network of independent research centers during the 1980s. This was not the case for secondary education which had not had been an object of systematic research.³⁸ Thus, with an urgent need to construct an analytic basis for policy design, the Government set out a series of research issues and organized a competitive call, in six areas, for universities and independent research centers to execute the research. The six areas were:

- Social demands on secondary education

³⁸ A 1989 article underlines that in the whole of the 1980s only four papers on secondary education have been published by the Chilean research field (Cariola, Cox 1989). It should be recalled as well that the military government did not support this type of research.

- Curriculum and structure of secondary education
- Teaching practices
- Evaluation of learning results
- Economic efficiency of secondary education's two modalities (general and vocational)
- Initial teacher training

Thirteen studies were publicly offered for tender, the results of which appear in Table 18.

Table 18 *Thirteen research projects for informing policy design (1991–1992)*

Research project	Institution
1. Social demands to secondary education	Centro de promoción Universitaria (CPU) and Centro de Investigación y Desarrollo de la Educación (CIDE)
2. Description and evaluation of curricular reform of the 1980s' implementation	Universidad Católica de la Santísima Concepción de Talcahuano
3. Analysis and evaluation of models for curriculum design and development	Universidad de Santiago de Chile
4. International comparative experiences in curriculum development	Centro de Investigación y Desarrollo de la Educación (CIDE)
5. Curriculum design for secondary schools of rural areas	Universidad de la Frontera, Universidad de Concepción, Universidad Austral de Chile
6. School practices 1 (ethnographic study, focus on teaching)	Programa Interdisciplinario de Investigación en Educación (PIIE), Universidad Católica de Temuco, Universidad de La Serena.
7. School practices 2 (focus on students' work)	Universidad de Chile
8. Evaluation of the quality of Chilean secondary education	Pontificia Universidad Católica
9. Indicators of coverage	Pontificia Universidad Católica
10. Design of a model of supervision and management of processes in secondary education	Pontificia Universidad Católica de Chile and CIDE
11. Labor destinations of school leavers	Pontificia Universidad Católica
12. Economic evaluation of internal and external efficiency of secondary education	Universidad de Santiago de Chile
13. Existing and required curricula for secondary teacher training	P.Universidad Católica, Universidad de Magallanes, Universidad Católica del Norte, Universidad Católica de Temuco, Universidad de Atacama, CIDE, Colegio de Profesores.

Source: Ministerio de Educación, MECE (1994).

The results decisively transformed the understanding of secondary education in Chile. The diagnosis provided greater knowledge about the role of secondary education, first about society and the labor market, and second in terms of the processes of secondary education—curriculum, pedagogy, teacher training, supervision—in quantifiable and specific terms. By the beginning of 1993, the Ministry of Education had a valuable knowledge base, allowing the first steps towards secondary reform policy. The best research was published and distributed to key actors, so that the new knowledge became a platform for open discussion.³⁹

A nation-wide consultation process on secondary education (1992)

The Ministry of Education began its policy preparation by organizing a consultation process with all state-funded secondary schools or *liceos*. It knew that a far-reaching change, as research showed, would require the agreement and commitment of all actors. Moreover, such agreement would be more likely if there was a common national diagnosis of the problems, challenges, and opportunities facing secondary education.

The process was called a “national conversation” on secondary education (*Conversación nacional sobre educación media*), and it consisted of discussions of a Ministry document outlining the key themes of structure, quality, and equity of secondary education, and it took place in practically every secondary school of the country. The invitation was open and inclusive: every school would decide how to organize its discussion. The participant groups produced a report for the Ministry of Education on the topics discussed, while the Ministry was committed to report on the process and its results at a national level, which would then be returned to every participant school.

Response to the *conversación nacional* revealed the strong interest of Chilean society in secondary education, and this interest was not confined to the educational

³⁹ In 1994 and 1995 the Ministry published five books with the main results of the research effort from 1991–1992: F. Oteiza, P. Montero (coordinadores) *Diseño de currículum. Modelo para su producción y actualización* (Mineduc, MECE, 1994); L. Cariola, G. Labarca et. al., *La educación media en el mundo. Estructura y diseño curricular en diferentes países* (Mineduc, MECE, 1994); V. Edwards, C. Calvo. et. al., *El Liceo por dentro: estudio etnográfico sobre prácticas de trabajo en educación media* (Mineduc MECE, 1995); M. Errazuriz, R. Gonzalez, et.al., *Demandas sociales a la educación media* (Mineduc MECE, 1994); V. Salas, M. Gaymer, *Evaluación económica de la educación Media* (Mineduc MECE, 1995).

community. Over 2,043 groups (more than the 1,350 state-funded schools at the time, and more than the 1,865 total schools participating in the process) reported to the Ministry from every region of the country, and twelve percent of the participant groups did not belong to a school community at all. These included members of community organizations, university lecturers and students, unionized workers, Catholic Church community groups, members of neighborhood organizations, and municipal representatives.

Table 19 Participant groups and number of reports by region, in consultation process on structure, quality, and equity of secondary education (1992)

Region	Participant groups	Number of reports	Number of Schools	% of the total number of secondary schools participating
I	190	217	41	2.2
II	79	111	52	2.8
III	24	28	33	1.8
IV	152	167	62	3.3
V	137	211	285	15.3
VI	39	88	92	4.8
VII	463	552	100	5.4
VIII	265	358	184	9.9
IX	59	102	115	6.2
X	85	154	138	7.4
XI	75	95	13	0.7
XII	60	124	22	1.2
Metropolitana	415	690	728	39.0
TOTAL	2,043	2,905	1,865	100.0

Source: Ministerio de Educación, Programa MECE (1993).

The key topic in terms of reform was “structure.”⁴⁰ The options discussed were: i) conserving a clear cut general/vocational division of four years each; and ii) transforming the structure toward a comprehensive model, with a minor specialization

⁴⁰ Other discussed topics were: values, teachers, quality of results, youth, and equity.

in the final two years. Just above half of the groups coming from the humanistic-scientific schools (54.7 percent) rejected the change toward a comprehensive model; 67.3 percent of the groups coming from technical-professional secondary schools also did so (Mineduc 1993: Table 5). Five years later, as will be discussed below, a more detailed and balanced curriculum reform proposal, including this revised structural dimension, was the subject of a consultation. This time the majority of schools supported the proposed changes.

International contributions

The World Bank helped MECE's preparations by supporting an international seminar on secondary education reform agenda in Santiago in September of 1992. On this occasion the multilateral institution was a "stakeholder" with strong views on investing in secondary education and the options regarding general and vocational education.⁴¹ The World Bank also supported a study tour to Asian countries (Korea, Malaysia, and Singapore), for a group of ministry officials, researchers, and business, community, and teachers' union representatives, to see these countries' secondary education systems and to discuss among themselves and the Bank's experts.

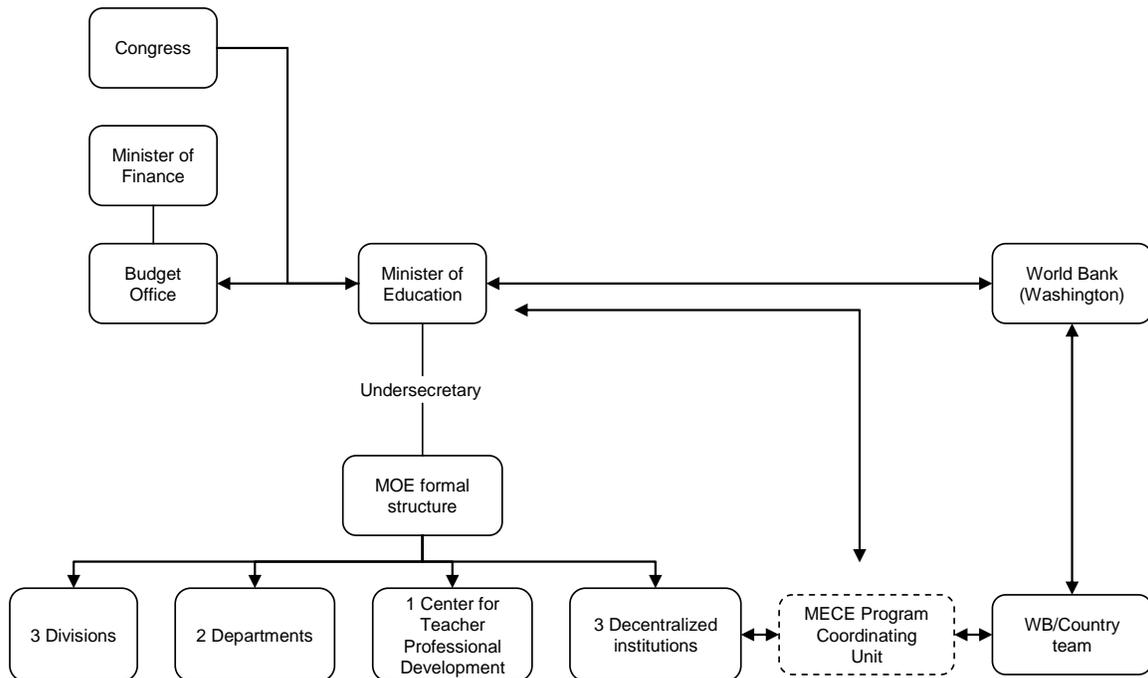
During the two MECE projects, Bank supervision and evaluation routinely provided the Chilean authorities with external evaluation and information about implementation processes. For Chile, the international comparative viewpoint was a constant source of knowledge and assessment.

Institutions and key actors in MECE's approval and decision-making

The field of decision-making portrayed in the next diagram illustrates that MECE was decided within the government. It was a bureaucratic field, as there were no major decision makers external to government, apart from the World Bank. This has to be qualified though, as Congress has authority over the annual budget of the Ministry of Education, and through this, the MECE-Program was accountable to Congress. The participation of Congress, however, was applicable to the implementation rather than design phase.

⁴¹ See: Middleton, J. A. Ziderman, and A. van Adams (1993).

Figure 5 Decision-making field in MECE program



The Ministry organized a well-qualified team to carry out the program’s design and lead its implementation. They met with six World Bank identification-preparation missions (the first starting on October 12, 1992 and the last on November 9, 1994), and eight supervision missions during implementation (the first starting on August 23, 1996 and the last on January 1, 2001). Their project designs went through two phases: first, approval by the Minister and the Undersecretary and the Heads of Division of the Ministry of Education, which constituted their senior policy-making group; and then, once approved, budgeting had to be worked out with the Ministry of Finance and its Budget Office. In a parallel process, the World Bank's country teams presented different design phases to their authorities in Washington for approval and/or redesign and adjustments. Thus, MECE had a dual generating and control structure made up of Chilean political institutions and administrative regulations, and the World Bank’s procedures and rules for project generation, approval, and implementation.

MECE had no political hurdles to jump over in its inception, approval, and implementation phases; it did not create costs for any specific actor—save for the government—and its benefits covered the entire subsidized secondary sector. Its implementation was less political than policy driven. However, it did involve high administrative and technical demands

(due to the number of components, the innovative features of many of them, and the double accountability structure—of the government and the World Bank—which oversaw it), and so used considerable energy and resources.

The program did not formally consult with its beneficiaries during its design or implementation phases. The research and consultation processes of 1991–1992 influenced design planning and, very importantly, its implementation principles and procedures had decentralized mechanisms built in. As noted in the *Contents* section, the school-based quality improvement projects, the “on-demand” technical assistance network, plus the acquisition of the library materials, were all components whose key features were decided by secondary school teachers.

Implementation

From the beginning, the MECE program could rely on strong political support, not only within its Ministry but also from the Ministry of Finance and, more generally, from the government. Moreover, unlike other Ministry of Education project activities it had considerable authority and robust administrative capacities, because it was a coordinating unit made up of an innovative multidisciplinary team of young, able, and committed professionals. They, for example, introduced ICT component and new ideas about the program's execution (Jara 2003).

MECE was implemented in a step-by-step fashion. Schools joined the program in a gradual way. Different *liceos* began with different components, arranged according to their level of complexity (substantive or administrative) and the demands placed on the participating schools. MECE was continually assessed, not only by the Ministry and the World Bank, but also by an external evaluator (World Bank 2001). This provided a sound basis for adjustments, resource reallocations, and redefinition of priorities and emphases. MECE managers and the Ministry of Education found the principal shortcoming of the program to be the weaker-than-expected synergy between its different components, which tended to become caught up in increasing administrative and substantive demands and not open enough to the needs of producing, in the schools, a concerted and consistent impact—their final aim (Cox 2003).

4.2 Curriculum reform

Agenda setting and preparation: research, participation, conflict, and learning

The curriculum reform has its roots in the same research and consultation processes of 1991–92 that influenced the MECE project design. In fact, a key goal of the *Conversación*

nacional sobre educación media was to get the reaction of the users to possible changes to the general/vocational division characterizing secondary education. Although initially there was a common analysis and consensus on this issue, an early draft of a new curriculum (1992) presented by the Ministry to the key stakeholders aroused strong opposition from the associations of private education providers, the Catholic Church, academic institutions and think tanks, and the media. The proposal had been prepared by a Ministry of Education team but without external counterparts, partly because of the urgency of redefining the curriculum, a need set by the military government literally on its final day with the promulgation of Constitutional Law (LOCE of March 1990).

The proposal had been developed by a small team of educators within the Ministry, with no external counterparts, and brought to light what the opposition and the Catholic Church thought, at the time, to be a major and ominous innovation: a state definition of the values that the national curriculum should communicate through its transversal strands, i.e.: across all disciplines. Values, in this sense, referred to key contemporary issues, such as human rights, environmental and gender issues. In addition to the ideological controversy, the draft included technical weaknesses which the newly established *Higher Council for Education* raised to the Ministry and which were voiced internally as well. The Ministry found itself in the untenable position of having to defend, in a major political and media confrontation, a weak proposal, making a strong impact upon the consensus climate that permeated the transition in general and the Ministry's approach to reform in particular. The proposal was withdrawn by the then Minister (and later President) Ricardo Lagos, and the urgency of having the secondary education curriculum reformed—an urgency that had been set by the military government literally in the final day of its office through a Constitutional Law—was drastically redefined (LOCE of March 1990). The Ministry of Education and its political authorities confirmed the hard way something it already knew and which, in the hectic initial two years of the transition, had somehow slipped from its grasp: that the curriculum was politically the most sensitive area of the reform, and that its redefinition demanded high-level technical as well as political capacities and *time*. In fact, there would be no new proposal put to the public for another five years (Cox 1999 and 2004; Picazo 2001; Gysling 2003). Five key decisions were made in mid-1992:

- Curriculum frameworks for primary and secondary education were to be developed as separate processes. The latter would now depend on the success of the MECE-Primary Education project and a more substantial analytical base would be built for secondary education reform.
- Both primary and secondary curricular frameworks would have to make their value orientations explicit.
- Both curricular frameworks would have to reduce the freedom of individual schools, found in the rejected pre-proposal, to define subjects and time frames.
- Curricular definitions would not use the triple distinction of knowledge, procedures, and values to define objectives and contents.⁴²
- Cross-curricular objectives—or strands—would not consist of themes (human rights, gender issues) but of cognitive and moral abilities to be communicated through diverse pedagogic means (Gysling 2003).

The National Commission for the Modernization of Education and its Technical Committee played a decisive role in the “agenda-setting” phase of the curriculum reform. The National Commission supported the idea that secondary education reform was urgent and agreed upon key moral and intellectual orientations that a renewed secondary education should communicate. The Commission and its Technical Committee were politically plural bodies, so the value and knowledge frameworks they agreed upon were important reference points for future policy making. The Ministry would refer to this common ground when discussions and disputes again broke out over the moral base of the new national curricular definitions.⁴³

Institutions, actors, and stages in the development of the new curriculum (1992-1998)

The Ministry only decided to begin the preparations for a secondary level curriculum reform at the end of 1995. The main lesson of the false start of 1992 had been that secondary

⁴²The Chilean curriculum framework thus differs from those of Spain and Argentina, which followed this way of defining objectives and contents.

⁴³ The Commission stated that the curriculum for general education “...should offer to all Chileans the possibility to fully develop all their potentialities and their capacity to learn throughout their lives, providing them of a moral character based on the development of personal freedom; consciousness about human dignity and the essential rights and duties which emanate from the human condition; in the sense of personal transcendence, respect for the other, solidarity in social life and respect for nature; love for truth, justice and beauty; in the sense of democratic living together, entrepreneurial spirit and care for nation and motherland, its identity and traditions.” *Comisión Nacional para la Modernización de la Educación*, 1994, p.138.

reform required a strong technical and political basis, which would require organization, consensus building, agreement, and a carefully crafted proposal.

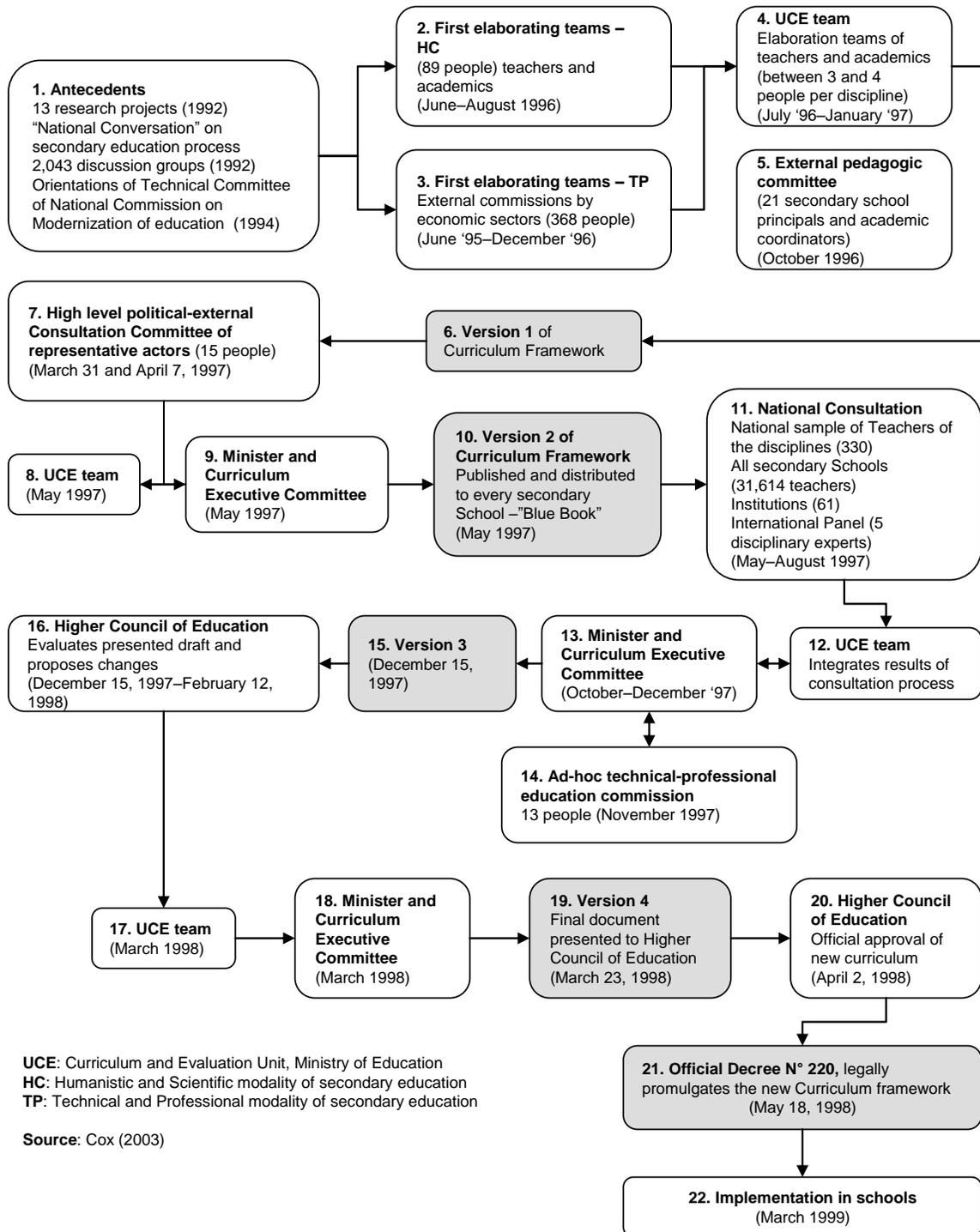
The process took almost two years (from June 1996 to May 1998). It involved many key decision-making units, which tended to vary over time and by stakeholder interest, as can be seen in Figure 6, which depicts the course of the whole process, with its myriad actors, institutions, and stages—and the many versions of what finally became the new framework. However, from the beginning, the coordinating ministerial units, which managed the process, kept to three founding criteria:

- New curriculum knowledge had to meet the need for innovation, advanced disciplinary information, teachers' views, and society's demands. So in the case of technical-professional education, it had to include information about the skill competencies required by firms of different industries and services.
- The four domains—academic, teacher, political, and productive—had to be consulted.
- The ministry itself needed a technically well-informed and competent management unit with political skills in order to develop and guide the process, not least obtaining the approval of the Higher Council of Education.

Thus, in Figure 6, according to boxes 2–5, the bodies generating the first draft of the new curriculum included academics and teachers working on the framework for general education and the humanistic-scientific modalities, external commissions for every production sector in order to develop the first competency profiles for technical-professional education, (see Table 20 for participating institutions by economic sector), and an external *Pedagogic Committee*. The first “political” consultation, designed to bring into play stakeholders’ evaluative visions and ideologies was via a high-level *Consultation Committee* of representative actors (Box 7). Their views were used by the Ministry’s *Curriculum and Evaluation Unit*. The Minister assumed final political responsibility and a specially constituted *Curriculum Executive Committee* supported him in deliberation and final decision making (Boxes 8 and 9).⁴⁴

⁴⁴ Ministers Sergio Molina (1994–1996) and José Pablo Arellano (1996–2000) headed the Curriculum Executive Committee. Minister Molina decided in 1996 to invest another year in the elaboration of the curriculum reform, to include a national consultation to teachers. Minister Arellano decided on the consequences of that process, reaching agreements with the technical-professional education establishment and deciding on adjustments to the initial proposal of the Ministry.

Figure 6 Institutions, actors, and phases in the development of a national curriculum framework for secondary education (1992 and 1995–1998)



This basic structure of recommendations, developed by a technical *cum* political internal body, in consultation with external groups—ad-hoc and institutionalized, specialized and nation wide—was redrafted three times. The most important and decisive of the cycles was that affecting version 2 of the framework, because of its scale (system wide) and consequences (it made the Ministry alter its proposal). This version was subject to a National Consultation process (Box 11) of which the main characteristics were:

- a national sample of teachers of each discipline (330 teachers);
- a consultation with 89 institutions, of which 60 reported back to the Ministry;
- a dialogue involving every secondary school in the country, which had to evaluate the proposed curriculum by area (with each disciplinary department addressing its corresponding area); 31,614 teachers participated, answering a survey that included open-ended questions.

It is impossible to write about the substantive and procedural features in a short space; they are set out in Figure 6. But suffice it to say that the different versions changed for two reasons. First, in substantive terms, the document grew closer to its future users and more precise in form, while in political terms, with each version it became better known and more accepted by ever wider circles of stakeholders and users. The initial proposal by the Ministry (version 2, “Blue Book”) was more innovative than that which was finally approved. However, this was compensated by increased feasibility.

Table 20 Participation of the productive sector in generating the new technical-professional curriculum: institutions by economic sector

ECONOMIC SECTOR	PARTICIPATING INSTITUTIONS (1995-1996)
ADMINISTRATION & COMMERCE	Cámara Nacional de Comercio y Cámara de Comercio de Santiago, Escuela de Comercio de Santiago.
AGRICULTURE	Sociedad Nacional de Agricultura (SNA), Fundación de Vida Rural, Instituto de Educación Rural, Colegio de Técnicos Agrícolas, Facultad de Ciencias Agrarias y Forestales de la Universidad de Chile, Instituto Interamericano de Cooperación para la Agricultura (IICA), Movimiento Unitario Campesinos y Etnias de Chile (MUCECH), Confederación Nacional de Cooperativas Campesinas y la Asociación Chilena de Municipalidades y Ministerio de Agricultura.
FOOD INDUSTRIES	Federación de Procesadores de Alimentos y Agroindustriales de Chile, Asociación Chilena de Gastronomía, Asociación Gremial de Industriales del Pan de la Región Metropolitana, Empresa de Alimentación en Faenas e Industrias, Federación Nacional de Trabajadores de la Industria Alimentaria, el Turismo y la Gastro Hotelaría, Instituto de Nutrición y Tecnología de los Alimentos de la Universidad de Chile, Centro de Estudios en Ciencia y Tecnología de los Alimentos de la Universidad de Santiago y 11 empresas del rubro.
MANUFACTURING SECTOR	Asociación de Exportadores de Manufactura (ASEXMA), Pro-Chile Instituto Textil, Instituto Tecnológico del Calzado, Asociación de Industriales del Calzado, Asociación de Pequeños Industriales del Calzado, Asociación de la Pequeña y Mediana Industria de Chile, Asociación de Sastres y Profesionales de Alta Costura, Federación Obrera del Cuero y del Calzado, Corporación Educacional Textil y de la Confección y las empresas Gino, Plasticor y Manufactura de Vestuario.
BUILDING SECTOR	Cámara de la Construcción, Instituto Chileno del Cemento y Hormigón, Ministerio de Vivienda y Urbanismo, Ministerio de Obras Públicas, DICTUC-UC y 19 empresas del rubro
ELECTRICAL SECTOR	Centro Nacional de Electrónica y Telecomunicaciones de la Universidad de Chile (CENET) y las empresas Carozzi, Metro, Ariztía, Adhesol, Agelec, Codelco, Sonda, Procter and Gamble, CTI, Envases del Pacífico, IBM, CTC, Telesistemas, Coasin Chile, Gallyas Telecomunicaciones y SISTECO.
PRINTING	Asociación de Impresores de Chile (ASIMPRES).
HOTELS & TOURISM	Asociación Gremial de Hoteleros de Chile, Asociación Chilena de Agencias de Turismo (ACHAT), 22 empresas hoteleras y 5 de turismo.
MARITIME	Armada de Chile, Gobernación Marítima, Servicio Nacional de Aduanas, Servicio Nacional de Pesca, Empresa Portuaria de Chile (EMPORCHI), Asociación Nacional de Armadores, Cámara Marítima, Consejo Regional de Pesca, Sindicato de Tripulantes, Instituto de Fomento Pesquero, Instituto Tecnológico del Salmón, Universidad Católica de Valparaíso. Universidad del Mar, Universidad de Los Lagos, Universidad Austral, Fundación Almirante Carlos Condell Asociación de Milticultores de Chiloé y Pesquera Quintero y 10 empresas de las regiones XI y XII.
FORESTRY & TIMBER	Corporación Chilena de la Madera (CORMA), Instituto Forestal, Madecura, Forestal e Industrial Santa Fe, Maderas Prensadas Cholguán, Aserraderos Arauco, Maderera Industrial El Colorado, Forestal e Industrial Santa Fe, Xilometal, Aserraderos Copihue, Forestal Mininco, Forestal Cementos Bío-Bío, Servicios Forestales y Comerciales, Forestal Chile, Sociedad Forestal Millalemu, Bosques Arauco.
METAL & MECHANICS SECTOR	Sociedad de Fomento Fabril (SOFOFA), Asociación de Industrias Metalúrgicas y Metalmecánicas (ASIMET), Asociación de Industriales del Plástico (ASIPLA), Fábrica de Maestranzas del Ejército (FAMAE), Confederación de Trabajadores Metalúrgicos (CONFETEMA), Federación de Sindicatos (FESIMA) e IDIEM de la Universidad de Chile
MINING	Empresa Nacional de Minería (ENAMI), Sociedad Nacional de Minería (SONAMI), Corporación Nacional del Cobre (CODELCO), Empresa Nacional del Petróleo (ENAP), Instituto de Ingenieros de Minas, Ministerio de Minería y las empresas mineras Disputada de Las Condes, Mantos Blancos, Compañía. Minera Collahuasi., Mantos de Oro y Quebrada Blanca.
SOCIAL PROGRAMS	Fundación INTEGRA, Instituto de Educación Física (UMCE), Oficina del Adulto Mayor, Junta Nacional de Jardines Infantiles (JUNJI), Hogar de Cristo, Asociación Cristiana de Jóvenes y Ministerio de Salud
CHEMISTRY	Asociación de Industriales de la Química (ASIQUM) y Sociedad de Fomento Fabril (SOFOFA)

Source: Miranda (2003)

Two aspects of the consultation process are worth highlighting. First, an insight into what happened when teachers of different subjects were asked about eliminating, maintaining, or adding contents to their subject: more than 12,000 disciplinary departments of all the secondary schools participated in the Consultation; only 20 percent wished to eliminate some part of current contents. On the other hand, a third wished to add contents. Those departments that wished to eliminate contents, as seen in the following table, corresponded to the following disciplines: Biology (32.2 percent if columns 3 and 4 are added), Chemistry, Physics, and Mathematics. In contrast, “additions to content responses” were found in History and Social Sciences (42.8 percent), Philosophy (38.6 percent), Spanish language (34.5 percent). No change was advocated by the Visual Arts (77.1 percent), and Foreign Language departments (71.1 percent). For the Ministry’s teams developing the new curriculum, these replies provided key input.

Table 21 Opinions of subject school departments on adding or eliminating contents in the new curriculum framework (percentages): National consultation process of 1997

	No change	Addition of contents	Elimination of contents	Addition and elimination of contents
History and Social Sciences	38.4	42.8	5.7	131
Philosophy	42.7	38.6	4.9	13.8
Chemistry	45.9	22.7	9.4	22.0
Mathematics	53.1	19.6	14.7	12.6
Spanish language	54.1	34.5	3.8	7.6
Biology	55.7	12.0	21.7	10.5
Physics	59.5	12.3	16.4	11.9
Physical Education	63.8	17.5	13.2	5.6
Technology	65.5	19.0	4.3	11.2
Music	69.1	17.3	7.6	6.0
Foreign language	72.1	18.2	6.8	2.9
Visual Arts	77.1	15.2	4.4	3.4
Total of school departments that answered (*)	12,888			

(*) The total referred corresponds to 67% of all the disciplinary departments of the secondary schools participating in the National Consultation process of 1997 (1,595, corresponding to 97.1% of the total).
Source: Ministerio de Educación, UCE, Informe al Consejo Superior de Educación sobre resultados Consulta Nacional, 1998.

The proposal for the reform of technical-professional education faced considerable difficulty. Under debate was the number of hours dedicated to general education on the one hand, and specialized education on the other. Indeed, the majority of teachers and schools rejected the proposed new structure, as Table 22 shows.

Table 22 School opinion (agreement/disagreement) on new curricular structure: National Consultation Process of 1997

	Secondary level (global)		Humanistic-Scientific		Technical-Professional	
	Agree	Disagree	Agree	Disagree	Agree	Disagree
It is positive that in 1° and 2° grades there is only general education	85%	15%	95%	5%	58%	42%
Time-frame for specialized curriculum is adequate in grades 3° and 4°	60%	40%	78%	22%	17%	83%
TOTAL N° of Schools (*)	1,595					

(*) The total of secondary schools that reported back to the Ministry on the National Consultation Process of 1997 (1,595), corresponds to 97.1% of secondary schools of the country at the time. Of these, 63% were secondary general schools (Humanistic-Scientific), 24% Technical-Professional Schools, and 13% 'Polivalentes', a pre-reform category of schools which offered both modalities of secondary schooling.

Source: Ministerio de Educación, UCE, Informe al Consejo Superior de Educación sobre resultados Consulta Nacional (1998).

Although teachers disagreed with the proposal of 41 percent of the total contact hours to be dedicated to technical-professional subjects in the last two grades, the proposal was supported by the main business corporations running technical *liceos*. With this impasse, the Ministry set up an ad-hoc commission, involving the key stakeholders, and in November 1997 started a process of discussion and negotiation immediately after the systemization of the National Consultation bore results. The commission, whose members and institutions are listed in Box 2, played an important role in building a new consensus.

Box 2 High level commission for reviewing technical professional education (1997)

Ad-hoc Technical-Professional Education Commission

Brother Aldo Passalacqua, Education Commission Chilean Episcopate; Father Eliseo Job President of Fide Técnica (Catholic Church technical education association of schools); Manuel Valdés, Chilean Confederation of Production and Commerce; Pedro Larraín CEO of the Chamber of Commerce and Production (Concepción); Pedro Robles Vice - President teachers union of technical-professional schools; Marcela Olivos, teacher, Industrial Liceo Benjamín Dávila; Pablo Moreno, National Teachers' Union (Colegio de Profesores); Marcelo Lewkow, ORT Foundation; Claudio Ihl Principal Centro Educacional de Alta Tecnología (Concepción); Gunther Rosch GTZ (German Government Cooperation Agency); Sady Melo Major of Municipalidad de El Bosque; Pedro Cancino, Principal Liceo Victor Bezanilla (Chilean Building Industry Chamber).

Source: Miranda (2003).

The Commission advised that 62 percent of contact hours, not the proposed 41 percent, should be spent on technical-professional subjects during the final two years of secondary education. The following table shows, by contact hours, the pre-reform situation, the reform proposal, and finally agreed-upon outcome.

Table 23 Total number of hours for technical-professional (TP) education: comparison between pre-reform situation, proposed change, and agreed-upon change (1997)

	Maximum total time in hours for TP modality (*)	Loss of time for TP education with respect to pre-reform situation
Pre-reform	3,802 hours	----
Proposed	2,730 hours	(-) 1,072 hours
Agreed	3,042 hours	(-) 760 hours

(*) The maximum for the pre-reform situation corresponds to the average resulting from the observed plans of study with maximum times for technical specialties (See Table 10). The “agreed” total number of hours corresponds to the total time statutorily assigned to specialized formation in the third and fourth years of TP secondary education (2,028 hours), plus 1,014 hours of non-regulated hours, which here is assumed are allocated to technical formation.

Source: Ministerio de Educación, UCE (1999).

Implementation

Secondary schools started implementing the new curriculum in March 1999 in grade 10—the first year of the secondary level—adding one grade per year until reaching the final grade of the school sequence in 2002. According to evidence collected

systematically by the Ministry, the new curriculum structure was adopted by schools with minor variations.⁴⁵

Humanistic-scientific *liceos* have freedom to organize the “specialized” part of the curriculum, with a minimum number of two plans of study, and with rules which define that within these plans, there have to be a minimum of two and a maximum of four subjects. In practice, there are two forms in which this structure is being offered, as defined in the official curriculum: either as a set of interrelated subjects that follow a given educational criteria (plan of study), or just as separate subjects that the students select (specialized subjects). These two forms, and their presence in the system in 2002, are represented in the following table.

Table 24 Specialized training in the humanistic scientific curriculum (2001)

	Liceos	%
Specialized PLANS of study	1,016	82.5
Specialized SUBJECTS	201	16.3
Does not offer specialized training	7	0.6
No response	8	0.6
Total	1,232	100

Source: Ministerio de Educación, UCE-Seguimiento, 2002.

Out of the total number of schools which offer the “plans of study” formula (82.5 percent of those surveyed), 78.5 percent offer between two and four options to students; whereas 16.8 percent offer only one plan, and are therefore not complying with the norm. These tend to be small *liceos* (enrollment of less than 41 students per grade) in semi-rural areas.

Curricular coverage

Teachers’ declaration of curriculum coverage, by subject and grade, provides information about the implementation of the new curriculum and the gradual nature of its adoption and appropriation. While evidently a proxy of what is actually happening in classrooms, the pattern is revealing as it shows how teachers have adopted the new

⁴⁵ The data we present next on implementation comes from Ministry of Education, Curriculum and Evaluation Unit, Ministerio de Educación, Unidad de Currículum y Evaluación, Unidad de Seguimiento. (2002) “Informe Descriptivo Consulta de Planes de Estudio Tercer año Medio 2001”, Documento de trabajo N° 17, Santiago.

programs incrementally. In fact, the data in Table 25 shows: i) declared curricular coverage increases between the first and the second year of implementation, independent of subject; from this it can be inferred that familiarity with the innovation increases coverage; ii) there are differences between subjects, with first-grade biology and language in the second year of implementation (2000) showing the lowest coverage (53.1 percent and 52.4 percent of the teachers declaring that they covered “all or three quarters of the curriculum” respectively). The lowest relative curricular coverage seems to be linked to three different effects. First, a “change of paradigm” effect—the new curriculum has been *structured* in a way which is radically new to teachers. Second, a “length effect”—the new programs of study are just too extended for teachers’ knowledge. And third, the “new contents” effect—the curriculum covers content areas unknown to teachers.

Table 25 Teachers’ declared curricular coverage, in selected subjects. 1999–2002

Language	% of teachers that declare total or $\frac{3}{4}$ coverage	History and Social Sciences	% of teachers that declare total or $\frac{3}{4}$ coverage
1 st grade 1999			
1 st grade 2000	34.3%	1 st grade 1999	48.5%
2 nd grade 2000	53.1%	1 st grade 2000	79.1%
2 nd grade 2001	65.5%	2 nd grade 2000	65.7%
3 rd grade 2001	73.0%	2 nd grade 2001	78.4%
3 rd grade 2002	64.2%	3 rd grade 2001	70.5%
	65.3%	3 rd grade 2002	87.0%
Mathematics		Biology	
1 st grade 1999	61.9%	1 st grade 1999	29.8%
1 st grade 2000	68.5%	1 st grade 2000	52.4%
2 nd grade 2000	75.3%	2 nd grade 2000	63.5%
2 nd grade 2001	81.2%	2 nd grade 2001	75.2%
3 rd grade 2001	79.0%	3 rd grade 2001	74.4%
3 rd grade 2002	80.2%	3 rd grade 2002	77.5%

Source: Ministerio de Educación, UCE (2002).⁴⁶

⁴⁶ The information in Table 25 is the result of surveys to national probabilistic samples of teachers: 756 teachers of Grade 1 from 146 schools in 2000; 1,375 teachers from Grade 2, from 292 schools in 2001; and 839 teachers from Grade 3, from 292 schools in year 2002. The surveys were carried out by *Unidad de Currículo y Evaluación*, of the Ministry of Education.

Conflict over the new university entrance examinations

The change in the university entrance examinations referred to in section 3.3 gave a decisive push to the implementation of the secondary education curricular reform. It is important to remember how significant these exams are, in terms of life chances, for almost two thirds of school leavers. The new exams, which aligned the entrance test with the reformed curriculum, made teachers and students focus on the new curriculum in a way that the previous aptitude-based examinations never had. However, it also caused the most important political conflict in education during the 1990 to 2003 period. A proportion of the elite schools, supported by a respected right-wing think tank, the *Centro de Estudios Públicos*, and backed by Chile's most influential newspaper (*El Mercurio*) rejected the change and criticized the new curriculum.⁴⁷ Consequently, the curriculum framework agreed on and decreed in 1998 became questioned by these groups in 2002, when the curricular reference of the university entrance examinations made that framework not only formally obligatory to them, but also factually mandatory to anyone competing for entrance in the more selective universities. The new exams were applied in December 2003, and went through a transition-and-adjustment period until 2006.

4.3 Full School Day Reform

The Full School Day Reform (FSD), unlike MECE and the Curriculum Reform, required legislation. Further, a commitment to the extension of the school day required considerable financial resources and had to deal with the issues posed by a decentralized system with the strong participation of the private sector. All matters of law.

The decision to move to FSD was taken at the highest levels by the President of the Republic and his Ministers of Finance and Education. They were supported by a small team of senior officials who worked in preparing its technical basis between the final months of 1995 and May 1996, away from public knowledge and discussion. While there was confidence that the measure would attract support, there was also concern that

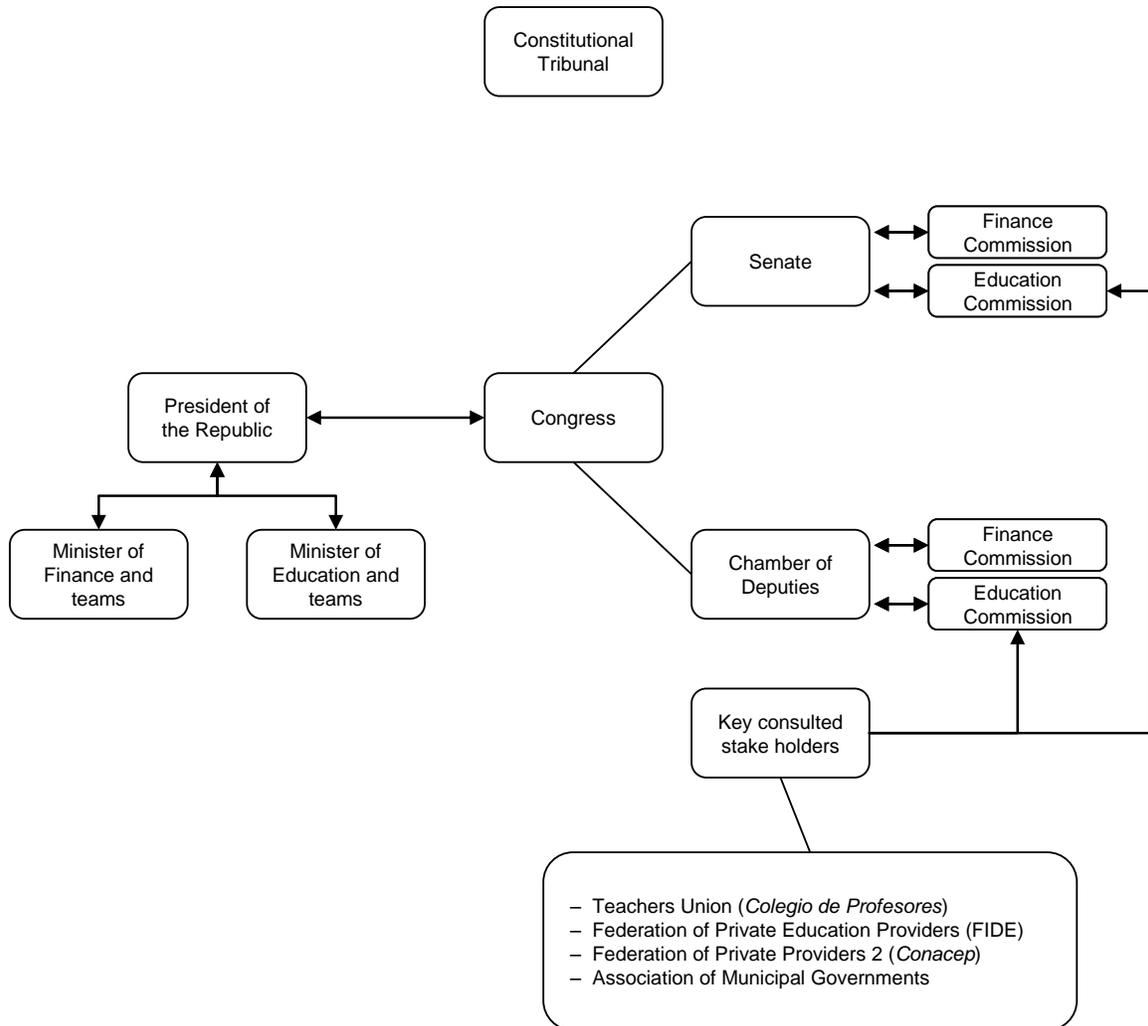
⁴⁷ The arguments and evidence for the change can be found in: Bravo, D., Manzi, J. (2003) Proyecto SIES. Síntesis del proceso de desarrollo y evaluación de bancos de preguntas para nuevas pruebas de admisión universitaria, Universidad de Chile, Universidad Católica. Santiago. See also, José Joaquín Brunner, El SIES da P.A.A, in *El Mostrador*, July 9, 2002. For a revision of the arguments and antecedents put together by the opposition against this major change, see, Centro de Estudios Públicos, *Estudios Públicos* N° 87 and 88, (2002) Santiago.

there could be prolonged discussion about such a key educational step. Thus, the Executive decided on the strategic course and subsequently started working in Congress on the legal basis for the FSD reform. So it was that the definition of the key components and procedural rules—the *how* of this major change—took place in Congress. The process of basic analytical work and decision-making about the reform and its strategy had already taken place within the Executive—too much so, as the following appraisal conveys.

The announcement of the FSD reform took the country and even the ministry by surprise...For the first seven months following the FSD reform's announcement, the ministry was without a communication strategy. The Cabinet and the design team, busy as they were with the technical aspects of the reform and satisfied that their product was as good as could be...failed to communicate to the general public and key education stakeholders in simple, coherent and relevant societal terms, what the reform was really about. (Delannoy 2000: 28)

In Congress, the Executive's goal was to have legislation approved that allowed FSD to commence in March 1997 (the beginning of the school year in the southern hemisphere) in every school that did not need infrastructure expansion to do so. It obtained this through a legal change that regulated the per-student subsidy, making it possible to increase this subsidy in proportion to the added teaching hours necessitated by the reform. With this agreement, nine months of discussion followed (March–November 1997) about a second law to ensure the resources for carrying out the investments in infrastructure and paying the extra-teaching hours, both implicated by the FSD reform. The discussion in both chambers of Chilean Congress "...went back and forth twice between the finance and education commissions. Debates about the education reform were held in plenary sessions of the upper and lower chamber of Congress and culminated before the constitutional tribunal. Both chambers invited the teachers' union, the Association of Municipal Governments, and the Federation of Private Education providers to testify" (Delannoy 2000: p.29).

Figure 7 Decision-making field in the Full School Day Reform



The key actors and institutions involved in FSD decision-making are found in Figure 7. If the Executive and Congress can be considered as the first two decision-makers, a third “sector” in this case was constituted by stakeholders from civil society, which operated through their representatives in Congress and the media.

Three issues dominated the FSD political discussion and law making process.

- *Financing of the reform:* the government proposed that the value-added tax, scheduled to be reduced to 17 percent in 1997, would be maintained at 18

percent. This was resisted, unsuccessfully, by the opposition which favored funding via savings and sales of public enterprises.

- *Resource allocation mechanism:* the Executive's draft bill proposed funding the infrastructure projects via a "capital contribution," linked to the needs of the schools, independent of their municipal or private-subsidized status. These schools would compete annually for the funding through a competition for the opportunity to build. As the FSD reform was obligatory and the available public funding was ensured to build lacking infrastructure, schools would obtain funding, if not in the present competition, then in future ones, as it was defined by law that before 2010 all subsidized schools were to be functioning as FSD schools. The right-wing opposition in Congress, as well as representatives of private subsidized education, favored funding via an increase in the per-student subsidy. The Left objected to public investments in private-subsidized schools. The Executive won its case for the "capital contribution" against the subsidy-increase, which it claimed to be economically inefficient as the needs of the different schools varied markedly and a common increase in the subsidy would be wasteful. While the law included financial guarantees for private providers, the Left was assuaged by an obligation for schools to operate as such for 50 years.
- *Compulsory nature of the FSD reform:* private providers and the right-wing opposition objected to the compulsory requirement that all subsidized schools should apply FSD on the grounds of principles of "freedom of education." The agreed-to compromise was that exceptions would be granted with proof of superior performance.

Implementation

The FSD reform legal framework was approved as Law N° 19,532, *Jornada Escolar Completa Diurna* on November 17, 1997. Its implementation depends on administrative regulations, developed and adjusted since 1998. These are, first, *Regulations of the Law*, which established the procedural rules of annual competitions for allocation of the school building capital contribution. The rules set out a typology of building needs for the FSD (new construction, expansion of existing construction,

upgrading, and adjustment) with associated per-student and type of secondary education costs available for financing. Second, the *Project Competition Basis* defined the financial framework of the annual capital contribution competition for FSD construction and includes regional adjustments for per-student construction values.⁴⁸ With an average of 533 building projects (primary and secondary schools) per year, the rules and procedures have become more precise and efficient. And third, every school with a FSD project which receives infrastructure funding, signs an agreement (*convenio*), which stipulates the precise legal, financial, technical, and administrative requisites regulating the execution and future educational use of the new or reconditioned buildings.⁴⁹

Although the law passed by Congress did not change until 2004,⁵⁰ the administrative tools regulating the competition, supervising and evaluating the quality of the actual works have experienced continuous adjustments and improvements, in light of implementation experience. The success of FSD infrastructure has rested on a notably effective combination of a central capacity to organize, control, supervise, and improve public allocations, and the highly decentralized units responsible for executing them. The establishment of an ad-hoc special unit in the Ministry of Education, which works in combination with external, private engineering and consulting firms, the schools, and their providers, helped to enhance this capacity.

Between 1999 and 2005, seven competitions (*concursos*) were held and by December 2005, 63 percent of secondary student enrollment was in FSD schools. The decentralized nature of FSD implementation coupled with measures (fundamentally through information tools⁵¹) to activate the supply of good architectural projects for schools and their owners (municipalities and private providers), produced a revolution in

⁴⁸ Cfr. Mineduc, División de Planificación y Presupuesto (March 1998) *Concurso Público N° 1. Aporte Suplementario por Costo de Capital Adicional. Bases Administrativas y Técnicas*. Santiago.

⁴⁹ A document for learning about the evolution of the rules regulating this large-scale and successful integration of centrally-defined frameworks for action and decentralized implementation is: Ministerio de Educación, División de Planificación y Presupuesto. 2000. Programa de Aporte de Capital JEC. *Informe de Avance Junio 1997–Diciembre 2000*. Santiago.

⁵⁰ In October 2004, Congress passed a second law on the FSD (Law N° 19.979, of October 28, 2004), which postponed the deadline for completing the reform (defining 2007 for some schools and 2010 for others) and established new regulations aimed at improving equity, increasing parents' and community participation, and putting an end to school directors' life tenure.

⁵¹ The Ministry organized a series of international seminars on school architecture with the cooperation of UNESCO, and invited the *Colegio de Arquitectos* to organize competitions of school-projects and promote the FSD reform's requirements in terms of *new educational spaces for the reform* among its associates. See: Ministerio de Educación, *Nuevos Espacios Educativos*, 1998–2001, Santiago.

school architecture in the system. No single new building is the same as another and all comply with high, nationally defined, standards.

4.4 Comparisons of reform components: process follows goals and context

The main policy-making lesson of these three examples is that *process follows goals and context*: it is policy goals in a given context that brings into play a particular configuration of actors and institutions, strategy options, and a particular type of process. The three decisions varied according to the policy problem that had to be answered. Following a central distinction in policy studies (Grindle and Thomas 1991; Reich 1988), the main difference is between processes that are intra-governmental and processes that demand external intervention. MECE stands apart from the other two cases.

MECE was not a *political* problem, as were the other two examples (see Table 26). The difference is directly linked to the nature of the “boundaries” of the school system. This, in turn, determined whether the process would be “internal” or “public.” In the case of the FSD reform it was wholly public, as there was no alternative to the law-making process, whereas for curriculum reform it was partially public: the Government could have chosen a non-participatory way of deciding the new secondary education curricular structure and made it, as with MECE, a process “internal” to the Executive.

The main difference in terms of policy relates, as has been said, to the boundaries of the school system. Were they critical boundaries or not? Critical boundaries can be institutional, organizational, ideological, and political. However, in the case of MECE, there were no critical boundaries affected and the whole of its “design, decision-making and implementation” cycle could be, and was, an internal process to the Ministry of Education. For the system, increasing material inputs and resources for funding teachers’ initiatives were all “good news.” Any power and control were formulated and played out within the bureaucracies of the Ministry and the World Bank. As a result, there was much convergence on the substantive and technical issues.

In contrast, both the curriculum and FSD components were reforms, more than “improvements.” They challenged critical boundaries of the school system. The first directly involved cultural and political issues, for it is at the core of the relationship between Chilean society and its schools; the second dealt with key organizational features

such as that between public and private subsidized education—the main divide of the system in political terms.

The MECE program, with its multi-pronged approach to quality and equity in secondary education (and the resulting technical complexity) was strategically defined as a program of *improvement*, not reform. It did not seek change in any “structural” feature of the school system. In contrast, the curriculum and the FSD reforms required a political process, and as a result, their cycle varied accordingly. MECE was developed *within* the Ministry (in dialogue with the World Bank), and it can be considered a *policy-development* process, aimed at *improvement goals*. The other two reforms were developed involving *political forces external to the Ministry*, combined *policy and political processes*, and aimed at *reform goals*.

There were also many issues common to the three cases. Technical requirements were high and were adequately met; and the change dynamics involved were those of *innovation with growth*, which promised more resources, more time, and more possibilities for everyone. Thus the costs of innovation can sometimes be counterbalanced by the benefits of growth.

Common, too, is the scale in terms of changes and implementation. The scale is system-wide, and the implementation strategy was gradual, combining centralized and decentralized tools and mechanisms. The integration of centrally-defined criteria and standards, or direct actions and incentives, with the capacities of decentralized units to respond in a variety of ways to the new framework and goals cuts across the three implementation strategies.

The means of change vary according to problems and goals. MECE is fundamentally the direct action of the state; curriculum change is normative, and combines direct actions (for example, the training of teachers in new objectives and contents), while the expansion of the school day is a mix of normative action (mandating all schools to change to the new time-frame) and indirect action (competitive funds for building the new infrastructure).

Table 26 Three reform components compared from the viewpoint of policy goals and processes

Categories for Comparing process	MECE	CURRICULUM	FULL SCHOOL DAY REFORM
Focal policy problem	Material inputs for learning Innovation in teaching practices	Knowledge, abilities and values for XXI century	Time frame of schooling
Main political problem	None	Consensus on values	Taxing measures; public investments in privately owned schools
Decision field	Intra-executive and international lending agency; non-public deliberation	Intra-executive and public deliberation: school system-wide participatory process	Executive and Legislative and public deliberation
Implementation strategy	Gradual Combination of centralized and decentralized tools	Gradual Combination of centralized and decentralized tools	Gradual Combination of centralized and decentralized tools
Scale	System-wide	System-wide	System-wide
Strategic means (*)	Direct (investment in inputs) and indirect (incentives) state action for upgrading teaching contexts	Normative and direct action: re-design of national official curriculum and programs for in-service teacher training	Normative and indirect (competitive funds) state action for expansion of building infrastructure and expansion of teaching hours
Time of agenda setting, elaboration and decision-making	4 ½ years (1990–1994)	5 ½ years in two periods: 1991–92, and 1995–1998.	2 years (1996–1997)
Time of implementation	6 years (1995–2000)	4 years (1999–2002)	9 years (1997–2006)
Intensity of change from teachers' viewpoint	Medium Voluntary	High Mandatory	Low Mandatory
Conflict	None	-Conflict in 1992 on values -Opposition in 1997 from technical education -Opposition from political Right to change in university entrance examinations (2002)	None

(*) Based on a categorization of tools of government which distinguishes between *information, treasury, authority and action* mechanisms. Hood (1983).

The time frame of the “build-up,” which transforms an issue into a policy decision, and the development of a course of action, was long for MECE and the curriculum reform (four and a half and five and a half years, respectively), and shorter—two years—for FSD reform. MECE took a long time because of a political decision not to embark on a comprehensive secondary level program in parallel with a comparable primary level program during the 1990–94 government. The curriculum reform started with a failed attempt in the form of strong opposition to the government’s first draft, which resulted in a tactical retreat, only to be approached again three years later in a wholly different and positive political climate, mainly because the government invested time in building political agreements, and took care in preparing a technically competent and open project. The FSD, in eloquent contrast, a comparatively simpler and widely supported change did not require this type of political build-up and time investment.

So the only case to require political negotiation was the curriculum reform. In 1992, a confrontation about values, combined with an important measure of misunderstanding within the Ministry, and between the Ministry and private stakeholders, showed that changes to this domain had to be constructed with sufficient time, both politically and technically. In 1997, as mentioned earlier, the technical education establishment opposed the time frame of the new curriculum structure and negotiated an intermediate course with the government. Finally, a conflict related to the curriculum reform erupted in 2002 as elite schools and the media of the political Right attempted to reverse the changes to university entrance examinations which had made them closer to the new curriculum. In all three cases, the government reached agreements and compromises by adjusting—but not changing—its political course. In 1992, the changes were adjusted and postponed. In 1997, both sides found a middle ground. In 2002, the deciding actor was the Council of University Rectors—strongly supported by the government—which did not budge from the proposal but defined a transition period and adjustments to the new examinations demanded by its critics.

5. Results

5.1 Improvements in the quality of secondary education in Chile since 1990

Here we shall distinguish four quality improvements in Chilean secondary education from 1990 to 2005: access and progress; school time and learning resources; teaching practices; and learning results. The first shows a consistent and substantial improvement, in particular for pupils in lower income quintiles, with major impacts on the participation of these groups in higher education. There is also a radical improvement in school-working hours and learning resources. The third and fourth dimensions, in contrast, show much less progress. We see a transitional situation in teaching practices with evidence of as-of-yet not tackled problems in both initial and in-service teacher training. In terms of national average learning results, these have remained stable in language and mathematics. This stability, however, is obtained with increased coverage of the two lower quintiles, which is in fact an achievement in itself.

5.2 Access, coverage, and progress of secondary education students

As a result of the policies and reforms of the past decade, the secondary school system now receives and retains more students than it did in 1990. There were 37.4 percent more students enrolled in secondary education in 2004 (989,039) than in 1990 (719,819), of which just over 10 percent corresponds to an increase in coverage. In the 1980s there was a 29.8 percent increase as shown in the following table. Between 1990 and 1994, total enrollment rates decreased as a result of labor market demands.⁵² From 1995 onward, enrollment has grown continuously.

⁵² For the 1986–1999 period, the unemployment rate for youth between 15 and 24 years old was an average of 14.2 percent; the two years with the lowest juvenile employment rate were 1992 (10.9) and 1993 (11.0). Prepared by the MECE– High School Program based on INE data (1999).

Table 27 Secondary education enrollment and coverage: 1990–2004

	Enrollment Secondary General	%	Enrollment Secondary Technical- Professional	%	TOTAL	Coverage
1990	464,423	64.5	255,396	35.5	719,819	77.0
1992	410,896	60.9	264,177	39.1	675,073	77.0
1994	387,272	58.3	277,226	41.7	664,498	76.0
1996	415,919	56.3	323,397	43.7	739,316	81.0
1998	424,892	54.9	349,142	45.1	774,034	83.0
2000	456,246	55.8	366,700	44.2	822,946	85.0
2002	513,813	57.3	382,657	42.7	896,470	87.0
2004	604,684	61.1	384,355	38.9	989,039	(*)93.0

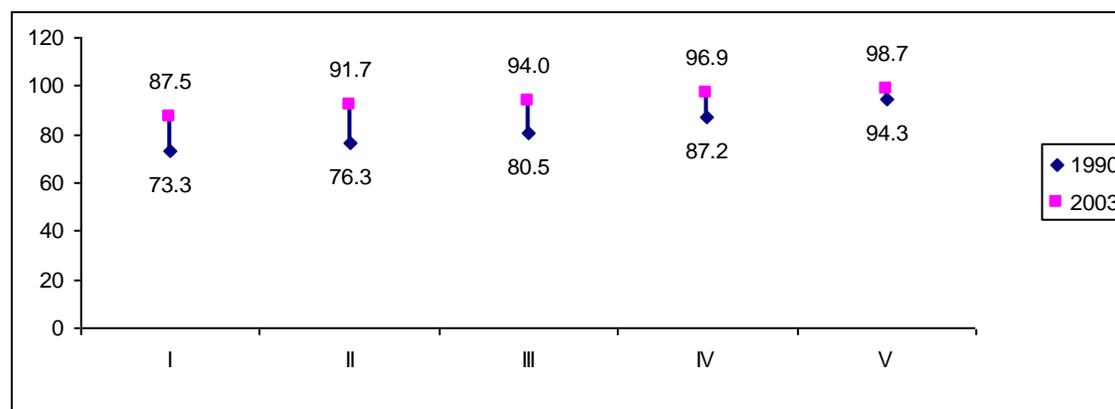
(*) Year 2003

Source: Ministerio de Educación (2005). *Estadísticas de la Educación*, 2004, Table 2.6.

Coverage for years 1990–2002: Ministerio de Educación, Departamento de Estudios (1999): *Estimaciones de Cobertura en Educación Básica y Media*; Ministry of Education, Departamento de Estudios (2002) *Estadísticas de la Educación 2002*. Coverage for year 2003, MIDEPLAN, *Encuesta CASEN 2003*.

The increase in coverage has had an impact in all income groups, as Figure 8 illustrates, but most markedly in the two lower ones (quintiles I and II). These two quintiles increased their participation thereby reducing the gap separating them from the higher quintiles. Thus, in 1990, quintile I had 73.3 percent coverage versus 94 percent of quintile V, a 21 percentage point difference, which by 2003 had been halved to an 11.2 percent point difference.

Figure 8 Secondary education enrollment rate, by income quintile (percent): 1990 and 2003

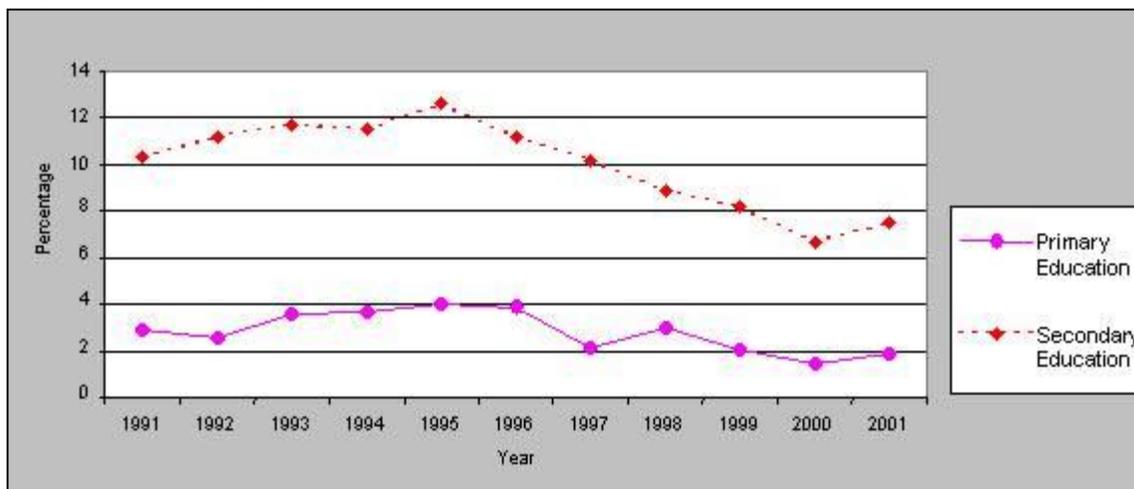


Source: MIDEPLAN, CASEN Surveys 1990 and 2003.

Drop-out rates

Figure 9 provides the drop-out rate for each school level during the 1990s. In secondary education this has declined consistently since 1996, from 12 percent to 7 percent. This decline began at the same time as programs targeted to this level and which had an impact on both municipal and private subsidized *liceos*.

Figure 9 School drop-out rates by level: 1991–2001 (%)

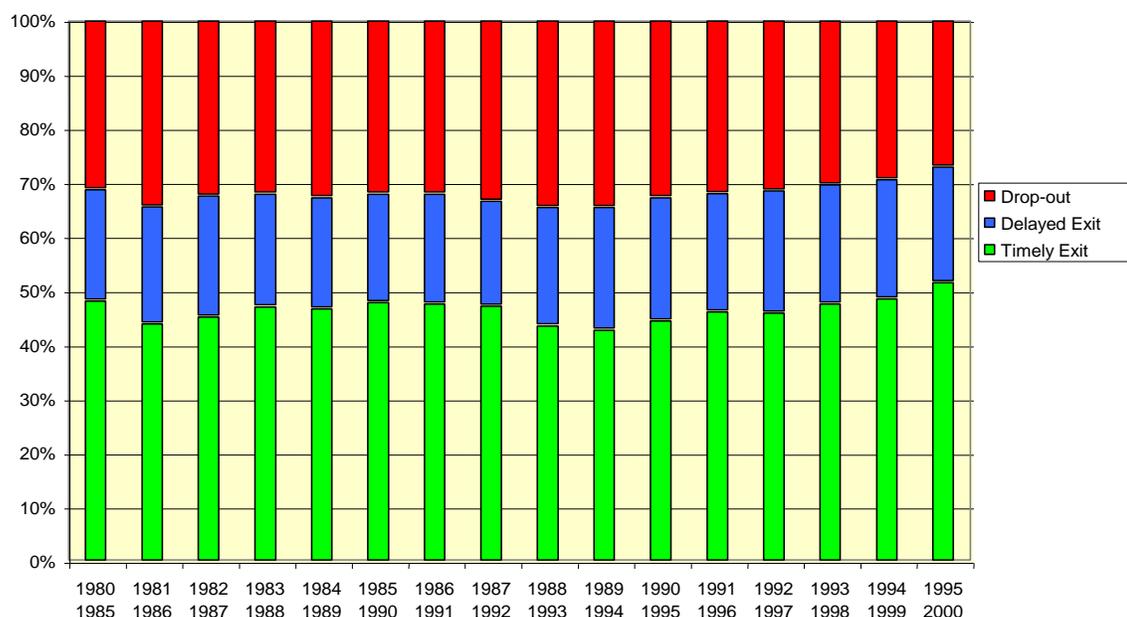


Source: Ministerio de Educación, Div. Planificación y Presupuesto, Depto. de Estudios (2002).

Efficiency of secondary education

During the 1990s, not only was there a decline in drop-out rates, but also in repetition rates. The relationship between these two rates determines the proportion of each cohort completing grade 12 at the expected age, without repetition. Figure 10 shows the slow but consistent increase, from 1995 onward, of the percentage of each cohort completing the level at the expected age (without repeating a grade), represented by the bottom section of each column: from 42 percent of the cohort in 1994 to 51 percent in 2000. The proportion of students finishing the level but repeating some grade has not experienced change, whilst the percentage of those not completing secondary education (top section of each column) has decreased from 34 to 28 percent.

Figure 10 Timely and delayed secondary school completion: percentage that does not complete secondary education: 1980–2000 cohorts



Source: Bellei (2003): Figure 8.

The growing percentage of enrollment of the right age (15–16 years old) at grade 10 between 1998 and 2003 is another example of improved efficiency. In the referenced period, the “right age” group (15-16 years old) increased from 74 to 80 percent, as shown in Table 28.

Table 28 Enrolment per age-groups in 10th grade: 1998–2003

Age (years)	1998		2001		2003	
	N°	%	N°	%	N°	%
13–14	1,898	1	2,271	1	1,179	0
15–16	153,370	74	161,478	77	207,176	80
17–18	49,219	24	44,104	21	48,703	19
18 +	2,667	1	2,886	1	2,661	1
TOTAL	207,154	100%	210,739	100%	259,719	100%

Source: Ministerio de Educación, SIMCE, Resultados de 2° Medio (2003).

Impacts on graduation rates and higher education participation

The expansion of secondary education’s capacity for retaining students and making them not only complete their studies but also transform and expand their own educational expectations, is nowhere clearer than in the following data (tables 29 and 30) on access to and growth of higher education throughout the 1990s, and particularly after the year 2000.

Higher education enrollment more than doubled between 1990 and 2004, from 245,408 to 580,815 students. If only university education is considered, its expansion in the period is even more pronounced: enrollment more than tripled, from 127,408 students in 1990 to 413,617 in 2004 (Mineduc 2005: Table 2.58). There are certainly more factors explaining this radical transformation than the changes in secondary education brought about by the reform policies of the 1990s. At the same time, these trends are consistent with the expansion of secondary schooling graduates taking university entrance examinations. Furthermore, the timing of an observable change in the rate of increase of the participation of the lower two income quintiles in higher education suggests direct linkages with changes in the secondary education experience of these same groups.

Table 29 shows the evolution of the number of graduates from secondary education taking the university entrance examinations each year. There is a consistent increase for the period considered, which starts in 1996—when no new curriculum or FSD reforms were in place and the MECE program was just starting its full application—in that there is a third more students (32.3 percent) taking university entrance examinations in 2005 than in 1996. That this is a very important result in terms of equity, as the “newcomers” to the tests overwhelmingly belong to the lower two income quintiles, is corroborated by what happens with the evolution of the participation of the different income groups in higher education between 1990 and 2003 (Table 30 below).

Table 29 *Number of graduate students from year 12 taking the university entrance examinations: 1996–2005*

Year of graduation	Students from the year taking the exams (*)	Annual percentage variation
1996	97,387	---
1997	102,709	5.46
1998	107,993	5.14
1999	115,694	7.13
2000	115,696	0.00
2001	122,149	5.57
2002	121,409	-0.60
2003	111,589	-8.08 (**)
2004	122,607	9.87
2005	128,892	5.12

(*) These figures are not equivalent to the total number of students taking the exams each year, as this figure would also include exam-takers graduating in previous years.

(**) In 2003, the entrance examinations were changed. See section 3.3.

Source: Universidad de Chile, DEMRE (2005).

Table 30 Higher education enrollment rate by income quintile (percent): 1990–2003

Income Quintiles	1990	1992	1994	1996	1998	2000	2003
I	4.4	7.8	8.9	8.5	8.7	9.4	14.5
II	7.8	9.8	10.2	15.1	13.3	16.2	21.2
III	12.4	13.2	17.2	21.5	23.0	28.9	32.8
IV	21.3	23.6	32.2	34.7	38.8	43.5	46.4
V	40.2	41.1	54.6	59.7	65.5	65.6	73.7

Source: MIDEPLAN, División Social, Departamento de Información Social, CASEN Surveys, 1990–2003.

The notable increase in the participation in higher education by the two lower income groups (quintiles I and II) at the end of the observed period, as mentioned, is surely not solely due to changes in secondary education—as the decision to pursue tertiary level studies is, in the majority of cases, a family decision, highly contingent on financial factors. At the same time, however, it cannot be separated from changes in secondary education and its redefined capacity to retain and maintain the motivation of its most at-risk students, as well as provide them with some basic knowledge and desire to continue studying. This is surely the most important and meaningful result thus far of any of the changes brought about by the reform of the nineties in secondary education.

5.3 Extension of school time and substantial up-grading of learning resources

The educational conditions were changed at many levels to meet the needs of an ambitious curriculum. The FSD reform and school infrastructure have already been discussed, but to show the wide scope of change, we shall also review data on textbooks and ICT (information and communications technology).

Textbooks

No textbooks were distributed in Chilean secondary education until 1997, when as Table 31 shows, 25 percent of enrollment (one grade) received textbooks in language and mathematics. By 2000, all pupils enrolled in publicly funded education received language, mathematics, history and social sciences, science, and English texts. At the time of finishing this report (March 2006), the full coverage policy is being maintained.

Table 31 Textbooks, number of titles and enrollment rates: 1990–2001

Year	Total N° of textbooks distributed			Coverage		Total investment in US\$ millions (2001)
		N° of titles	Students	Primary education	Secondary education	
1990	1,900,000	14	960,000	52%	Not existent	1.5
1991	4,500,000	26	1,573,590	85%	n/e	3.6
1992	5,500,000	26	1,779,688	95%	n/e	4.2
1993	6,100,000	26	1,860,680	95%	n/e	4.3
1994	6,300,000	26	1,979,304	95%	n/e	4.4
1995	5,700,000	26	1,792,368	85%	n/e	4.2
1996	6,700,000	26	2,066,064	98%	n/e	5.6
1997	7,200,000	28	2,318,000	100%	25% (*)	6.2
1998	8,200,000	30	2,587,181	100%	50%	8.1
1999	7,200,000	33	2,563,196	100%	75%	8.4
2000	9,500,000	36	3,109,735	100%	100%	11.9
2001	11,400,000	41	3,109,896	100%	100%	14.8

(*) An estimate, corresponding to the whole cohort of the first grade of secondary education in 1997; first and second grades in 1998; first, second and third grades of secondary education in 1999. As from year 2000, the textbooks distribution is universal.

Source: Ministerio de Educación, *Unidad de Curriculum y Evaluación* (2001).

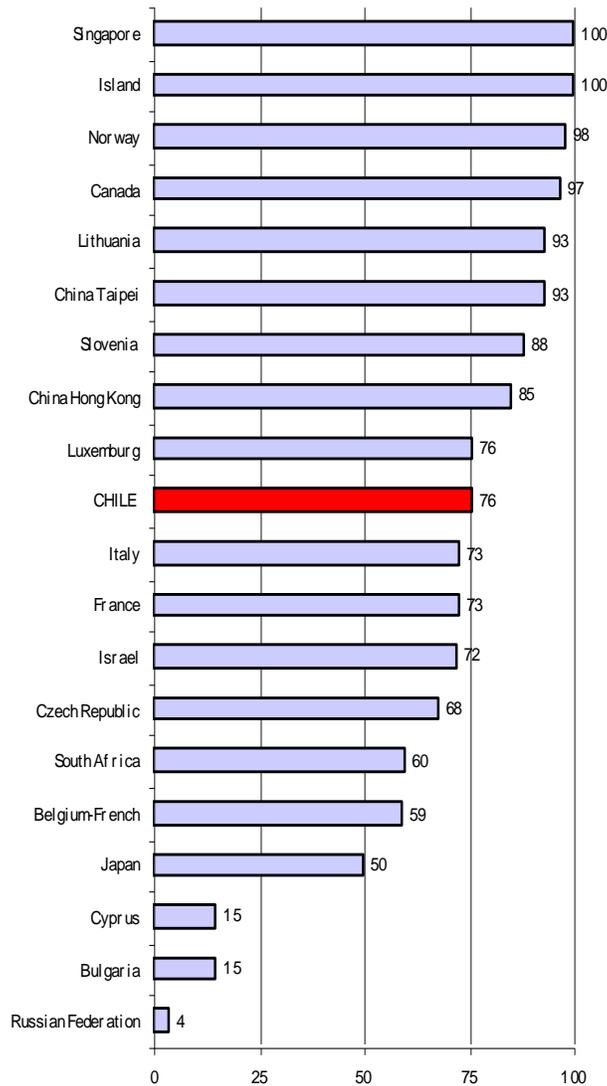
ICT

During the 1990s, Chilean publicly subsidized primary education jumped from having almost no computers in schools, to making computers (and the access to Internet) a common feature of the school experience for both teachers and pupils. Since 2000, 88 percent of enrollment in primary education and 97 percent in secondary education, have access to computers and the Internet (Hepp 2003). As the following two charts show, the country's school system is just below the OECD average for students per computer in the year 2000, and well above the average for countries of comparable income—31 students per computer—and 76 percent of total secondary enrollment has access to Internet (Mineduc-Enlaces 2002; Plomp, Anderson, Law, and Quale 2003).

Figure 11 Average number of secondary students per computer: International comparison (2000)



Figure 12 Percentage of secondary students with access to Internet: International comparison (2000)

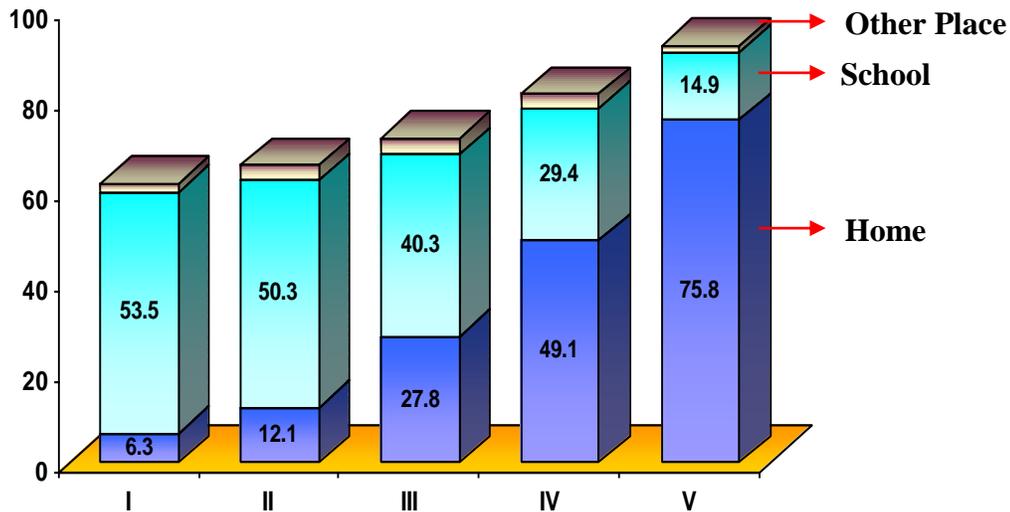


Source: Ministerio de Educación- Programa Enlaces (2002) *Estudio Internacional SITES M1 (IEA) El Caso de Chile*, Santiago.

The achievements in ICT provision have an important equity dimension which needs to be underscored. In Chile, a considerable percentage of the population under 21 years old has access to this type of technology only at school, as shown in Figure 13 (based on CASEN 2003 survey). Among youngsters from the lowest (first) quintile with access to a computer, only 6.3 percent has access at home, whereas 53.5 percent has access at school. The same figures for the richest (fifth) quintile are 75.8 percent for home and 14.9 percent for school. These figures directly mean that through access in

schools, there is a more equitable social distribution of the technological foundation for the acquisition of a key competence: digital literacy.

Figure 13 Differential access to computers by income quintiles (2003)



Source: Ministerio de Educación. Programa ENLACES (2003), based on CASEN Survey (2003).

5.4 Process: changes in teaching practices

Are Chilean primary teachers and students working in new ways? Are these coherent with the definitions of a new curriculum? Are they responsive to the demands of the “knowledge society?” The dimension of teaching practice is complex to evaluate and shows mixed results. There are many aspects of teaching practice and students’ work that have become both more hands-on and richer as they turn to varied didactic materials and team-work. However, there is evidence of the predominance in classrooms of active teaching methodologies with a lack of focus on learning objectives, which, when measured by objective learning results, is not producing expected outcomes.

If three aspects of teachers’ work are examined: extra-curricular activities, management of student groups, and teaching, the overview that emerges from the set of existing evaluations of trends in the 1990s is as follows:⁵³

⁵³ From the following evaluations: CIDE (1999) Evaluación intermedia del MECE-Media, Mineduc UCE, (2001) Observatorio del Currículum, and World Bank, Audit Report (2000). This section follows closely a report of the Chilean Government to OECD on its educational policies during the 1990s. See, OECD

- *Teachers' relationships with peers and extra-curricular activities:* The prevailing practices among teachers, along with the ideas and values behind them, have evolved towards a more professional and proactive stance regarding their institution and their own activities. It is understood that teamwork is crucial to professional work in practice as well as in theory. The experience of the immense majority of schools of designing and implementing educational improvement projects, generated by teachers and competing annually for public funding, contributed to this change in the work culture of teachers.
- *Social relationships and work with students:* The current evidence⁵⁴ confirms that teaching practices have moved towards building a closer relationship with pupils and valuing what they bring to the teaching-learning process. In this way, formal teaching includes more of students' life experiences and contexts within classes. Students participate more actively than in the past and group work has become a characteristic feature of Chile's classrooms—sometimes even, to the point of imbalance with respect to individual work, at least in primary education.⁵⁵
- *Teaching:* According to the Ministry of Education's report to OECD (OECD 2004), predominant teaching practices suggest characteristics typical of a transitional or mixed pattern. Thus the evaluation of MECE-Secondary (Section 3.2.1 in this book) concluded that both innovative and traditional practices could be observed in secondary school classrooms and that the most common cases presented a combination of these and could therefore be considered transitional. These include features of better social relationships between teachers and students and more engagement of both teachers and students, but without a clear orientation towards specific learning goals.

(2004), *Reviews of National Policies of Education. CHILE*, Paris, Chapter 1. "Background Report Prepared by the Chilean Authorities."

⁵⁴ Consistently remarked on in the evaluations, national and international, quoted in the preceding footnote.

⁵⁵ International qualitative evidence, based on a comparison of mathematics primary level classroom practices in Brazil, Cuba, and Chile, found that in Chile, 34.6 percent of total teaching time was employed in group work, compared to 29.6 percent in Brazil and 11.3 percent in Cuba. Only 6.5 percent of total time was employed in individual work by students in Chile (copying instructions, solving problems) against 22.5 percent of Brazilian and 40.9 percent of Cuban schools (Carnoy, Gove, Marshall 2003).

Quoting from the referenced report of the Ministry of Education to the OECD: “The evidence available on teaching practices at the elementary level suggests similar conclusions [for primary education]. The World Bank’s *Audit Report* on MECE-Primary (World Bank 2000) concludes that typical classrooms at this level (at both municipal and private, subsidized schools) reveal that a new pattern has emerged, whose features include more student activity than in the past, a closer relationship with teachers, and a wider variety and richness in the use of learning resources, but a general lack of focus on achieving learning objectives” (OECD 2004: p. 36). Thus, the “transitional” pattern in teaching is characterized by more active classrooms with closer and more personalized social relationships and a heightened concern about students’ lives and interests, together with a general orientation that does not focus enough on learning goals.

5.5 Learning results

Since the mid 1990s, Chile has undertaken national tests of learning in language and mathematics for the tenth grade. They are applied to the whole cohort in grade 10 (the second year of the secondary education level) every three years in language and mathematics.⁵⁶ The tests are applied by the system for measuring learning results (*Sistema de medición de la calidad de la educación*—SIMCE), and as Table 32 shows, are practically universal, with less than 5 percent of eligible students not tested. Using data from 1998, 2001, and 2003, there is evidence to examine the fourth and key dimension of evolution of secondary education quality in the last decade.

Table 32 SIMCE tests coverage in secondary education

Year	1998	2001	2003
Number of measured students	209,250	192,985	243,151
Coverage of total number of secondary schools	nd	94.1%	99%

Source: Ministerio de Educación, Unidad de Currículum y Evaluación, Programa SIMCE, 2004 Santiago

⁵⁶ The SIMCE evaluating system was set up in the 1980s as a key component of a demand-driven, decentralized educational system, where parents needed information on school results for choosing the better ones. The original *pro-accountability* rationale of SIMCE is at present being complemented by a shift towards a *teachers’ support and capacity building* rationale (Comisión SIMCE 2003).

It is understood that by looking at “pen and paper” tests alone, many dimensions of the school experience are excluded, such as learning related to values, relationships and attitudes, or the moral dimension of education, which is decisive for the construction of citizenship; cognitive learning, from art to philosophy and ICT abilities; or cross-disciplinary abilities like the capacity to discuss and argue. However, the measured areas undoubtedly contain cultural competencies which are fundamental for the school experience to produce; they are not the whole but constitute pillars of what secondary education has to communicate.

The evidence provided from comparing SIMCE results between 1998 and 2003 is presented in Figures 13 and 14, and can be summed up as follows:⁵⁷

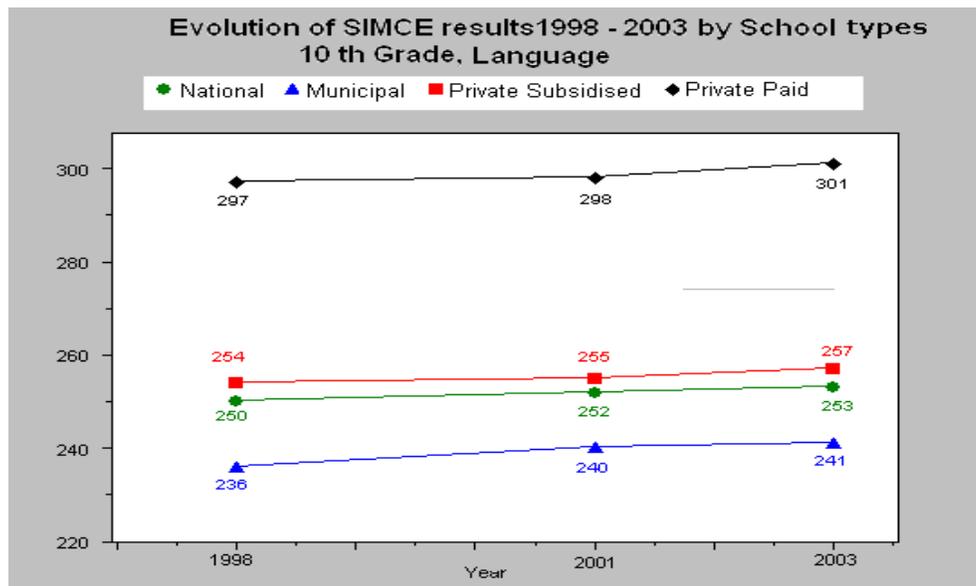
- Between 1998 and 2003, national averages for language exhibit a slight but consistent tendency to improve and national averages in mathematics a slight tendency to decrease at the *tenth grade*. None of the variations are statistically significant.
- When results are differentiated by types of school administration, and therefore strongly associated with students’ socio-economic characteristics, the differences are more clear-cut.
 - All three types of schools improve in language, with municipal schools—those with a lower socio-economic student body—advancing more than both private modalities with a 5 point increase between 1998 and 2003, as compared to a 3 and a 4 point increase for private-subsidized and private-paid schools respectively (see Figure 14). None of these changes are statistically significant.
 - In mathematics, the averages of both municipal and private subsidized schools drop slightly, whereas the private paid schools improve consistently and with a difference between 1998 and 2001 that is statistically significant (see Table 34).

⁵⁷ SIMCE uses item response theory (IRT) models which allow, among other advantages, for robust equating procedures: common questions used in different SIMCE applications to control for inter-annual differences among instruments. The SIMCE scale average is 250 and the standard deviation is 50.

- When comparing and interpreting these results, it is important to recall that the student body has substantially increased. In 2003, the SIMCE tests were taken by 50,166 more students than in 2001, equivalent to a 26 percent increase in enrollment in that grade. Approximately 50 percent of this increase is explained by demographics, 20 percent is due to improvements in coverage and 30 percent to lowered repetition and drop out rates (see Figures 8 and 9) (SIMCE 2004).⁵⁸ These tests now affect more youngsters of the poorest quintile who, in 1990 or 1995, were not in the 10th grade because they had already dropped out. Empirically it affects the national averages, as lower quintile students pull the average down, principally because of material and cultural or family resources (Cox 2003).
- Apart from private paid schools, since 1998, mathematics results have declined slightly, and reflect a similar trend in primary school results. There is neither precise evidence nor studies on the factors affecting the classroom implementation of the new curriculum which might explain the observed trend. One hypothesis is that the observed decrease is related to a poorly addressed tension between styles of instruction. The new curriculum requires a depth of understanding of mathematics, problem-solving, synthesizing of information, and creative capacities. Insufficiently prepared teachers are in the difficult position of seeing their traditional and more “linear” or mechanical approach questioned, without being offered the required support to handle the new learning goals and methods effectively. However, these tensions seem to be tackled successfully by the students and teachers in private paid education (approximately 9 percent of total enrollment).

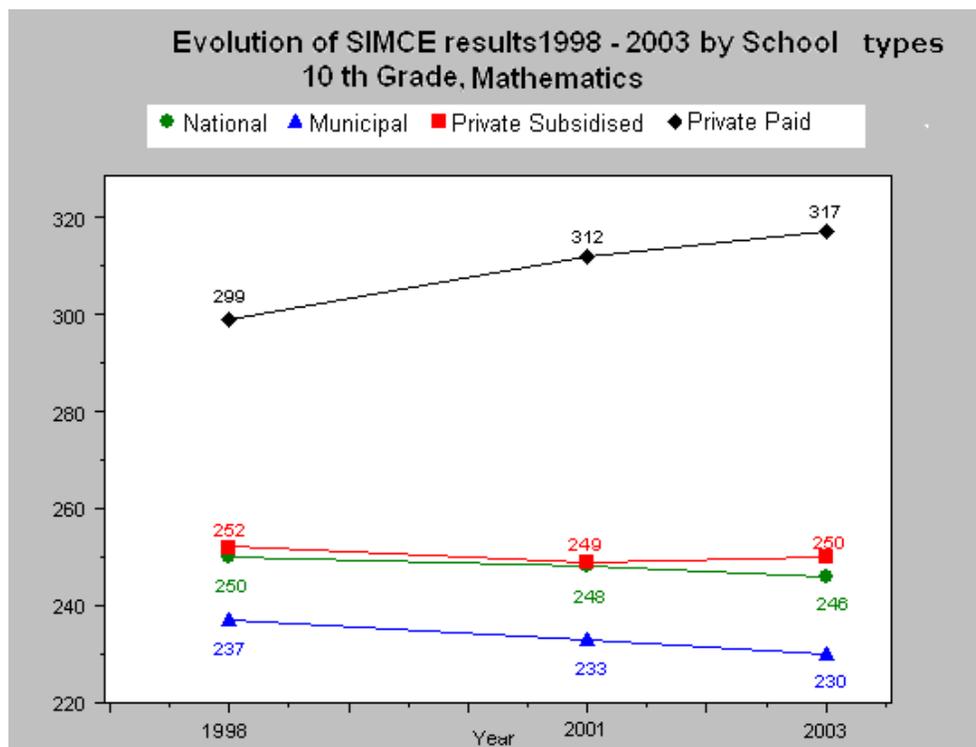
⁵⁸ Between 2001 and 2003, 175 new secondary schools were established; the SIMCE-evaluated classes increased in 1,147 and their average number of students also went up: from 35 to 37 (SIMCE 2004).

Figure 14 SIMCE learning results in language, 10th grade: 1998–2003



Source: Ministerio de Educación, Unidad de Currículum y Evaluación, Programa SIMCE (2004).

Figure 15 SIMCE learning results in mathematics, 10th grade: 1998–2003



Source: Ministerio de Educación, Unidad de Currículum y Evaluación, Programa SIMCE (2004).

Socio-economic patterns in distribution of learning results

When the students and their families' socio-economic differences are taken into account, a more precise picture emerges, showing that these socio-economic factors are much more decisive than those between types of administration of schools.

The following table contains the tenth grade language and mathematics results set out by types of school administration for each of the four socio-economic groups for the year 2003. The socio-economic groups are defined by four variables: mothers' and fathers' educational level; family income, and school vulnerability index. To give an idea of the magnitude of the differences, mother's average years of education for the lower group is six years; for the low middle group is eight years; for the middle group is ten years; and for the next two groups—middle-high and high—it is thirteen and sixteen years, respectively. In percentages (of a total of 243,151 students), the groups for the SIMCE tests of 2003 represent: A (low) = 19%; B (middle-low) = 45%; C (middle) = 23%; D (middle-high) = 8%; E (high) = 5% (Ministry of Education, *SIMCE Resultados 2003*).

Table 33 National averages in language and mathematics, 10th grade, 2003, by socio-economic homogeneous groups, and types of school administration

Socio-economic group	Language			Mathematics		
	Municipal	Private subsidized	Private paid	Municipal	Private subsidized	Private paid
(A) Low	226	229	---- (*)	215	220	----
(B) Middle-Low	238	245	-----	223	235	----
(C) Middle	273	270	----	270	265	----
(D,E) Middle-High, and High	317	289	301	347	295	317

(*) There are no students from groups A through C who attend private paid schools.

Source: Ministerio de Educación (2004), Programa SIMCE, Resultados 2003, Santiago.

The data reveals that the differences between socially homogeneous groups are definitely greater than those observed between types of schools. Thus, the difference between groups (A) and (D, E) in municipal schools (column 2), for example, is 91 points (equivalent to almost two standard deviations in the SIMCE scale). In contrast, the

differences between types of schools, for any given socially homogeneous group, are minor and not always in favor of the private schools (see row 3 in Table 33).⁵⁹

Table 34 summarizes the differences in national learning results averages, for both language and mathematics, for all socio-economic groups distinguished by SIMCE, by types of schools, comparing 1998 with 2001 and 2003. In addition, the statistical significance (or lack thereof) of the differences between years, is registered.

Table 34 Differences in average learning results in the 10th grade, per year, subject, type of school and socio-economic group, and their statistical significance (1998–2003)

Socio-economic groups (a)	Language						Mathematics					
	Municipal		Private Subsidized		Private Paid		Municipal		Private Subsidized		Private Paid	
	Var 01 (b)	Var 98	Var 01	Var 98	Var 01	Var 98	Var 01	Var 98	Var 01	Var 98	Var 01	Var 98
A. Low	●-2	▲+6	●+1	●+4			●-5	▼-6	●0	▼-8		
B. Middle-Low	●+1	●+2	●0	●+2			▼-6	●-5	●-3	●-5		
C. Middle	●-1	●+3	●-2	●-3			●-2	▲+5	●-2	●-4		
D-E. Middle-High and High	●-3	(c)	●-2	●-1	●+2	●-1	●+6	(c)	●-2	●+3	●+5	▲+13
Total National	●+1	●+4	●+2	●+1	●+3	●+1	●-3	●-4	●+1	●-3	●+5	▲+13

▲ = significant positive variation; ▼ = significant, negative variation; ● = not significant variation
 (a): socio-economically homogeneous groups based on four variables: mothers' and fathers' educational level; family income and school vulnerability index. The groups for the SIMCE tests of 2003 represent: A = 19%; B = 45%; C = 23%; D = 8%; E = 5% (of a total 243,151 students). Ministry of Education, *SIMCE Resultados 2003*. Santiago (April 2004).
 (b) Var 01 refers to the difference between years 2001 and 2003; Var 98 refers to the difference between years 1998 and 2001.
 (c) It is not possible to compare with the year 1998 in this category because there are too few municipal students in it.

There is a consistent but predominantly not significant improvement in the national averages for language among the two lower groups (low and middle-low), which

⁵⁹ The evidence referred to, both in primary and secondary education, has already been the basis for “three generations” of econometric papers (Sapelli 2002), trying to determine the comparative effectiveness and efficiency of municipal and private subsidized schools. As mentioned in footnote 7, a meta-analysis by C. Bellei (2005) of 10 such studies, shows the high sensitivity of the results to methodological assumptions and how this explains that they do not converge. See for example, Bravo et. al (1999), Carnoy and McEwan (2000), McEwan (2001), Vegas (2002) demonstrating no advantages of private subsidized schools over municipal schools, compared to Sapelli and Vial (2002), Gallego (2002), Mizala and Romaguera (2003) who demonstrate advantages of the private subsidized ones.

is most marked for the 1998–2001 period. The greatest increase was for the low group in the municipal schools in 2001 of plus 6 points (statistically significant); while those attending private subsidized schools also showed some improvement of plus 4 points (not significant). Other group results vary. The low and middle-low groups make up 64 percent of enrollment. At the national level (bottom row in table), although the signs of the variations are all positive, they are not significant and the key indication is of stability.

In mathematics, the pattern is slightly negative for the lower groups and positive for the upper groups. The low and middle-low groups' results dropped slightly, but consistently. In the case of the low group, in statistically significant terms, between 1998 and 2001, both in municipal (minus 6) and private subsidized schools (minus 8), results continued to decrease in 2003. However, the middle-high and high categories (13 percent of enrollment) improved consistently, particularly in municipal and private paid schools. Only the private paid schools attending the middle-high and high groups obtained a statistically significant increase in 2001 of plus 13 points.

The contrasting social patterns of language and mathematics results raise questions yet to be addressed by research. The data points to the new curriculum's implementation in both disciplines and its differentiated impact among students with different cultural capital. It is not just that the stronger groups in economic and cultural terms are taking more advantage of the new learning opportunities: whilst this appears to be so in mathematics, it is not the case in language, where the situation is the reverse.

These results raise key issues about teacher understanding of the new curriculum in both subjects, their preparation, and their ability to convey it effectively in markedly different social contexts. In addition, how students react to these changes require investigation before advancing interpretations on such a complex pattern of results.

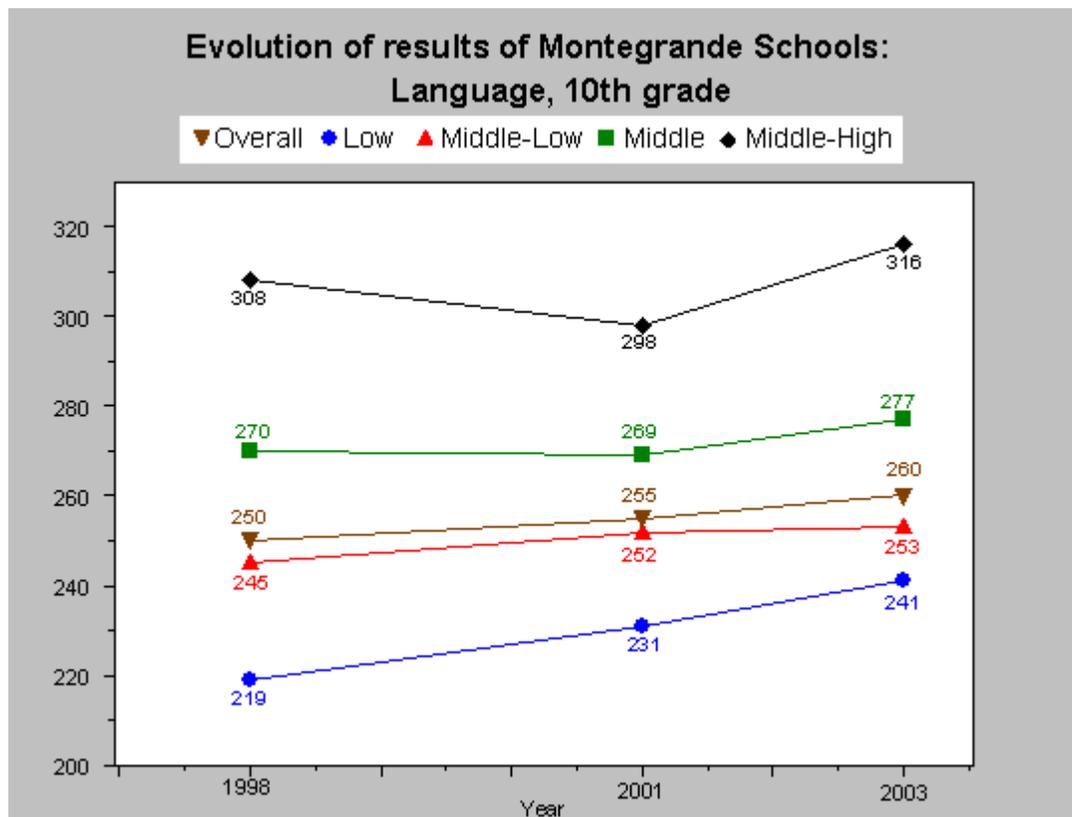
5.6 Learning results in the case of a targeted effort

The preceding analysis refers to all secondary education results. The *Montegrande* program, as a targeted program, provides valuable insights for policy about the scale of interventions and results. The *Montegrande* project (see section 3.2.2), included 51 schools with an enrollment of approximately 40,000. By the third year of its implementation, eight schools had left the project as they were not able to comply with

the minimum management requirements. Thus, the following data refers to the 43 *Montegrande* schools that finished the project.

The *Montegrande* schools showed gains in language and mathematics, measured by SIMCE, in 1998, 2001, and 2003 as shown in the following figures. The results are shown for *Montegrande* enrollment and the SIMCE socio-economic categories of the preceding tables. There have been clear and demonstrable improvements in these schools and these are most marked in the 2001–2003 period, i.e., after year three of the project.

Figure 16 *Montegrande* learning results in language: 1998–2003

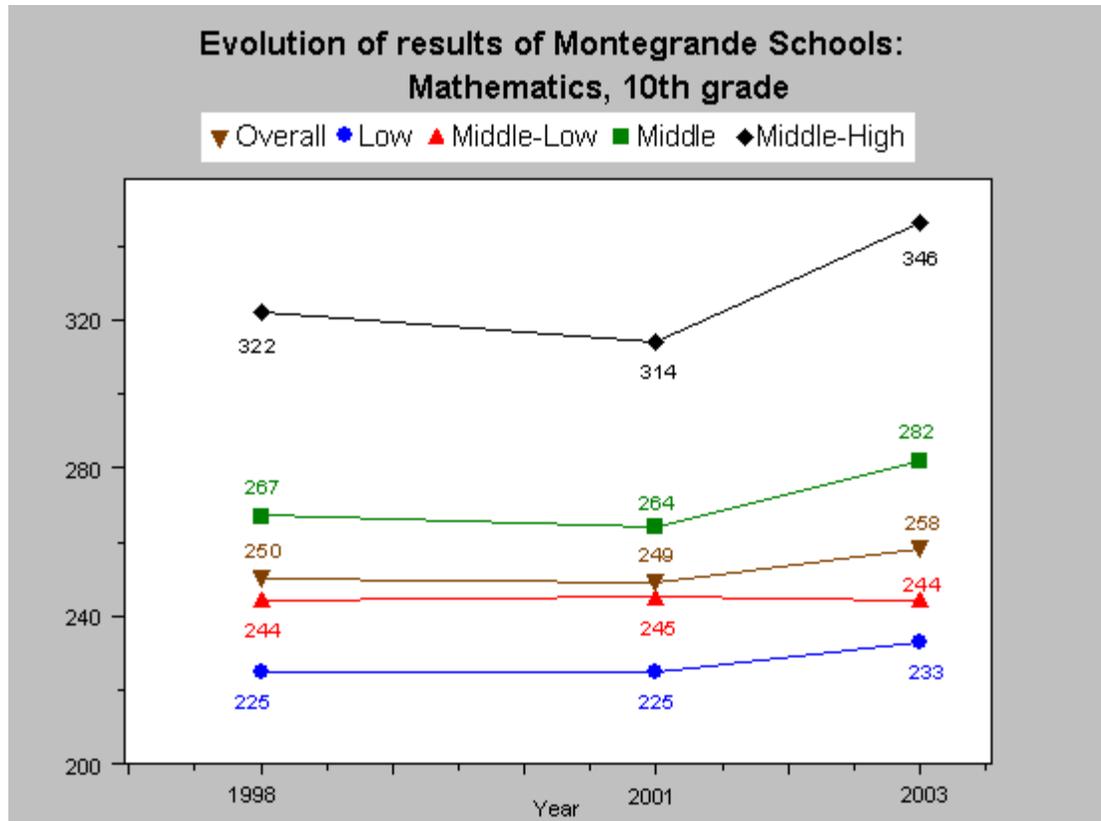


Source: Ministerio de Educación, Unidad de Currículum y Evaluación, Programa SIMCE, 2004. The 10th grade of the 43 schools had an enrollment of 8,466 in 2003. The different socio-economic groups of Figures 15 and 16, in 2003 had the following number of students. Low 1,453, from 10 schools; Middle-Low: 3,791, from 17 schools; Middle: 3,117, from 15 schools; Middle-High: 105, from 1 school (Ministerio de Educación, SIMCE and *Montegrande*, 2004).

The results in language for the whole set of schools show improvement: trends of plus 5 points between 1998 and 2001, and plus 5 points between 2001 and 2003, which are not statistically significant. When analyzed by socio-economic groups, the results show that the schools serving the poorer students (low group) made the most substantial

advances for the five year period: 22 points (statistically significant). The other three groups also improved. In three instances the differences are significant: plus 7 points between 1998 and 2001 for the middle-low group; plus 8 points between 2001 and 2003 for the middle group; and plus 18 points for the middle-high group between 2001 and 2003.⁶⁰

Figure 17 Montegrande learning results in Mathematics: 1998–2003



Source: Ministerio de Educación, Unidad de Currículum y Evaluación, Programa SIMCE, 2004.

In mathematics, *Montegrande* schools as a whole dropped one point between 1998 and 2001, and then obtained a statistically significant gain between 2001 and 2003: plus 9 points. In terms of results by socio-economic groups, save for the middle-low category, all of the groups experienced statistically significant gains; the 8 point increase between 2001 and 2003 of the low group; the 18 point increase of the middle group, and the 24 point increase of the middle-high group, for the same period.

⁶⁰ This group corresponds to only one school. The drop this school experimented in language between 1998 and 2001, (minus 10 points) is also significant.

The *timing* of the gains is important, as these are more marked in the later 2001–2003 period than the earlier period, which confirms ideas about temporal requisites for innovation in secondary schools. To take root, learning must go through a period of adaptation and flux, which can sometimes be detrimental to outcomes.

The value of the *Monte grande* program for Chile's secondary education is that it firmly identifies the importance of quality as a key policy issue, as well *which* results from comprehensive curriculum change take place and *when* they can reasonably be expected to occur. We shall return to this in the next concluding section.

6. Issues, Interpretations, and Challenges

The results examined in the previous chapter show a multidimensional and varied picture, with unprecedented progress in terms of access and advancement in secondary and tertiary education, particularly impacting the lower income quintiles, and significant and long lasting changes in the temporal and material basis of the educational experience of the majority populations. These dimensions, both of undisputable importance and consequence, are achievements which, understandably, do not form part of the policy debate in Chile. In this case, an “issue” can be understood to be a public concern which does not comply with a standard. The platform for providing practically universal access to education and remaining in it until completing twelve years of schooling, in an appropriate set of temporal, material, and institutional conditions, regardless of socio-economic background, is an enormous achievement of the policies under study and does not constitute an issue. The main issue about education, instead, is fundamentally about a contradiction: after more than a decade of an educational reform effort of a vast scale, average learning results have not improved significantly, and inequalities in their social distribution remain strong.

The interpretations about lack of results in these two strategic dimensions are twofold:

- 1) The school system is experiencing an institutional contradiction between two sets of rules and orientations which co-exist in spite of being ideologically opposed, producing system-level incoherencies which are blocking the achievement of better results in learning and the equity of its distribution. One is the inheritance of the 1980s and trusts markets and competition between schools for producing quality. The other, amply supported by teachers and notably present in the policies of the 90s, considers that central government needs to have a clear vision of good education and intervene and regulate to produce it and equitably distribute it. The synthesis attempted by the reform policies of the 90s would not have produced the required level of coherence, which would explain the “lack of impact” of the policies. Right and Left coincide on this interpretation: the “model” in place would be at fault, because

of its ineffective mixing of market and state logic, which for the former would produce weak or inadequate incentive structures, and for the latter ineffective regulations and supports. The proposals for change seek coherence through predictably opposing means: the Right demands less regulation, more free rein for competition, and fewer Ministerial programs; the Left demands more regulation and centralized interventions (Libertad y Desarrollo, 2002, 2005a, 2005b; Colegio de Profesores 1997, 2005).

- 2) An alternative interpretation is favored by a sociological perspective which considers that the school system of Chile, in order to produce better learning results, has to be effective at the very difficult task of compensating strong social inequalities in cultural capital in society. This compensating function is not being achieved because of the weak presence in the system of effective schools, able to produce higher quality learning results independent of the social and family distribution of cultural capital. Thinking pragmatically about the means to produce such effective schools, the focus here is on capacity building (Brunner 2004).

Regarding the first set of interpretations—that of a system with contradictions—whilst sharing their common diagnosis of “sub-optimal” coherence in the system, this report does not agree with their solutions, which while opposed in orientation, share the same strategic principle: to simplify the existing institutional configuration, reducing it to its either “pure” market or “pure” state principles. It is of the essence of the political stance in which the policies examined, and this report, are embedded, that the positions which reject the state-market mix are regressive and that the “pure” models are much less able to answer to present-day challenges of quality and equity than the mixed ones. Besides, both “pure” models in Chile are politically implausible. The way ahead then, in our opinion, is to strive for more coherence *within* the market-state mix which Chilean society has constructed for its educational system in the last quarter of a century, and be more effective at capacity building than has been the case so far.

Within the sketched parameters, we shall attempt to specify the major challenges confronting the school system of Chile by the middle of the first decade of this century and, particularly, its secondary education level.

Challenge 1

Institution building: adjust incentives, increase accountability

Interpretations which focus on the incoherencies and contradictions present in the synthesis between choice and integration models achieved by the policies of the 1990s, do not lack evidence to substantiate their validity. Amply recognized system-level incoherencies point to: i) inexistence of incentives for municipal education, where market pressures, via competition for enrollment, have never been effective, as no school was ever closed because it was losing students; ii) legally established distance (1981) between the Ministry, in charge of technical-pedagogic issues, and municipalities, responsible for administration; iii) most private subsidized schools selecting students, distorting competition with municipal education and enhancing social segmentation of the system; iv) a political stalemate on rules for renewal of school directors designated in the 1980s, producing a block on a key factor in the policy-induced search for “effective schools;” v) Ministry’s supervision system unable to reach class-rooms and support teaching’s improvements effectively; and finally, vi) the per-student subsidy is linked to class attendance, and has been highly effective for coverage goals, but not for learning outcomes, and therefore at present is not working as an incentive for what is society’s key concern: learning. (Beyer, Eyzaguirre B., Fontaine 2000; Libertad y Desarrollo 2002; Mizala and Romaguera 2005; García-Huidobro 2005; Arellano 2005; Eyzaguirre, N., Marcel, Rodríguez, Tokman 2005; Montt, Elacqua, et.al. 2006)

OECD’s 2004 report to the Chilean government on its educational policies from 1990 to 2003 conceptualized some of the aforementioned contradictions and incoherencies in terms of a “weakly linked system” where the connections between the policy level, (the Ministry’s centrally determined policies, which the report evaluates as adequate and consistent), and the classroom level are weak. According to this report, the teacher finds herself or himself under-prepared to teach the new curriculum and, in practice, devoid of effective support, because the Ministry of Education’s supervisory capacities are not specialized enough to evaluate and support the improvement of teaching practices within classrooms. In addition, the competition for students has no effect on the municipal system, where the pressures for

performance theoretically intrinsic to the per-student subsidy mechanism and its associated competition for enrollments, have been demonstrably ineffective in practice.

A fundamental challenge, then, is to adjust incentives and accountability mechanisms in the existing quasi-market for education provision so as to produce a structure of pressures for schools and teachers that today is weak or lacking coherence. There is convergence in policy-making circles in Chile that spans the government/ opposition divide,⁶¹ that two changes to the per-student subsidy could make crucial progress: firstly, to raise the requirements for access to the per-student-subsidy, linking it to educational results. This would make schools accountable not only for making their enrolled students “attend classes,” but also for learning up to certain minimum, publicly recognized, standards. The voucher mechanism, as has been referred to earlier, has been effective in ensuring the expansion of coverage and attendance rates, but now this momentum needs to be coupled with the production of learning results. Secondly, and with direct consequences for equity concerns, the voucher needs to be radically increased for the poorer groups, in order to compensate for social and family background disadvantages which demand more personalized attention, more effective teachers and support from other professionals.⁶² Additionally this would help decisively to compensate for the resources that co-payment schemes bring into schools providing for higher income and more educationally-oriented families.

Publicly recognized and mandatory learning standards—which are both the minimum to be achieved by schools and a guarantee for the students that attend them—are a crucial part of these changes in the *subvención* (subsidy). With a curriculum which is recognized as relevant and consistent with international standards, and national census-like annual testing of its learning goals in key grades (4th, 8th, and 10th), Chile has most of what is required in terms of information systems for setting up stronger accountability relationships, focused on learning results.

⁶¹ See: Libertad y Desarrollo (2005a and 2005b), for the Opposition and Eyzaguirre N., Marcel, Rodríguez, Tokman (2005), for the Government.

⁶² As mentioned in section 1.4, this change was presented as a law project by the Executive to Congress at the end of 2005.

Challenge 2

Capacity building: initial teacher training, professional development and support

The growing number of national and international assessments of school learning outcomes is providing educational policy makers worldwide with new and powerful tools for making schools, teachers, and administrators more accountable. But, as the researcher and theorist of educational change Richard Elmore asks, “Is it ethical to hold individuals—in this case educators—accountable for doing things they don’t know how to do and can’t be expected to do without considerable knowledge and skill...?” (Elmore 2003: 6 quoted in Fullan 2003: 56).

The issue here is that good assessment systems can be set up comparatively quickly, far more quickly, cheaply, and with higher visibility than effective support systems for teachers, which are required so they can reach the new performance levels. There seems to be a built-in bias in ministries of education in favor of accountability and pressure, which—intended or not—results in an imbalance against teacher capacity building policies, which are more expensive and difficult to set up and less visible for the public in the short run.

In the Chilean experience, we have advanced more and faster in our assessment capacities than in our teacher professional development efforts.⁶³ The challenge here is to redress this imbalance, working with greater resources, energy, and intelligence at capacity building for teachers. Thus, come to the second type of interpretation quoted above, which focuses on the capacity gap that impedes having enough “effective schools” in the system. The gap to be bridged is fundamentally about teachers’ preparedness to teach the new curriculum, and schools directors’ capacity for managing the extremely complex institutions that schools have become under the new pressures to deliver not only “more schooling years” to everyone, but a higher quality educational experience during those years.

The teaching problem affecting Chilean education was bluntly defined by OECD as follows:

⁶³ It should be recalled that Chile has not only SIMCE (evaluating learning results of students) but now also a national system for assessing teacher preparation and performance, linked to contracts and wages.

The weak coupling between the reforms and initial teacher education helps create a major “capacity gap” in the teaching force. This puts most pupils in the country into classrooms with teachers who, through no fault of their own, have been inadequately prepared to teach mathematics, language, and other subjects at the standard required by the new Chilean curriculum. Large salary increases for teachers in the 1990s have begun to attract much higher achieving high school graduates into education faculties. But the teacher education curriculum in universities does not seem to be keeping pace in providing stronger subject matter preparation or linking pedagogical courses to the new curriculum. (OECD 2004: 267)

The nature of new requirements for teacher preparation is long and challenging, and can include: effectively addressing each student’s individual learning needs, working effectively in diverse and multicultural environments, integrating ICT, being assessment-literate, addressing cross-curricular themes, working and planning in teams, building learning communities with external agencies, communicating effectively with parents, etc. Four main foci of innovation are being considered in OECD countries as answers to these new requirements:

- a) Developing teacher profiles to provide a consistent framework that aligns teacher education, certification, development, and careers, and assesses the effectiveness of each one of these elements;
- b) Viewing teacher development as a continuum: a conception of teacher education and professional development within a lifelong learning framework.
- c) Placing new emphasis on initial teacher education, adding to the traditional combination of subject matter knowledge, pedagogical knowledge, and practice, the development of skills for reflective practice, research on the job, and working in diverse environments;
- d) Establishing development of induction programs, as it is increasingly recognized that new teachers need special support to be effective (OECD 2005).

Having institutions and processes able to train professionals with the above mentioned capacities, and tackle an agenda of change like the one OECD proposes,

presupposes a consistent framework of linkages and cooperation between the Ministry, teacher training universities, and schools. In Chile, as elsewhere,⁶⁴ the gap between teacher education and the needs of schools is a major problem. It affects the effectiveness not only of teachers' initial training but also of in-service professional development strategies that rest on the very institutions which have been, many times, manifestly out-of touch with the schools and their demands. This was diagnosed early on in the mid-nineties, and the solution to the issue became one of the goals of a special program for renewing the 17 faculties of education described in Section 3.6. The advances made then—the students teachers' practicum was moved to the initial years and strengthened—need to be upgraded and complemented.

Transforming the existing institutional basis for educating teachers, making it capable of using new knowledge and generating the required competencies, is the main policy issue in this domain. Two criteria for change that have received ample support are: the introduction of evaluative and accountability mechanisms in the training of teachers (national certification of teachers that join the subsidized sector, for example); and having a much stronger and effective stance on the part of the Ministry of Education to stop existing schemes of distance-learning modalities of teacher training set up by some universities on a purely commercial basis, with scant regard for quality standards. These schemes have grown in the last seven years, not only producing poorly trained teachers but also eroding the enrollment basis of normal programs, which take double the time to obtain the same degree and professional qualification regarding employment in the system. Both ideas are central proposals of a recent ad-hoc commission, supported by all of the main institutions responsible for teacher training in the country (Comisión sobre Formación Inicial Docente 2005).

Challenge 3

Capacity building: principals, supervisors, and “coherence-making”

In a highly decentralized system like the Chilean one, which has a very active state implementing multi-dimensional policies aimed at school reform, and where top-down and bottom-up dynamics both have an important weight, “it is easy to experience

⁶⁴ Two recent analyses of teacher education in the U.S. (Darling-Hammond, Bransford 2005; Labaree 2004) raise the issue of its distance from the world of schools.

overload, fragmentation, and incoherence” (Fullan 1999: 27). Fullan argues that schools, districts, and national systems must “attack incoherence” if they want to be effective in contexts in which change forces abound.

Since the natural state in complex societies is confusion, it follows that those who are successful vigorously work at meaning-making. Neither top-down nor bottom-up strategies by themselves can achieve coherence—the top is too distant and the bottom is overwhelmed. This is why Nonaka and Takeuchi (1995: 128) conclude that middle managers (e.g. principals) are essential as integrators and synthesizers. This is why Bryk et al. (1998a) found that the Chicago schools who were most effective had principals who helped staff ‘attack incoherence, make connections, and focus on continuity from one program to another.’ (Fullan 1999: 27)

The push for quality and equity in the new conditions generated by the policies and reform of the nineties requires complementing capacity building for teachers with an equivalent effort aimed at the two key actors from “middle management” referred to by Fullan: school principals and Ministry supervisors. They should play the “meaning-making” role that seems to be at the core of producing a better fit between educational policy and the culture and operational capacities of teachers, school proprietors, and administrators.

Principals

In the 1980s, school directors—a recognized lynchpin in the complex functioning of effective schools—were designated by the military government to receive life-time appointments and were not subject to renewal because of a political block to the modification of their tenured status. It wasn’t until 2003 that, after two failed attempts, legislation was passed that permitted the renewal of school directors’ appointments. It is difficult to fathom the scope of the consequences of this fact for municipal education, both elementary and secondary, but it is very clearly an immediate challenge to confront. Better qualified teachers need better school contexts for producing the required learning levels, and this depends crucially on the quality of leadership. If this is not renewable, any attempt to make schools more accountable will falter, and a generative factor in the complex functioning of an effective school will be amiss. However, high stakes are not

the only thing needed to help transform the role of principals, but also systematic support and professional development strategies to transform and enhance their capacities.

Supervisors

Ministry of Education supervisors have had a key role as communicators and implementers of centrally determined changes. They have worked on ensuring that the ministerial programs and initiatives reached teachers and schools in a consistent but general—not contextualized—way. Two clear limitations need to be dealt with if their role is to fit the new phase of the reform requirements. First, they need to be able to get into classrooms and support teachers in a much more specialized manner than has been the case so far: with less emphasis on contexts, social relations, and school climate, and more emphasis on teaching and learning specific curricular areas. Secondly, they need to be able to help schools in reshaping national-level initiatives, and inform and influence not only in a “downwards” manner (from center to schools) but in an “upwards” manner (from schools and local contexts, to center) as well. The ministry should try to conceive them as middle-level managers able to “produce coherence,” and to transform the tacit knowledge of teachers and schools into explicit new knowledge, a key aspect of communicating and learning effective practices.

Challenge 4

Secondary education: new students’ cultural and pedagogic requirements; specific challenges of technical-professional education

Moving from intended, to implemented and attained curriculum (TIMSS’ famous distinctions about curriculum, from Schmidt et.al. 1997), is a crucial challenge for Chilean secondary education today and necessitates bridging the gap between the demands of the new curriculum, both in general and technical-professional education, and secondary teachers’ preparation to deliver it. This gap refers both to disciplinary content knowledge and the high pedagogical demands of teaching the new curriculum to practically the entire age group.

New teaching competencies for new students

With coverage exceeding the 90 percent level, Chilean secondary education needs to tackle the risks of educational exclusion *within its liceos* of the students that experience

difficulties in reaching the proposed learning standards. Knowing how to organize secondary education contexts in order to effectively offer learning opportunities not only to those relatively richer in cultural capital and more “school-oriented” groups of students, but also to the newly integrated, is central for the quality and equity agenda at this stage.

Youth and secondary schooling culture

To many teachers, the eruption of youth culture in secondary schools is lived as a value crisis or loss of power. Order has become problematic in many secondary school contexts. Thus, to a growing part of secondary education it is urgent to discover pedagogical and social forms that bridge the gap between teachers and students, which at present seems to be not only generational, but also cultural (Lemaitre, Cerri, Cox, Rovira 2003; Bellei 2003).

Technical education

A challenge that is not new and with very obvious consequences for the quality of technical-professional secondary education in Chile is the nonexistence—or incipient existence—of an institutional basis for the specialized preparation, assessment, and professional development of teachers in the technical areas. “There is an overwhelming impression in the system that currently, vocational school teachers are not well served by the teacher training programs on offer” (OECD 2004: 199). With close to 40 percent of secondary level enrollment in the vocational modality, this vacuum should be a central challenge (particularly because it is traditionally postponed). First steps in this direction are the constitution of a state funded consortium of nine universities which have won projects for initial training and professional development of vocational teachers (Chile Califica 2006).

In spite of the rationalizing impact of the curriculum reform in the modality, “there still remains a high percentage of the technical-professional enrollment (in programs) which answer to local social demands, but without connections to the labor market or to national development needs of its productive basis” (Chile Califica 2006: 43). The challenge here is institutional as the state has no adequate instruments to assess and control the relevance of what is being offered.

7. Generalizations on Policy-Making in Education

Are there lessons to follow in this national experience of attempting to reform secondary education? Educational reforms are so context-specific and historically-bounded that “lessons” doesn’t seem to be the right word. Instead, we shall close by identifying, from the policy making viewpoint, some general points which may be useful for international comparisons

7.1 The Chilean case study and generalizations on education policy processes

For Haddad (1994), “education policymaking is an iterative and not a linear process.” He concludes his study of reform-analysis in four countries, identifying the key features of policies which stand a chance of success.

- Examine education within its overall context.
- Fully and thoroughly formulate and evaluate policy options.
- Take an incremental rather than synoptic approach to decision-making, introducing change in a step-by step manner.
- Devise plans of a broad enough nature that they can be adapted over time, and that complement policy at the national level (Haddad 1994: 260).

Schiefelbein, Wolff, and Schiefelbein (1998: 22), drawing on an ample literature and a wealth of experience, particularly in Latin America, conclude the following:

- Implementation problems are difficult to estimate beforehand, and are linked to most failed attempts at reform (McAdams 1997; Verspoor 1989).
- The likely contribution of policy instruments (mandates, incentives, training, funding, assessing, local decisions) depends on goals and context (Neustadt 1970).
- Any change (even a small one) involves breaking traditions and affecting many social relationships that support a return to old patterns. The analysis of major school reforms shows that “.... even moderately complex changes take from three to five years, while major restructuring efforts can take five to ten years” (Fullan 1991).

- All successful reforms include coherence and institutional capacity building (Chrispeels 1997; Lockheed and Verspoor 1991; Rondinelli et al 1990).

The Chilean case is consistent with the preceding statements. To summarize in bold strokes, it has been an iterative process with ambitious and growing goals associated with change. The case's implementation strategies made the most of coherence and stability of its actions; it also resorted to a wide range of policy instruments, relatively untrammelled by ideology. All of this has contributed to achievements in access, inputs, and aspects of equity in secondary education but slower and ambiguous gains in teaching practices and learning.

7.2 No strict rules on process: it depends on goals and context

We confirm the importance of the “process follows goals and context” principle (Section 4.4), and replicate what is found in the literature. The process is strongly influenced by the policy cycle and this in turn depends on the goals of the policy problem at stake, the context in which it will develop, and the actors and political and social forces involved. Not every policy action or goals demands the involvement of every stakeholder or relevant institution. Moreover, there is nothing intrinsic to a policy-issue that will determine the public or bureaucratic nature of the arenas in which the policy process will be played out (Grindle and Thomas 1991)—this will depend on context. A central issue for policy-making is how “context” is assessed and judged (and, it might be added, for multilateral agencies working in national contexts also). The key question here, in our view, is how well grounded the knowledge and political basis for that assessment is, and how far it is a leap into uncertainty.

7.3 Incremental or synoptic approaches?

An understanding of the Chilean case is helped by Haddad's important distinction between incremental and synoptic approaches to educational reform (Haddad 1994). The Chilean experience of reform in secondary education in the nineties demonstrates that change can be approached in modules, each one of which triggers a particular process or policy-cycle, and characteristic outcomes. The comparisons between the political processes behind MECE, the Curriculum Reform, and the Full School Day reform illustrated this. The central issue for an incremental process, like Chile's, concerns the

accumulative or synergistic nature of the different “steps;” the connection between its parts or modules and its cumulative impact on the quality and equity of learning opportunities in the system. As the three changes belong to a single strategic vision, politically and technically realized by the same political alliance and technical leadership, the interrelatedness of the “steps” was to a great extent ensured. How to judge “steps” or modules of change in less stable political conditions, which make it very difficult to foresee the “next steps,” is surely a critical issue for educational policy-making.

7.4 Iteration and learning

The evolution of the policies examined were not the result of linear planning deriving from a blueprint decided at one original point in time, but of iteration and learning. A major feature of the processes described is the following: policy makers and policies belong to three different governments that paid maximum attention to education, and were conscious to the value of continuity and the cumulative nature of their efforts. As we argued in Section 2, there was no master plan or blueprint for implementation at the beginning of the nineties, but rather an open-ended process of capacity building, of learning, whereby each step and new design was fed by the experience of implementation of previous ones.

The consultation processes of the early nineties were a basis for organizing later consultations about curriculum reform while the implementation of the MECE program taught key lessons for the new curriculum design and prepared teachers and schools for its implementation. The implementation of MECE was also instrumental for designing focalized programs, like *Montegrande* and later, *Liceo Para Todos*.

Goal consistency and strategy continuity became fundamental to learning processes for teachers, policy-makers, and organizations. Learning was the basic prerequisite and logic of the process characterized by gradualness and cautious scaling up, time employed for building-up trust at the political level, and building knowledge with educational institutions and their actors.

If the agenda is about quality, then actors’ visions, knowledge, and performance are central to the reform agenda. If the crucible of reform is doing things differently and better, then learning is the strategic process and iteration must become the preferred method. Throughout, in Chile’s reform, continuity allowed for iteration, which then

produced learning. If there is a lesson here it is that a reform process improves if it can go through more than one cycle of innovations. The Chilean educational reform of the 1990s had time and indeed made full use of it. Consensus on the reform's main directions meant both strong support and time: time for consulting, piloting, and for phasing of priorities; time for dissolving dilemmas into smaller but accumulative steps, intrinsic to incremental innovation processes.

7.5 Political factors contributing to the reform

If it is true that “Educational development is extraordinarily complicated because it involves and affects a large number of beneficiaries and providers, as well as political figures, all of whom have a stake in the process and the outcome” (Haddad 1994: 260), the political process of constructing or developing a configuration of forces favorable for its acceptance and implementation is therefore decisive. From this viewpoint, how does the Chilean case fare?

Favorable context

The most fundamental of favorable political factors in the case of reform being analyzed was the search for agreement and consensus in the country's political and economic elites, throughout the nineties, regarding key strategic political and economic matters for the country's development, including education. This factor added to its arguably political genesis—comparable electoral and parliamentary forces,⁶⁵ a socio-cultural dimension linked to a past of traumatic and prolonged conflict lived by the generation now in power, which ended with the political construction of the transition from an authoritarian military regime to democratic rule in 1990. The consistent search for consensus and balance has evident roots in two preceding decades of open and tragic conflict.

Political and policy-related factors contributing to reform in education

An analysis of political and policy-related factors contributing to the success or failure of educational reform published by the World Bank in 1999 (Corrales 1999),

⁶⁵ A practical draw of forces in Congress, resting on a number of non-elected members in the Senate, designated by the military government and accepted by all political forces as part of the transition agreements. A reform to the Constitution to modify this non-democratic composition of part of the Senate was passed by Congress in August 2005.

identified 12 “conditions that may enhance education reform adoption.” Eleven of these directly apply to Chile’s case in the nineties:⁶⁶

- Combining access elements with quality reform.
- Following an incremental rather than an all-encompassing approach.
- Inclusion of educational reform in wider context changes (political or economic).
- Low rotation of leading teams in relevant ministry.
- Links with external world of educational decision-making field.
- Independent pro-reform advisory councils.
- No fragmentation of the teaching-union which may hinder union-government cooperation.
- Strategies of ample communication increase demand for reform.
- Involvement of potential beneficiaries in reform design and evaluation.
- No linkages and alliance between teachers’ union and opposition parties.
- In cases of decentralization, grant greater financial autonomy to local entities.⁶⁷

There is a common underlying dimension to this specification of strategies and conditions favorable to reform: the accumulation of power and how it is organized to carry out change. And this refers to not just any form of power, as quality reforms decisively rest on teachers’ and other stakeholders’ vision and beliefs regarding their necessity and main features. Mandates that do not rest on shared visions and beliefs are not effective in the context of an agenda for educational quality reform. From this viewpoint, Chilean reformers were consistent and successful in building up a base of political power and knowledge for the reform, which were embedded in three major political and cultural *bridging* processes: firstly, *ideological and political* bridging, secondly *institutional* bridging, and thirdly *international* bridging.

First: *a bridge between ideologically and politically opposed camps*. The reformers were consistent in framing their vision and strategies for educational change in

⁶⁶ Corrales (1999), Table 1. The one factor that does not apply in the Chilean case in the period considered: “preempting strategic coalitions between cost-bearing groups.”

⁶⁷ This condition was structurally established in the 1980s, when the per-student subsidy was established.

national, not partisan terms. For a politically sophisticated society emerging from a recent and lasting experience of tragic confrontation, this could not be just a matter of adequate communication or rhetoric, but rather had to be constructed in practice. The two camps had to work together, in the National Commission of 1994, and in Parliamentary legislation, and see for themselves how agreed upon measures were implemented. A long-term strategy over time permitted each camp to learn from the other, increasing trust and approaching change in a convergent way.

What is remarkable about the results of this first and critical bridging is observing the number of alternatives that came to be adopted by the opposite political camps regarding educational policy-making and reform. For the reformers of the 1980s, who were strong supporters and implementers of models of *choice*, their fundamental premise was that education is a key lever of the country's economic competitiveness and the hub for national development. For them it was a strategic sector for private providers and beneficiaries of schooling working as units in competitive quasi-markets. Later, however, in agreement with the government, they shared the view that Chile in the 1990s needed centrally determined state policies that went beyond the deficit-compensation (financial and educational) subsidiary role conceived for the state in education in the 1980s. In contrast, the reformers supported social and cultural *integration* models. However, they had learned the value of competition and market principles—in the context of some educational policies—as a way of increasing efficiency, putting pressure on organizations and their management, and making them more open to innovation and to the needs of their beneficiaries. For the teachers' union, the third and key political actor, its acceptance of a professional, instead of a bureaucratically or politically protected collective identity, (including the need to evaluate teachers' performances), was a fundamental contribution to the process.

Second: *a bridge between institutional boundaries*. This fundamental *bridge* was between education and production, and the best proof of its effectiveness is the curriculum reform of technical-professional education. This could not have been produced in its technical dimension, nor could it have garnered the force it did for its

implementation had it not been for years of collaboration between educators, academics, and leading professionals from different sectors of the economy.⁶⁸

Third: *a bridge between national boundaries*. The reform of the nineties is without doubt the most informed by international comparative analysis in Chilean history, and also the most connected to international networks of knowledge, finance, and instruments for educational reform. Authorities were well connected with international knowledge networks, finance, and instruments for educational reform. This third bridge was also linked to the first—the national vision of educational policy—which it validated and strengthened with the systematic and comparative use of knowledge from international examples. Chile worked on two major projects of investment and innovation in primary and secondary education with the World Bank, participated in the TIMSS and PISA evaluations, and most recently was evaluated by the OECD.

Hence, the reform of secondary education in Chile in the 1990s rested on a wide-ranging convergence of political forces, which was available due to larger historical and contextual reasons: a thirst for consensus after a long period of division and authoritarianism coupled with the need to have a national approach to educational policy responding to the pressures of globalization. The fact that the potential is being realized has a lot to do with the three bridging processes which continue to characterize government policy.

7.6 Participation and the trade-off between consultation and innovation

Participation was an important part of curriculum reform for substantive and political reasons: first, because it was expected that public deliberation would improve the Ministry's proposal, not least of all because it would enrich the perspective of its designers and developers with the views stemming "from concrete realities." Second, participation would encourage a greater consensus on approach and structure, encouraging teachers in particular to comment on and perhaps embrace its contents and methods.

⁶⁸ History helped here, as at the beginning of the 1990s, the main associations of industry, agriculture, and commerce already had a decade of experience running selected technical-professional public schools which the military government had required them to administer. (See Section 1.4, Table 2: Corporation Schools.)

The main lesson is that there is a trade-off between consultation and innovation. The broader and more authentic the curriculum consultation with teachers was, the stronger the basis for future implementation, but also the greater the limitations to change. What is gained in terms of legitimacy and the feasibility of implementation is possibly lost in terms of a reduction in innovation. The Ministry's initial proposal was more innovative and radical than that finally approved, following the 1997 consultation process which revealed teachers' inherent conservatism about curricular structure and its "add-on" approach to curricular change (more contents, because new social issues and knowledge-producing environments). The curriculum Reform advanced in terms of structure, but the overhaul was not as large as first proposed.

Finding ways to balance this trade-off was at the core of finding a workable and acceptable curriculum.

7.7 Implementation

In many cases, reforms have been attempted when the administrative or political resources to implement them did not exist...Our analyses and cases suggest that unsatisfactory outcomes result, in significant measure, from an overemphasis on the decision process, from an assumption by decision makers that fate or implementation managers will take care of carrying out the desired changes, and that there is little reason for a specific strategy of implementation. (Grindle, Thomas 1991: 149)

Contrary to the cases studied by Grindle and Thomas, in Chile, politicians and officials tailored reforms to the availability of financial, managerial, and technical resources, not only in terms of their initial execution but also assuring such resources over time. These commitments were essential to implementation.

Three factors enhanced implementation. First, there was a close working relationship between political authorities, designers of the reform, and those implementing different components of the reform. In the case of MECE, the designers were the professional cadres that led the implementation; the same unit and technical leadership designed the curriculum reform, organized the consultation process, participated in the dissemination and training activities for teachers, and monitored its implementation in classrooms. Second, the implementation relied on the traditionally

slow but strong administrative capacities of Chilean state institutions, strong public financial support, and the technical capacities of new units involved with ICT and mechanisms such as competitive funds. Innovations could be implemented satisfactorily. Third, the reform drew on accumulated experience because of the professional stability of technical professionals and implementation managers, which decisively enhanced the design and implementation of the second cycle of many processes.

7.8 Leadership

The characteristics of the leadership group responsible for secondary education reform were cohesiveness, low turnover, and experience in joint design and execution activities.⁶⁹ By cohesiveness we mean the absence of conflict and competition and the predominance of task orientation over power and control dynamics. This cohesiveness was associated with a generational and political factor—this leadership had not been in power before, and had opposed the authoritarian government of the military. Moreover these leaders were in strategic positions for a decade or more—low turnover—serving three *Concertación* governments.

7.9 Different dimensions of quality and different time-frame of expected results

The greatest political difficulty that Chilean reform confronts nowadays is the contrast between the results (national average learning results) and the costs (tripling the sector's resources; the multidimensional nature of its innovations). Questions are being raised about the effectiveness of the reform policy. Any discussion will have to take into account the slow and difficult task of capacity building for large scale, national systems.

In Section 5 we distinguished four dimensions in the reform's results: access, inputs, teaching practices, and learning outcomes. We described decisive achievements in the first two categories, access, inputs, with far-reaching consequences for the system and more youngsters— more than any time in Chile's history—being able to enjoy extended secondary schooling and in substantively richer educational contexts. These two dimensions are directly dependent on the implemented policies—their timing and pacing

⁶⁹ “While effective implementation requires good analysis and a strategy of implementation, the probabilities of success are higher if policy makers are involved in the entire process of reform rather than assuming that the decision to reform is the critical choice and that what follows is little more than a mechanical process of implementation.” (Grindle and Thomas 1991: 149)

was comparatively fast, linked to coincide with the annual definition of public budgets and the execution of ministerial programs. An increase in teachers' salaries, expanding infrastructure for the Full School Day reform, the provision of computers, the initiation of the *Enlaces* network, and textbooks, are all measures that depended on political will, financial resources, and the consistency and effectiveness of implementation. Their impact is practically immediate and publicly evident—they do not depend on a learning process.

Another temporality altogether affects the other two dimensions of change considered—teaching practices and learning outcomes. The changes here are not related to material or institutional up-grading processes, nor do they have “add-on” logic. They consist of the modification of a pattern of performances by a whole profession. This is the most decisive intra-school factor affecting the quality of learning. The rate of innovation here is crucially mediated by adult learning processes: slow and difficult to obtain on a system-wide scale (Elmore 1996; Fullan 1999, 2003).

The contrast between the *Montegrande* project learning results (with financial resources, autonomy to execute them, and systematic support from the Ministry regarding key curricular and didactic issues), which had significantly improved results, and the slight improvements in language and regression in mathematics at the national level, helps in visualizing potential opportunities and difficulties inherent in “scale.” The results were possible because of a five- to six-year time frame, and the focusing of resources and know-how in a subset of the system. Comparable outcomes for the whole system have proved much slower and difficult to obtain.

Policy making for quality-equity agendas in developing contexts: values and vision from the Chilean experience

We know a lot more about *what* high quality education ought to be than *how* to produce it. Effective schools research has taught us about some of the main components and how to produce quality education in schools, but national systems are clearly another matter.

Thus, a final and relevant message embedded in the Chilean case experience is that educational policies do not travel well internationally unless there are national capacities to process global pressures and influences and adapt and adjust them to

relevant local conditions. We tend not to look into this issue with international comparative eyes and criteria, because it is so evidently a national issue about which it is very difficult to generalize. Yet it is a crucial one: none of the larger quality and equity issues can even start to be tackled without an adequate political buy-in, capable institutions, and relevant time-frames. Furthermore, if policies do not take power and sustainability seriously, their intended effectiveness is compromised and weakened.

What, then, is needed?

We propose, in closing, three foci as particularly important and consequential. First, is *time*. Quality and equity agendas require long periods for implementation and even longer for assessing results. Michael Fullan wrote more than a decade ago that even moderately complex changes take from three to five years, while major restructuring efforts can take five to ten years. The issue here, as will be appreciated, is that political cycles do not coincide with the time needed for effective educational reform.

Hence the importance of the second fundamental focus: *inclusiveness*. If major changes can be achieved in a politically inclusive manner, then there is a greater likelihood that changes in government will not fundamentally affect education's chosen path. Jozef Ritzen, for more than seven years as Minister of Education of the Netherlands, reflecting on the complexities of educational reform once said, "There are two maxims that apply to educational reform: firstly, change without opposition is generally not worthwhile; and secondly, change which remains controversial yields inadequate results. Any attempt at reform must steer a careful course between the two" (Ritzen 1997).

Thirdly, every country unavoidably has to deal with both global pressures and local needs. These simultaneous *global* and *local* approaches require policy-making arenas with close links to international networks and forums, while being firmly rooted in their national context reflecting their economic, political, and cultural needs. From the latter will spring the criteria and capacities for re-contextualizing and adjusting external pressures, for linking external influences to national requirements, and for maintaining

their own identity at the same time that this very identity becomes more open to the world.⁷⁰

These three foci of *time*, *inclusiveness* and *identity* are at the heart of any political process that pursues educational quality and equity. They have been vital challenges over the last fifteen years in Chile and will be so for the next fifteen years or more.

In thinking about what we have learned in fifteen years of education policy-making in Chile, it can be categorized into four (hard-earned) criteria: i) answer with similar consistency and intensity to requirements of competitiveness and social cohesion; ii) dedicate similar efforts to national needs and global demands; iii) sympathize with your opposition; and iv) strive for a balance of epistemologies in terms of vision and of power regarding implementation. These criteria should continue to help reach the ambitious goals that Chilean society has put forth to its educational institutions, and which on the new platform of conditions created by the reform of the nineties need to answer to three fundamental challenges: The capacity gap affecting teachers and their relationship to the new curriculum; the weak links among key institutional domains of a decentralized system, and the high levels of social segmentation and inequality which, against widely-shared equal opportunity and democratic values, still shape the system's institutions and results.

⁷⁰ For a thorough examination of “global and local contexts of reform,” see Gilbert Valverde’s analysis of the mathematics and science curriculum change in Chile in the mid-Nineties (Valverde 2004).

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