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LEARNING STANDARDS, TEACHING STANDARDS AND STANDARDS FOR SCHOOL PRINCIPALS: A COMPARATIVE STUDY

Centre of Study for Policies and Practices in Education (CEPPE), Chile

OECD Education Working Papers No. 99

The study compares the development, characteristics and implementation of standards in different OECD countries, focusing on three different levels for which standards can be developed: (i) students and their learning, (ii) teachers and (iii) school principals and their expected performance. It analyses standards and related policies in general while focusing on the specific approaches adopted in a number of OECD and partner countries and regions, including: Australia (Queensland and Victoria), Brazil, Canada (British Columbia and Quebec), Chile, England, Germany, Korea, Mexico, New Zealand, Norway; and the United States (California and Texas). The text analyses information gathered during 2011.

The study has been developed with contributions from different research teams of the Centre of Study for Policies and Practices in Education (CEPPE). Chapters about learning and teaching standards were developed by Cristián Cox, Elisa De Padua and Lorena Meckes. The section on standards for school principals has been developed by José Weinstein and Gonzalo Muñoz from Universidad Diego Portales and by Javiera Marfán, from the Fundación Chile. Within the OECD, the preparation of this report was coordinated by Francisco Benavides (now at UNICEF) and Beatriz Pont, with support from Rachel Linden and Sylvain Fraccola.

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ABSTRACT

This paper compares the development, characteristics and implementation of standards in different OECD countries. More specifically, it focuses on three different levels for which standards can be developed: (i) students and their learning, (ii) teachers and (iii) school principals and their expected performance. It analyses standards and related policies in general while focusing on the specific approaches adopted in a number of OECD and partner countries and regions, including: Australia (Queensland and Victoria), Brazil, Canada (British Columbia and Quebec), Chile, England, Germany, Korea, Mexico, New Zealand, Norway; and the United States (California and Texas). The text analyses information gathered during 2011.

The paper takes into consideration the content and domains covered by standards, how these standards were developed, how they are assessed and what are the consequences of the results of such assessments, and issues related to the implementation of standards. It ends with an analysis of the challenges of coherence and articulation between the different types of standards.

RÉSUMÉ

Cet article compare le développement, les caractéristiques et l'application des normes dans différents pays de l'OCDE. Plus spécifiquement, il se concentre sur trois niveaux différents pour lesquels les normes peuvent être développées: (i) les élèves et leur apprentissage, (ii) les enseignants et (iii) les directeurs d'école, et leur rendement espéré. Il analyse les normes et politiques associées en général tout en se concentrant sur les approches spécifiques adoptées dans un certain nombre de pays de l'OCDE et des régions partenaires, y compris: l'Australie (Queensland et Victoria); le Brésil ; le Canada (Colombie-Britannique et Québec); le Chili ; l'Angleterre ; l'Allemagne; la Corée; le Mexique ; la Nouvelle-Zélande ; la Norvège ; et les Etats-Unis (Californie et Texas).

Le document prend en considération le contenu et domaines couverts par les normes, comment ces normes ont été élaborées, comment elles sont évaluées et quelles sont les conséquences des résultats de ces évaluations, et les questions liées à la mise en œuvre des normes. Il se termine par une analyse des défis de cohérence et d'articulation entre les différents types de normes.

LEARNING STANDARDS, TEACHING STANDARDS AND STANDARDS FOR SCHOOL PRINCIPALS: A COMPARATIVE STUDY

Centre of Study for Policies and Practices in Education (CEPPE), Chile

1. INTRODUCTION

Over the last two decades educational policies have shifted from a focus on guaranteeing universal access to education and on the provision of materials and professional resources to one centred on learning outcomes achieved by students in the school system. There is also concern about the equity achieved in these learning outcomes.

The widespread use of national and international testing programmes highlighting students' learning outcomes, including the gaps observed between different groups within each country as well as the advances captured by such programmes has helped to focus public attention on outcomes.

The best performing countries have established learning standards and have developed assessment systems to monitor their achievement (Barber and Mourshed, 2007; Barber *et al*., 2010). The commitment to provide every student with the opportunities to develop the knowledge and skills required to participate in and contribute to society underpins the definition of standards (Storey, 2006).

Placing students' outcomes as the main goal of educational policies requires that the learning outcomes to be achieved are clearly specified and that the level of expected performance is clear. Standards-based reforms typically stress the need to agree and to clearly define the learning goals to be achieved by students. However, standards-based policies are not only limited to the definition of learning goals but also require that adequate resources are allocated in order to achieve them and, in so doing, improve the learning opportunities offered to students, including through capacity building activities aimed at teachers and other actors whose performance have an impact on student learning.

Standards-based policies are also characterised by their emphasis on ensuring the accountability of those in charge of securing these learning opportunities for students. Here, the clear definition of the performance expected from teachers and school leaders is crucial in a coherent and focused system. Thus, the definition of standards for teachers and for school principals is part of this general orientation.

The main purpose of this paper is to compare the development, characteristics and implementation of standards in different OECD countries. Specifically, the study focuses on the three different levels for which standards can be developed: *(i)* students and their learning, *(ii)* teachers, and *(iii)* school principals and their expected performance.

This report describes and compares learning standards, teaching standards and standards for school leaders for selected countries considering:

- the content and domains covered by standards;
- how these standards were developed;
- how standards are assessed and what are the consequences of the results of such assessments;
- Issues related to the implementation of standards.

The paper ends with a section on challenges of coherence and coordination between standards.

In order to develop this paper, the distinctive experience of the different research teams that make up the Centre of Study for Policies and Practices in Education (CEPPE) has been brought together and complemented. The chapters about learning and teaching standards were developed Cristián Cox, Elisa De Padua y Lorena Meckes. The section on standards for school principals has been developed by José Weinstein, and Gonzalo Muñoz, from Diego Portales University and by Javiera Marfán from Fundación Chile, in light of their extensive experience in research and practice in school leadership[1].

Methodology

To carry out this analysis, the authors built a matrix to review each one of the countries and educational systems included in the paper. The matrix took into account the topics to be analysed: the purpose of the standards for the educational system, layout and domains covered by the standards, the development process, assessment of standards, information about implementation and impact, and the coordination of standards. The matrix was central to the comparative analysis presented in this document. It should be stated that the documents reviewed are official documents, most of them gathered during 2011 and that – except for learning achievement standards – very few independent studies about the implementation of these standards exist. There is even less research as to their consequences and actual impact.

Official documentation provided by governments and non-governmental institutions was collected during 2011, analysed and compared for the following countries: Australia; Brazil; Canada; Chile; England; Germany; Korea; Mexico; New Zealand, Norway; and the United States. British Columbia; California, Quebec, Queensland, Texas, and Victoria were also considered as sub-national systems. This information was complemented with diverse studies and publications about these particular cases and about standards-based policies in general.

More specifically, the types of documents reviewed included official websites of Ministries of Education of each country or sub-national entities, studies commissioned by these authorities, public reports containing the standards and explaining their rationale, background reports prepared for comparative studies (such as the OECD *Review on Evaluation and Assessment Frameworks for Improving School Outcomes*), as well as databases about educational policies in different countries, such as the International Review of Curriculum and Assessment Frameworks Internet Archive (INCA) and Eurydice. It is important to note that some of the countries analysed did not have standards for all three of the categories considered (learning, teaching and school leadership).

Table 1.1 shows the situation of each country or educational system reviewed. It shows that the majority have developed learning standards as part of the curriculum or as a complement to it.

It is important to stress that the development of standards for teachers and school principals is recent, taking place in the last two decades. OECD English speaking countries have been the frontrunners in this educational trend. For this reason, this report concentrates its analysis on some of these countries. It is also important to consider that changes in educational policies, especially those linked to assessment and reporting, are taking place at a very rapid pace, and the situation may have changed since the date of the first collection of the information took place in 2011.

Table 1.1. Standards in the national or sub-national educational systems analysed

	Learning Standards at the National or Sub-National Level	National standards for teachers	National standards for school leaders
Australia	Yes, standards embedded in the new national curriculum.	Yes	Yes
Queensland	State content and performance standards (being progressively replaced by the Australian Curriculum since 2012)	Yes, replaced by the Australian Professional Standards for Teachers from 2013.	Yes*, however, *National Professional Standards for Principals* were endorsed by Ministers in 2011
Victoria	Content and performance standards aligned to the structure of the new Australian Curriculum whilst retaining Victorian priorities and approaches to teaching and learning.	Yes, replaced by the Australian Professional Standards for Teachers from 2013.	Yes, launched in 2007, however *National Professional Standards for Principals* were endorsed by Ministers in 2011
Brazil	National curriculum and performance standards (SAEB proficiency scale).	No	No
Canada	No common content standards, but there are performance standards that describe the outcomes of the national testing program (Pan-Canadian Assessment Program).	No	No
British Columbia	Content and performance standards at the provincial level (under revision).	Yes	Yes*
Quebec	Content and performance standards at the provincial level	Guidelines for initial teacher training	Yes *
Chile	There is a national curriculum and national performance standards.	Yes	Yes *
England	National curriculum sets out content standards (new national curriculum will be implemented in 2014).	Yes	Yes* non statutory guidance, used for headteachers' performance management
Germany	National performance standards.	Yes	No
Korea	There is a national curriculum and performance standards for reporting results from national tests.	No	No
Mexico	Content and definitions of expected learning outcomes.	No **	No
Norway	There is national curriculum and performance standards to report test outcomes	No	No
New Zealand	There is a national curriculum / content and performance standards.	Yes	Yes
United States	National Common Core standards are non-compulsory, though most states are adopting them. Every state has its own performance standards. The national testing program (NAEP) reports outcomes in relation to performance levels.	Yes, though not compulsory at the national level. Many states have their standards.	Yes
California	Content and performance standards at the state level. Common Core State Standards are being adopted progressively since 2012.	Yes	Yes
Texas	Content and performance standards at the state level. This State has not yet adopted the Common Core State Standards.	Yes	Yes

- These standards are used as guidelines with no consequences attached to their attainment.

** Teacher standards have been developed in Mexico, however, these are still in a draft version and have not been officially endorsed or used for assessing teachers' performance.

Sources: ACARA (2013) *http://www.acara.edu.au/curriculum/curriculum.html*; Australian Institute for Teaching and School Leadership, (2011); Australian Institute for Teaching and School Leadership/AISTL (2011 a, b); Queensland Department of Education (2005), Queensland Studies Authority (n.d.); Victorian Curriculum and Assessment Authority (n.d.); Department of Education Victoria (2007); Queensland Department of Education (2005); Queensland Studies Authority (n.d.); Education International, Oxfam November (2011); The Council of Ministers of Education, Canada (n.d.); British Columbia Ministry of Education (nod ; 2012); British Columbia Ministry of Education (2012), British Columbia Principals' and Vice Principals' Association *http://www.bcpvpa.bc.ca/node/1;* Agencia de la Calidad de la Educación de Chile (n.d.) Ministerio de Educación de Chile (n.d); Ministry of Education Leisure and Sport, (Quebec Éducation, Loisirs et Sports) n.d.; Ministry of Education Leisure and Sport, (Quebec Éducation, Loisirs et Sports,), OECD (2012); Department for Education U.K. (2013; n.d.); INCA (International Review of Curriculum and Assessment Frameworks Internet Archive) Germany: Context and principles of education, *www.inca.org.uk/1418.html#1.2.*2; INCA (International Review of Curriculum and Assessment Frameworks Internet Archive), Germany : Initial Teacher Training; Korean Institute for Curriculum and Evaluation (KICE), *http://kice.re.kr/en/index.do*, Barrera, I. & Myers, R. (2011); Secretaría de Educación Pública de México (n.d.); Shewbridge, C. et al (2011); New Zealand Ministry of Education (n.d.) New Zealand Teachers Council (2007; 2009); Council of Chief State School Officers (2011), The Interstate Teacher Assessment and Support Consortium (InTASC), Council of Chief State School Officers, http://www.corestandards.org/ NAEP (National Assessment of Educational Progress) *http://nces.ed.gov/nationsreportcard/tdw/analysis/describing_achiev.asp;* California State Board of Education, n.d. *www.cde.ca.gov/be/st/ss/;* Commission on Teacher Credentialing (2009) www.*ctc.ca.gov/educator-prep/standards/CSTP-2009.pdf*.

NOTES

[1] Ana Luisa Muñoz, Ph.D. in Education ©, Buffalo University, also contributed to the analysis of each country, especially regarding standards for school leaders.

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2. CONCEPTUAL DISTINCTIONS TO UNDERSTAND THE CONCEPT OF STANDARDS IN EDUCATION

2.1 The definition of standards

The term '*standards'* has been used with different meanings in different contexts and countries, generating some confusion. Sometimes it is used as synonym of 'goal', while on other occasions it is used as the criteria to judge whether a particular performance can be considered appropriate or even to denote the descriptors of levels of progress in a particular domain. In the United States the expression '*standards*' has been used to define syllabus or curriculum. It is also commonplace to hear claims about the need to 'raise standards' (meaning that learning outcomes should be improved). In the professional domain (standards for teachers and school leaders) and in some European or French speaking countries, the term 'competence' is used more frequently instead of 'standards', but both terms imply very similar meanings (Ávalos, 2005). Given these multiple meanings and usages of the word, it is helpful to consider the definition of terms such as 'content standards' or 'performance standards'.

Standards can be understood as definitions of what someone should know and be able to do to be considered competent in a particular (professional or educational) domain. Standards can be used to describe and communicate what is most worthy or desirable to achieve, what counts as quality learning or as good practice. Standards can also be used as measures or benchmarks, and, thus, as a tool for decision-making, indicating the distance between actual performance and the minimum level of performance required to be considered competent. In other words, standards can be understood as defining the dimensions of performance or the domains of learning that are valued and that are worthy of being promoted, but they can also be used to assess if what is valued is actually being achieved or not. Thus, standards can be used in the sense of a banner or flag and also as a yardstick or as a measuring rod.

According to Kleinhenz *et al*. (2007), a full definition of standards requires three components if they are to be used as measures:

- Content standards, which define **what is valued** (in learning, teaching or school leaders' performance).
- The definition about **how to assess** the achievement of content standards, in other words, the rules under which evidence is to be gathered in order to assess teaching or learning.
- Performance standards, which indicate **how well someone has to perform** to be considered competent in the domain defined by the content standards (Robinson, 1998).

Each component answers a different question. Content standards are a response to the question, 'What should teachers, students or school principals know and be able to do?' while the question about evidence for assessment is, 'How do we assess what they know and are able to do?' and the question about performance standards is 'How well should a student perform, for example, in the assessment of his or her performance to be considered satisfactory or good enough?'

More generally, in the field of educational assessment, *content standards* define and delimit the domain being assessed.

Content standards should not be confused with, or restricted to, conceptual knowledge. Content standards can include not only the 'know' but the 'know how to', and also the attitudes and dispositions intrinsic in the "being able to do". Teaching standards, for example, usually indicate the conceptual knowledge that teachers should possess about the subject(s) that they teach; about how pupils learn; and about the curriculum, but they also include descriptions of skills that teachers should demonstrate to interact effectively with students to create an appropriate learning climate; to work with other teachers in a team; to master different teaching strategies and assessment methods, and to evaluate their own practice. Further, teaching standards normally make explicit the values that underlie the described performance, addressing the necessary commitment of teachers to learning, the development of each and every one of his or her students and also the positive attitudes towards continuing professional development.

Content standards can take various forms but generally include an explanation or explicit description about what is expected. These descriptions can be complemented with indicators or comments that explain and specify the meaning of the standards translating them into 'actions' that show that show that the standard has been achieved (Cox and Meckes, 2011).

Performance standards identify the point at which the content standard has been achieved; or at what level in relation to content standards, the performance is considered to be 'acceptable', or 'good'. While content standards define *what* teachers, school principals or students should know and be able to do, performance standards indicate *how well* they should perform in order to be considered satisfactory in the areas defined by content standards (Maxwell, 2009).

Performance standards can either define binary categories of performance (pass/fail) or describe different levels of mastery, (for example, *basic*, *satisfactory*, *proficient* or *expert*). They can either be explicit, elaborate descriptions or limited to a label which describes the performance level in general terms. Performance standards can change over time, for example, by becoming progressively more demanding if previous standards have already been met, so that standards can act as a motivation for continuous improvement. The level of demand can also vary depending on the types of decisions derived from the assessment of the results. Thus, the level of performance required of an experienced teacher in order that she or he is considered an 'outstanding' teacher will be more demanding than the level of performance required for a teacher just starting out.

2.2 Assessing the achievement of standards

The second stage in the definition of standards is to decide what type of assessment activities are valid to decide whether content standards are being met or not.

Depending on the type of standard, there is range of different options for collecting evidence in terms of achievement. For example, the depth of knowledge about a particular subject can be assessed by written tests, while the assessment of teachers' practice, including practical tasks, such as the ability to promote an enabling environment for classroom learning would be better assessed through direct or recorded observation of classroom performance (Santiago and Benavides, 2009).

The first step when assessing learning, teaching or leadership practice in relation to standards is to design an assessment that is aligned and consistent with content standards. In the case of standardised assessments, before a decision is made about the achievement of the standard by the examinee being assessed, the score that represents the achievement of the performance standard should be identified. That is, a cut-off point must be established to be able to determine who have achieved it and who have not. The cut-off score is the operational version of the performance standard, and conversely, the performance standard is the conceptual version of the cut-off score. This is why performance standards cannot be separated from the assessment of standards. The procedure for establishing the cut-off score is known as 'standard setting' (Cizec, 2001). There are various ways this can be done, but all involve the debate and decision of a group of qualified judges (Jaeger, 2004).

The methods defined by Bookmark and Angoff have been the most used for paper and pencil tests. Angoff's method (1971) is based on a group of judges' estimates of the probability for each test question to be responded by a 'minimally competent' individual in relation to the performance standard, that is, by someone performing at the lower margin of performance. A variation of this method is to ask the panellists to estimate the proportion of examinees that would answer each question correctly. The ratings of the judges are averaged and added to obtain the raw cut-score. In the Bookmark method, the judges or panellists work with an exercise book that contains the questions ordered by their empirical difficulty, from the easiest to the hardest. The work of the judges consists in revising and ordering each question and then selecting the first that a borderline examinee would likely be unable to answer. Through this procedure, it is possible to determine the score that would be obtained by someone who correctly answered the test up to that question (and who would be unable to answer the subsequent more difficult questions). The recommended cut-off point is the average of each judges' scores. This would be the cut-off score used to classify examinees in two groups: those achieving the standard and those who do not. This method can be used to establish cut-off points in tests that include open ended or essay questions (Zieky *et al*., 2006).

Deciding whether a pupil has achieved the standard or not, when using non-standardised assessments such as those implemented by teachers within their classroom will typically depend on the judgement of the teacher based on the work submitted by the pupil over a period of time. Rubrics that describe different levels of performance and state which of those levels is considered to be acceptable are normally used. Teachers need to be trained and ensure that they are being equally demanding of all students and that the rubrics are being used in the consistent way. This procedure is called *moderation* and it is used to achieve consistency of judgement among teachers. Consistency in assessment is particularly important when results are used to make decisions about the examinee or when they are reported to other audiences.

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3. LEARNING ACHIEVEMENT STANDARDS

Learning standards define what every student in a country or region is expected to know and be able to do. It is nothing new for education systems to establish learning objectives for students in different grades, usually through their curricular frameworks. It can be said that standards are a particular way of expressing learning goals and that they seek to focus on those learning results that are considered central. They specify the characteristics of the performance expected from the pupils without prescribing how to achieve them and without pretending to be exhaustive regarding the content of what should or could be taught. The term "learning standard" is more accurately used to refer to learning expectations in the context of educational reforms that put these expectations at the centre of educational policy. A tight relationship with the assessment and monitoring of the achievement of these learning expectations and the accountability in relation to outcomes are also distinctive features of standards, when compared to other ways of defining learning goals.

However, precision and focus on performance in the formulation of standards, and a tight relationship with monitoring of learning outcomes or with a policy organised around learning expectations are not always present in what different countries call 'standards'.

3.1. Purpose of learning achievement standards

Defining standards and implementing a policy based on them is framed within the general objective of improving the quality of learning outcomes in an educational system. A review of the official documents of the countries that have developed and implemented standards points towards the specific way in which learning standards are expected to contribute to this general objective:

- *Clarifying and making explicit learning expectations for pupils in schools*. In general terms, the way in which standards establish learning goals is (or should be) quite precise. In fact, precision has been highlighted among the criteria for evaluating the quality in the formulation of a standard. Precision avoids, within the accuracy permitted by language, ambiguous interpretations about the quality of learning that students are expected to achieve (Sadler, 1987).

- *Aligning the expectations with the demands of the contemporary world.* Countries commonly worry about the degree to which their educational systems are preparing their citizens to make a contribution to and participate in a world that is increasingly complex and globalized. For example, the express purpose of the new Australian standards is to "equip all Australian youths with skills, knowledge and essential capabilities in order to thrive and compete in a global world", while in the case of content standards in England, it is expected that they will help students "develop the necessary knowledge, understanding, skills and attitudes for their personal fulfilment and their development as active and responsible citizens" (ACARA, 2011; Department for Education, n.d.).

- *Guiding and focusing teaching*. Clarifying what students should know and be able to do also guides and provides a clear focus for teaching practices at the national or sub-national level.

- *Fostering commitments to equity* by defining the same expectations for every pupil, independently of their level of skill, social origin, culture, race, or gender. Narrowing the performance gap between different groups of students, as a means of improving equity in the educational system is also frequently mentioned among the stated reasons for introducing learning standards. It is argued that if these expectations are reasonably high and the efforts to reach them are aligned, this will improve the situation of disadvantaged groups

because it is not acceptable that , explicitly or implicitly, there are lower expectations for some students due to their socio-economic conditions (Barber and Mourshed, 2007). Thus, the fact that standards are for **all** students, emphasises the right for all to have opportunities to develop the competencies defined by the standards.

- *Providing common criteria against which to assess students' progress* both in external assessments as well as in the evaluations carried out by teachers in the classroom. The alignment of learning expectations at the different levels of the system (teachers, policymakers, principals or school leaders, and parents) is also visualised as a contribution to the synergy of the system towards the achievement of the expected outcomes.

- *Facilitating communication between the different groups interested in education and its quality*. By establishing learning expectations for each grade level or for professional operating at different levels of the school system in a clear, precise and explicit way, it is possible for teachers, administrators, parents, policy-makers and also pupils to speak a common language when referring to educational . In a more administrative sense, another advantage of common standards is that they allow students to change school or district without difficulty.

- *Emphasising the final aim of the school system and focusing policies*. To measure progress in the achievement of standards, both at the national and school level, has been one of the most frequent policy rationales. Such an approach roots the accountability of educational policy in learning expectations and outcomes rather than specific initiatives being implemented.

- *Identifying pupils and schools in need of support* in order that they may achieve the expected learning outcomes or progress.

3.2. Layout, contents and models adopted by learning standards

This section reviews the examples of standards of the different countries or sub-national systems in relation to a) the degree in which they distinguish between content standards and national or state curriculum, b) the areas considered by learning standards, and c) the approaches adopted and how standards are worded and structured in the different education systems.

Curriculum and content standards

It is possible to distinguish between standards and curriculum. Standards are the instrument that establishes what students must know and be able to do in certain moments of their school cycle. In the US, the curriculum is understood as the organisation of teaching and learning to ensure the achievement of these standards. In this sense, standards allow to evaluate and monitor learning while the curriculum organises teaching, outlining the contents to be addressed and the learning opportunities that teachers offer. However, not all countries in this study make this distinction, and many of them include content standards in their national curriculum framework as objectives, learning goals or competences to be developed. Having said this, it would be difficult to argue that countries having a national curricular framework with its respective learning objectives do not have (content) standards, only because their formulation is less precise or because they combine teaching design and learning expectations in the same document.

Table 3.1 synthesises the situation in the different systems analysed, identifying those that make the distinction between content standards and curriculum, and those that do not. Differentiating between standards, on one hand, and the recommendations for teaching or curriculum, on the other, allows learning goals or expectations to remain stable and, at the same time, to open space to make the experiences through which learning is achieved more flexible. For example, in Victoria (Australia) there are different documents establishing the expected performance levels for certain school cycles,

and for the "recommendations about focus and learning experiences that must be included in this level". The same is true of Chile, which has standards to be reached at the end of a cycle comprised of two grades separate from the curricular framework detailing learning objectives and contents for each grade. This interest in differentiating between standards or learning goals and curriculum might also be more pronounced in the case of countries with a long tradition of state or provincial autonomy to define their own curricula, such as Canada and the United States. In these cases, it has been possible to establish learning standards that refer to knowledge and skills considered to be central, while at the same time leaving space for the state or provincial curricula to value other dimensions of learning through the objectives established in them. In the case of the United States, states are not only autonomous to establish their curricula, but also to define their own content standards (if they do not subscribe to the *Common Core State Standards)* and even to establish their own performance standards.

Table 3.1. Relationship between learning standards and curriculum

Content standards are embedded in the national or sub-national curriculum	National or state level standards are established distinguishing them from the curriculum
Australia	California***
Brazil	Canada**
British Columbia*	Chile
Korea	Germany
England*	Mexico*
Norway	New Zealand
Quebec	United States**
Texas	Queensland (Au)
	Victoria (Au)

*Countries or sub-national systems in which standards and (or) national curriculum are going through a consultation process during 2013.

** In these cases, we refer to performance standards associated with national tests (PCAP and NAEP respectively), because there are no national content standards adopted by all the states.

*** California has adopted the national standards for Language and Mathematics (Common Core Curriculum Standards)

The difference between curriculum and performance standards is clearer when performance standards are linked to assessments and their scores. For example, Korea does not make a difference between curricular objectives and content standards, which are conceived simultaneously as guides for teaching and learning. National tests are developed on the basis of these curricular content standards and cut-off scores are defined, from which to ascribe different attainment levels within performance standards (advanced, proficient, basic and below basic) in order to report the results of the national assessment.

Which areas are addressed by learning standards?

In the majority of the cases, content standards are developed for all areas of learning, going beyond academic achievement and in some cases considering social and personal development competencies (for example in Victoria –Australia-, Canada, Brazil, Korea and New Zealand) or the use of technologies (as in Norway and New Zealand). Content standards are frequently established for strands within every learning domain. For example, in the case of Language, there are separate standards for Reading, Writing and Oral expression. Similarly, in the area of History and Social Sciences, the standards for Civic Education, Economy, Geography and History are also usually described separately.

In contrast, performance standards –when they are linked only to standardised assessments - are developed for the areas evaluated through external assessments, which, in the main tend to focus on Geography, History, Language, Mathematics Sciences and Social Studies (Barber and Mourshed, 2007). In a minority of the education systems studied, performance standards are defined for all the curricular domains including cross-curricular areas. This happens in New Zealand, where the assessment is administered to a sample, and, thus, achievement in a very wide range of learning

domains is monitored. Performance standards are also defined for areas different from those monitored through national or state standardised tests where teachers are expected to assess and report against these standards, as it is the case in British Columbia (Canada) and England.

Format or layout of learning standards: Is it possible to distinguish different approaches?

The formats in which standards are presented show one or more of the following elements:

- a description, with variable levels of precision, of the performance shown by the student who reaches the standard,
- indicators of the type of work characteristic to the student that reaches the level described,
- illustrations of the type of evidence shown by the student who achieves the standard, such as questions from the test that he or she is typically able to answer in the case of performance standards, or concrete work samples or videos through which the expectations are even better exemplified and clarified. These illustrations are usually followed by a commentary explaining why it is considered that they provide enough evidence of the achievement of the standard.

The following two examples from Brazil and Canada show *performance standards* associated to the score ranges of each performance level in standardised tests.

Figure 3.1. Two examples of performance standards presented as lists of indicators

Attainment levels associated to different scores in the scale of the Prova Brasil

Nível	Descrição dos Níveis da Escala
125	• Neste nível, os alunos da 4ª e da 8ª séries resolvem problemas de cálculo de com base na contagem das unidades de uma malha quadriculada e, apoiados representações gráficas, reconhecem a quarta parte de um todo.
150	Os alunos da 4ª e da 8ª séries são capazes de: • resolver problemas envolvendo adição ou subtração, estabelecendo relação e diferentes unidades monetárias (representando um mesmo valor ou numa situ de troca, incluindo a representação dos valores por numerais decimais); • calcular adição com números naturais de três algarismos, com reserva; • reconhecer o valor posicional dos algarismos em números naturais; • localizar números naturais (informados) na reta numérica; • ler informações em tabela de coluna única; e • identificar quadriláteros.

Level expected of 8th grade students in Canada

Level 2 – Scores between 358 and 513

Students at this level were required to recall facts, definitions, or terms and carry out previously learned procedures such as performing one or more operations, employing formulae, evaluating a variable expression, retrieving information from a table or a graph and applying it to solve a problem. Typically, students at this level were able to identify a simple number of geometric patterns. Students were able to solve problems that were clearly defined as to what was required, with no extraneous information or hidden assumptions. At this level, students could solve problems that were mostly of low and moderate cognitive demand.

Source: Council of Ministers of Education, Canada (2010).

The two most important approaches for defining learning standards have been to establish lists of objectives to be achieved and describe the learning progress along a continuum from “novice” to “expert” for the whole school cycle. Maxwell (2009) calls these types of standards “developmental standards”, differentiating them from standards centred on “attainment”.

In both cases (standards as lists of objectives not necessarily connected and standards presented as learning progression), the learning outcomes that students are expected to demonstrate are explicit. In the first approach, standards are expressed as lists of discrete achievements that do not necessarily bear any relation to those expected for superior or inferior levels, while in the second, standards describe how the competence in the domain in question develops, from the simplest levels to more complex levels which are clearly coherent with and include the former. Forster (2007) pointed out that the advantages of the learning progression approach over the list of objectives approach is that it stimulates teachers to visualise their student’s learning as part of a continuum, to understand the

nature of learning growth in their area and to see assessment as the appraisal of the level they have reached in that continuum, instead of limiting assessments to checking the attainment of discrete and unconnected objectives. Standards expressed in terms of progressive development also enable teachers to report the results of their own assessment in terms of progress ("he/she is working in this level and making progresses towards the next"), and students to visualise their own development rather than just getting the same marks year after year.

Standards presented as a progression typically describe the continuum of learning in every domain, establishing levels for certain markers in the school cycle, and not for all the grades. The ~~only~~ exceptions are the new national systems of New Zealand and Australia that establish standards for every grade. For every level of the continuum described, it is noted the grade in which the level should be achieved. The case of England (National Curriculum, UK) presented in Box 3.1 is an example of the progression or developmental approach type of standard. Only four levels out of a total of nine levels are set out below[1].

Box 3.1 Attainment Targets of the English National Curriculum: standards as progression

Attainment target 3 in writing

Level 1: Pupils' writing communicates meaning through simple words and phrases. In their reading or their writing, pupils begin to show awareness of how full stops are used. Letters are usually clearly shaped and correctly orientated.

Level 2: Pupils' writing communicates meaning in both narrative and non-narrative forms, using appropriate and interesting vocabulary, and showing some awareness of the reader. Ideas are developed in a sequence of sentences, sometimes demarcated by capital letters and full stops. Simple, monosyllabic words are usually spelt correctly, and where there are inaccuracies the alternative is phonetically plausible. In handwriting, letters are accurately formed and consistent in size.

Level 3: Pupils' writing is often organised, imaginative and clear. The main features of different forms of writing are used appropriately, beginning to be adapted to different readers. Sequences of sentences extend ideas logically and words are chosen for variety and interest. The basic grammatical structure of sentences is usually correct. Spelling is usually accurate, including that of common, polysyllabic words. Punctuation to mark sentences - full stops, capital letters and question marks - is used accurately. Handwriting is joined and legible.

Level 4: Pupils' writing in a range of forms is lively and thoughtful. Ideas are often sustained and developed in interesting ways, with organisation generally appropriate for purpose. Vocabulary choices are often adventurous and words are used for effect. Pupils are beginning to use grammatically complex sentences, extending meaning. Spelling, including that of polysyllabic words that conform to regular patterns, is generally accurate. Full stops, capital letters and question marks are used correctly, and pupils are beginning to use punctuation within sentences. Handwriting style is fluent, joined and legible.

Source: Department for Education, United Kingdom,
http://education.gov.uk/schools/teachingandlearning/curriculum/secondary/b00199101/english/ks3/attainment/writing

Australia, England, New Zealand and Victoria, (Australia) have adopted standards based on a learning continuum. Standards in this approach emphasize how the same skills become ever more complex and conceptual understanding more profound. For example, in New Zealand, the skill of *locating information* included in the *reading standards* progresses from "locating and finding information within on text" in first grade to "finding, comparing and synthesising information from different texts" in eighth grade.

1 The English national curriculum is currently under revision. A new proposal will be launched in 2014 and is now being consulted. This new proposal would not include specific attainment targets for each learning domain, but a general definition stating that "By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study" (Department for Education, 2013, p. 16).

From the point of view of external monitoring of learning, the ability to rely on a coherent developmental framework against which it is possible to report results makes visible the progress of students in their school cycle, especially if the tests have been vertically scaled and if what they assess and report reflect this idea of growth.

To achieve descriptions of learning progress in certain domains is not possible solely on the basis of professional or theoretical judgment, and requires the model to be based on empirical evidence. "The development of learning progressions across grades requires empirical testing. Learning progressions are based on research and professional judgement about the logical sequence of skills and topics, followed by empirical verification" (Shepard, L. et al., 2009). Standardised tests as TIMSS (Trends in International Mathematics and Science Study), Programme for International Student Assessment (PISA) and Progress in International Reading Literacy Study (PIRLS) have provided a great amount of empirical evidence about the types of tasks that are more or less complex, and show more or less mastery of the evaluated competence. The way in which these assessments report their results, presenting them as proportions of students that reach growing levels of command described within a continuum, has been undoubtedly influential in the way countries formulate their standards.

3.3 How have learning standards been developed?

The development of standards can be described both from a political and a technical point of view. From the political point of view, it is interesting to analyse which agency promotes or takes charge of their development, what kind of consultation and other participative processes are implemented to legitimise learning standards, and also the role given to standards within educational policy.

In comparison to standards for teachers or principals, learning standards are often within the remit of the central government who takes the leading role in defining them and guiding their development. However, there are also cases of professional associations that have developed learning standards for certain areas. For example, the National Council of Teachers of Mathematics in the United States (NCTM) has developed learning standards for Mathematics, and the National Committee on Science Education Standards and Assessment, along with the National Research Council, developed the standards for Science Education, combining learning and teaching standards. However, the tendency in most cases is that these initiatives from professional associations have been displaced by official learning standards developed by central governments. This strategy is consistent with another education policy trend: central governments give back autonomy to schools or districts and substitute their former role of controlling processes, with a new role of monitoring (learning) outcomes.

In the majority of the cases where standards have been centrally defined ('top down'), there have been also large consultation processes ('bottom up') involving different stakeholders (teachers' organizations, groups of subject area teachers, parents, academics from different disciplines, educational authorities), whose feedback is considered for the successive modifications of the standards' drafts. For example, the consultation process for the Common Core State Standards in the United States during 2010 involved feedback from 10 000 people, mainly educators and parents. In some cases, there are reports of pilot content standards in a sample of schools, in order to verify their applicability and capacity to guide assessment at the school or classroom level. In Australia, for example, during 2011, national standards were pilot tested in a sample of 40 schools (ACARA, 2011). According to Ferrer (2007), in the Latin American context, achieving support for and a sense of ownership of standards among key stakeholders within the system, is very relevant for ensuring their implementation is feasible and will not encounter resistance.

It is also interesting to consider the debates that arise when establishing standards. Discussions about standards usually take the following form: the most frequent objections and resistance to standards by the teachers are related to the idea that these threaten institutional or local autonomy and ignore the diversity and the regional differences or particularities of ethnic groups. In defence of

standards, it is argued that, on the contrary, they entail a special commitment to equity, as long as they establish the learning goals to which all the students have a right, including disadvantaged groups. It is necessary to stress that teachers that agrees with the latest generally support establishing standards. Opposition tends to focus on assessments and accountability measures (Mons, 2009). The main reasons underlying opposition are the excessive pressure or punitive consequences for schools that are failing and show scant capacity to respond, or workload concern caused by an excess of assessments, as in England, where teachers have even boycotted the administration of tests.

Rarely do these reports of processes identify curricular areas where there are usually more difficulties to reach consensus and hence to achieve definitive versions. In this respect, the review about the process in the United States by Diane Ravitch (2010) points to History and Language as the most controversial. Those who have been in charge of processes of standards' definition may surely find echoes of their own experience in this account. The episodes and the perspective of national history that are valued and therefore deserve to be communicated to the next generations are usually the object of fierce debates. Moreover, it is also a matter of discussion if the teaching of history must emphasise the mode in which it is constructed, therefore stressing the influence of the historian's perspective and the provisory nature of knowledge, or rather the common narrative that gives identity to a nation. In Language, the most commonly disputed points of view are the emphasis on a functional perspective, highlighting the communicative skills to be developed, versus stressing knowledge about language (linguistics and grammar) and literature that students are expected to read. According to Diane Ravitch (2010), not having been able to solve this type of conflicts in the United States led to the failure of the initiative to establish national standards because the particular debate about History stalled. As a result, every state was left to decide its own standards, which, in her opinion, are ambiguously defined in the controversial subjects, precisely to avoid conflict.

As a consequence both of the technical and political challenges, processes devoted to the definition of standards are frequently prolonged. For example, in Australia the process of defining national standards has taken five years (from 2008 to 2013). In Chile, it took between 2002 and 2010 to define content and performance standards and align the national assessment mechanisms to them (Gysling, J. and Meckes, L., 2011) (now these standards have been replaced by a new version).

Another interesting phenomenon observed in processes of defining learning standards is a clear tendency in federal countries to establish national standards, at least in the cases analysed. This is the case of Australia in which practically all its states and territories relied on their own standards, is now in the process of defining national standards and a national curriculum. The intermediate step between these two milestones was the agreement of establishing common benchmarks between the tests already administered in each state, which laid the foundation for the common standards (Watt, 2009).

In the case of Canada, even though each province has authority over curriculum and standards, the Ministers' Council ensures communication and coherence among provinces. There are also sub-regional Ministers' Councils, such as The Ministers from the Atlantic (CAMET) that have agreed a set of standards in Language and Mathematics and the administration of a national sample test to assess their attainment (Schmidt, *et al*., 2009).

As noted above, under the No Child Left Behind Act (NCLBA), in the United States, every state establishes its own standards and possesses an assessment system reporting results in relation to their achievement. This situation has created diverse problems due to the difference in the level of demand of performance standards in each state, and generating differences regarding their reported achievement. Currently, 45 states take part in the Common Core State Standards Initiative, and the Secretary of Education is strongly promoting the development of common (national) tests. In Germany, where there are 16 independent educational systems, the Institute for Educational Progress (*Institut zur Qualitätsentwicklung im Bildungswesen* or IQB), founded in 2004, has taken charge of establishing common standards and a national system for the assessment of their achievement (INCA, 2009). There is in Germany, as in Canada, a group of Ministers, "the Standing Conference of the Ministers of Education and Cultural Affairs". Meanwhile, in Brazil, this tendency towards the

introduction of national standards can be also observed. Content standards are introduced through the national curriculum (*Parâmetros Curriculares Nacionais*) which establishes the general fundamental objectives for the different cycles of the school system (*Objetivos Gerais do Ensino Fundamental*), for each one of the subjects in the curriculum (*Objetivos Gerais de Área)* and for each subject within a specific school cycle (*Objetivos de Ciclo por Área*). The national curriculum has been developed to allow flexibility in its adaptation to each region's characteristics and needs. In short, this means that the national curriculum defines 75% of all the contents and skills to be developed in every school, while the remaining 25% can be defined by individual schools or local authorities. These standards are assessed through a national census based test, though voluntary, that publicly reports its results by school (Prova Brasil) and by a sample test (SAEB).

The analysis of these education systems reveals a tendency towards consolidating national standards; however, there are differences in the way these national standards are monitored. While in USA and Canada the assessment of national standards is carried out through sample test whose results have no associated consequences, in Brazil, Germany and Australia, standards are evaluated through census based tests, whose main consequence is the publication of results at the school level.

3.4. How are learning achievement standards assessed?

A crucial issue when considering the assessment of standards is the type of tests used and the subjects or curricular areas covered. In the majority of the cases, the achievement of standards is monitored through standardised external paper and pencil tests. In some cases, like England, Queensland and New Zealand, it is expected that teachers in the classroom also assess and report on pupils' learning outcomes in relation to standards.

The most frequent problems reported in the assessment of standard are the lack of alignment between the tests and the standards and the predominance of assessment methods that privilege low level competencies and /or rely solely on multiple choice questions (Darling-Hammond, 2003; Polikoff *et al*., 2009). Regarding this issue, it is difficult to make a comparative analysis of the type of skills addressed by the external standardised tests, either because there are not always examples of the test items available or because released items are not necessarily representative of all the questions in the tests.

As established previously, countries vary in their approaches to the evaluation of standards. While some of them establish census based monitoring systems, others limit themselves to assessing a representative sample in order to take the pulse of the whole school system. Others combine census based and sample tests, thus being able to encompass a greater number of curricular areas. The combination of census and sample tests also allows verifying if the trends observed in high stakes census-based tests are confirmed when administrating sample tests, which have typically no consequences. Table 3.2 summarises the situation in most of the systems reviewed.

Table 3.2. Monitoring learning standards through sample or census based tests

Country or State	Census based assessment	Sample Assessment
Australia	National Assessment Program – Literacy and Numeracy (NAPLAN)	ICT, Science Literacy, Civics and Citizenship.
Brazil	* (Prova Brasil)	* Secretaria da Administracão do Estado da Bahia(SAEB)
Canada		* Pan-Canadian Assessment Program (PCAP)
Chile	* Sistema de Medición de Calidad de la Educación (SIMCE)	* (ICT, Sports, writing)
England	* Statutory Assessments National Curriculum Assessments	
Germany	*	
Korea	* National Assessment of Educational Achievement (NAEA)	* (Korea Educational Development Institute (KEDI) longitudinal survey)
Mexico*	* ENLACE	
New Zealand	* (in secondary education)	* (in primary education)
Norway	* National Basic Skills Tests	
United States	Each state has its own assessment system for NCLB	* The National Assessment of Educational Progress (NAEP)

*For Mexico, the situation described corresponds to the national test (ENLACE) which is applied at a national level, though learning standards in that country are still in their consultation phase, and it is therefore not possible to assert that this assessment is focused on evaluating them.

Countries also differ in the emphasis they put in the public accountability of schools and, hence, in the dissemination of results at that level. Regarding the reporting of test results, the trend observed is toward their publication, even in countries that had a tradition of protecting their confidentiality, like Australia, New Zealand or Korea. For example, Korea started publishing results in 2011. Table 3.3 synthesises the situation in the majority of the systems analysed.

Table 3.3. Publication of results at the school level

Results are published by school	Results are not published by school
Australia ("my school website") Brazil Chile England Korea Mexico United States (considering each state standards) New Zealand ('Find a School')	Canada (if we consider national standards) United States (if we consider that there are states that are still in the process of aligning their tests to these)

New Zealand is an interesting case in relation to the dilemmas associated to the assessment of standards. The NEMP (National Education Monitoring Project), currently in process of revision is periodically administered to a sample of primary schools and assesses the majority of curricular areas,

including performance tasks like experiments and others, and involves teachers in its implementation. Despite results are currently published by school, the central focus of the national monitoring system has not been accountability but rather the improvement of the assessment capacities of the teachers involved, lessons that are then transferred to their everyday evaluation practices in the classroom, in coherence with the standards.

Assessing learning standards at the classroom and system level

Coherence between learning standards established at different levels (national or sub-national) and between those being assessed by external tests and by teachers within schools is a key issue. Alignment of standards for teachers, school leaders and students' learning is also important, but will be addressed in the final section of this report.

Achieving coherence of standards and coordination of assessments in federal states is a challenge that has been tackled in different ways. In Australia, for example, the national assessment system is focused on Mathematics and Language standards, testing every school and publishing their results. This assessment programme coexists with assessment systems at the state level, such as the assessment programme in Queensland. While the National Assessment Program – Literacy and Numeracy (NAPLAN) tests third, fifth, seventh and ninth grades, the external assessment programme in Queensland assesses fourth, sixth and ninth grades (Cumming *et al.;* 2004; QSA, 2011). In the United States and Canada (The National Assessment of Educational Progress NAEP) and the Pan-Canadian Assessment Program PCAP), assessment of national standards, are administered to a sample, entailing no consequences for schools. In this way, potential inconsistencies between national and sub-national standards and assessments do not affect each school. For the United States the landscape is changing though, since census based assessment systems at the state level are progressively being aligned to the Common Core Standards.

Ensuring coherence between external assessments and teacher assessment of learning outcomes at the classroom level is another challenge. Aligning the level of demand of these assessments and the type of learning outcomes being valued by teachers in their everyday practice of evaluation and those being required by external tests is crucial to enhance the effectiveness of the system. This coherence depends on the existence of a common framework of learning standards capable of articulating external assessments and school based assessments.

In Australia, England and New Zealand, it is clearly expected that teachers use the same framework of learning standards as a reference for classroom assessment and for reporting learning outcomes to pupils and parents. In England, the assessment of standards is performed and reported by the national testing program at some grade levels and by teachers in others. The existence of a common framework of standards describing learning from K to 12, facilitates the linkage between classroom assessment and external assessments, especially when these standards are framed as *developmental* standards, that is, when they are not just a sum of learning objectives, but are expressed as a continuum of competences in progression (Forster, 2007; Forster and Masters (2010).

3.5 Implementation, use and impact of learning standards

Apart from the evaluation modality it adopts, educational policy as a whole mediates the impact standards might have on the quality of education. There are two key elements that stand out in the literature: on the one hand (1) the coherence of the system; understood as the tight relationship and alignment between its goals, the assessment of learning and of teachers and its consequences at different levels, the incentives and support systems, the initial and continuing training of teachers, and, on the other hand (2) the need to achieve an adequate balance between accountability measures and measures aimed at building capacities in the system.

It is difficult to isolate the consequences of defining learning standards and even to identify the impact of standards-based policies without considering the way these standards are assessed, the

consequences attached to their achievement, or the accountability measures adopted. Consequently, most of the literature is focused on the impact of high stakes assessments that monitor standards and on the accountability measures linked to their achievement. Standards linked to high stakes external assessments and accountability measures represent one pole in the use of standards, whereas using them as suggested guidelines and assessing their achievement through low stakes assessments represents the other. Learning standards at the national level in the United States and Canada are an example of the latter, since they are assessed by sample based monitoring systems (NAEP and PCAP) with no consequences for schools or students.

The impact of each model has been highly controversial, and research has not shed enough light on the debate. Mons (2009) published an extensive review of research developed since 2000 comparing countries and states within the United States that had in place high stakes testing programmes with states that did not, before the *No Child Left Behind Act* (NCLBA). This meta-analysis describes the increasing methodological refinement of the studies developed, concluding that there is not enough evidence to support one model over the other.

Herman and Baker (2009) summarized research about this issue in 13 states. Studies consistently showed that schools align the content they covered and their teaching approaches with test contents and formats. To increase the positive effect of testing, they suggest that tests should measure relevant content and in meaningful ways (for example, including questions that require problem solving or higher order cognitive skills). Unintended consequences included simply teaching more of the same (focusing more on tested subjects and less on non-tested ones), engaging in coaching for the test, and even cheating. Other unintended effects of high stakes testing of standards include weakened intrinsic motivation, difficulty to attract and retain high-quality teachers in low-performing schools, and test score inflation.

A study by Firestone, Schorr and Monfils (2004) examined the reactions of teachers and schools to high stakes testing and accountability in six school districts in New Jersey. They found that some schools showed positive effects while others showed unintended effects. Principals who had a deep understanding of the standards to which they were held accountable, tended to provide support to teachers, whereas in districts where administrators were not committed to the reform or did not have a reasonable understanding of the standards, rarely addressed the reforms in deep and long-term ways.

To summarise, the research about the unintended consequences of accountability measures identify the following: (a) the narrowing of the curriculum implementation to those subjects assessed by external testing (teaching to the test) which can result in test score inflation meaning higher test scores that do not reflect an actual improvement of the learning outcomes portrayed in the standards (Koretz, 2008); (b) diverse forms of discrimination against low ability students such as academic selection of students, concentrating teaching efforts in the group of students whose progress is more effective to show gains in schools test scores, or even preventing the less able students from taking the test, as reported in Texas and Ontario (Bélair, 2005 cited by Mons, 2009), or (c) cheating the system. Finally, (d) difficulties to attract or retain teachers in low performing schools, weakened intrinsic motivation (Herman and Baker; 2009) and low morale of teachers may result on increased stress linked to accountability measures or because they do not perceive the connection between their mission and improving test scores (Jones, 2007). Other authors have highlighted that teaching to the test might have positive effects in students' learning outcomes when tests are well developed and assess higher order cognitive skills, (Herman, 2005; Firestone, et al., 2004).

Another point of view in the analysis of the relationship between standards and assessments, is to consider the reciprocal effect that one might have on the other. Evidence has shown that when standards are assessed through high stakes testing programmes, tests become the primary focus of teaching and interest in standards diminishes. According to Ravitch (2010), standards have been replaced by test scores as a result of the implementation of the NCLBA.

However, the contrary effect can also be observed in the cases where high stakes testing have preceded the development of performance standards. Establishing standards may provide pedagogical meaning to the reporting of results, as it was the case in Chile. In this country, there was a high stakes national assessment system (Sistema de Medición de Calidad de la Educación (SIMCE)) in place, which has been publishing results at the school level since 1995. Only mean scores were reported, obscuring the relationship between test results and the learning outcomes promoted by the national curriculum. Developing descriptive performance standards, and reporting the proportion of students distributed in different performance levels, actually provided educational meaning to test results (Carrasco and Meckes, 2010; Ministerio de Education-Chile, 2003; OECD, 2004).

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4. TEACHING STANDARDS

It is widely recognised that teaching quality is the single most important factor affecting student learning outcomes. Research has documented the important effects of teaching performance in students' learning outcomes (Barber and Mourshed, 2007; Hanushek and Rivkin 2006; Hattie, 2008; Nye et al., 2004; Rivkin, et al., 2005; Rockoff, 2004). As a response to the concern of improving students' quality of learning, over the last two decades many countries have put standards in place in order to define what is expected of teachers (Ingvarson and Kleinhenz, 2007).

This chapter describes how the OECD countries analysed in this study have approached the task of developing teacher standards. It starts with a review of why these standards have been developed and how they were developed, their main characteristics and how these standards are assessed or how evidence is collected to verify if they are achieved. Finally, the main features involved in implementing these standards are presented and analysed.

4.1 Purpose of teaching standards

From the experiences analysed, it is possible to distinguish four objectives for defining standards for teachers:

- To support the improvement of teacher performance;
- To certify teachers who are new to the teaching profession or who have attained a certain status as teachers;
- To assess teacher performance; and
- To evaluate and accredit teacher training institutions.

The first objective is basic when standards refer to the definition of what is valued in the profession. Standards provide a basis for teachers to reflect on their own practice, identifying areas for improvement. There is research about the formative role of standards-based assessment of teachers such as that developed by the National Board for Professional Teaching Standards (NBPTS) (Wolf and Taylor, 2008). Through the gathering of evidence in portfolios, teachers observe and analyse their own practice against the standards and report that they improve as a consequence of this reflection.

Considering that many of the best performing education systems "now share a commitment to professionalised teaching in ways which imply that teachers are on par of other professions in terms of diagnosis, the application of evidence-based practices, and professional pride" (Sclafani, OECD, 2009, p.3), it can be argued that the sole recognition of the complexities and particularities of the teaching profession through the description of best practice in standards helps to enhance its prestige by changing the public perception about teaching (Ingvarson, 2009).

Australian standards are explicit regarding this formative purpose and although developed to provide a common base by which to assess teaching performance, for now, these assessments have not led to consequences for teachers.

Teaching standards are also used in the sense of benchmarks, to judge whether a teacher or an institution meets state or national government requirements. The same set of standards is usually used to certify teachers, assess their performance, and accredit initial teacher training institutions). In England, for example, a new teacher must demonstrate that he or she meets the standards in order to gain a 'qualified teaching status'; In addition, they are used as criteria for teacher training and as the yardstick for government inspection when assessing teacher training institutions, (Higginson, 2010).

In terms of the fourth purpose, standards developed by the National Council for the Accreditation of Teacher Education, (NCATE) have been specially designed for teacher training institutions, (National Council for Accreditation of Teacher Education) and refer not only those standards that teachers should meet by graduation, but process standards that describe the opportunities and conditions that teacher training institutions should offer their students if they wish to be accredited.

Countries without written standards have developed other ways to meet these objectives and ensure teaching quality. In the case of Brazil, there are regulations for teacher training, as for example the 'Benchmarks for Teacher Training', (*Referenciais para a Formação de Professores*, Ministerio de Educacão (MEC)/(Secretaria de Educação Fundamental) SEF, 1999), 'Outline for the structure of Advanced Teaching Courses' (*Projeto de Estruturação do Curso Normal Superior*, Brazil, MEC, 2000) and National Curriculum Guidelines for Primary level Teacher Training, *Diretrizes Curriculares Nacionais para a Formação de Professores da Educação Básica*, Brazil, MEC/CNE, 2001). These guidelines possess a legal character and provide benchmarks about teacher training, (duration, values and principles to be considered, training objectives, teachers' roles, specializations to be taught, links to the national curriculum, etc.), (Dias and Lopes, 2003). South Korea has not developed standards but has established criteria for different purposes, such as the licensing of teachers graduates who are beginning to practice this profession, promoting teachers in their career, etc. The criteria considered for different purposes vary and are not part of a common framework.

4.2. Characteristics of teaching standards

Standards for teachers often address similar content across different formats. This section describes the main features of these standards.

Generic or specific standards?

Standards for teachers can be classified into two large categories according to their degree of specificity. Generic standards describe good teaching practices in general terms without detailing how, in practice, these are to be demonstrated in the different teaching disciplines, distinct student grade levels or stages of professional development. Specific standards typify good practices for teachers of different subjects, grade levels (nursery, primary, or secondary teachers) and even for different stages of their professional development (graduating standards, full registration, advanced teaching practice, leadership roles).

Generic standards are useful as a general reference framework that allows the development of more specific standards by subjects or disciplines as well as setting out the main domains involved in good quality teaching. However, general frameworks are limited at the point of describing and differentiating good practices in one or other area, or for specific grade levels. If learning processes are specific to particular disciplines and for specific ages, the same is true of the practice of teaching that promotes such learning. For this reason, specific standards by discipline and level have been developed recently, as well as different standards for experienced, recently graduated or licensed teachers. However, standards that describe teacher performance by subject, grade level and a specific stage in a teaching career are rare. Examples of specific teaching standards according to the subjects and grade levels being taught are found in Texas, Chile and those in the United States developed by the National Board for Professional Teaching Standards. In other cases, such as Australia, standards are generic for subjects and grade levels, but they specify different performance levels for teachers that are beginning their careers and those wishing to accredit their expertise and excellence.

In order to be valid, standards should be context free and should allow a diversity of possible teaching styles. While standards help create a consensus about good teaching practices, they should not prescribe or over specify specific teaching styles. Teachers with quite different approaches and classroom strategies can achieve the same standards (Kleinhenz and Ingvarson, 2007). This requirement might be central to understanding why some of these countries (Australia, England and INTASC in the United States) have opted to develop generic rather than specific standards.

What do teaching standards look like?

The concern about not over defining rules for teaching may underlie the relative conciseness found in some of the standards analysed, (see the examples of British Colombia, Canada; California, United States; England, Mexico, New Zealand, Texas, United States; and Victoria, Australia). In most of these cases, standards are presented as a short description together with a set of indicators. The standards developed by the National Board for Professional Teaching Standards (NBPTS) and standards for advanced teachers of science in Australia are exceptions, set out as continuous text (paragraphs) that in one to five pages describe how each standard is to be understood.

For example, the standards introduced in 2012 by the United Kingdom, are simply presented as a list of ten brief statements followed by a specification of the 'components' of each standard. In figure 4.1 an example of three of these standards is presented (Department of Education, 2012).

Figure 4.1. Teachers' Standards, UK Department for Education (2012)

A teacher must:

1. Set high expectations which inspire, motivate and challenge pupils

- establish a safe and stimulating environment for pupils, rooted in mutual respect
- set goals that stretch and challenge pupils of all backgrounds, abilities and dispositions
- demonstrate consistently the positive attitudes, values and behaviour which are expected of pupils.

2. Promote good progress and outcomes by pupils

- be accountable for pupils' attainment, progress and outcomes
- be aware of pupils' capabilities and their prior knowledge, and plan teaching to build on these guide pupils to reflect on the progress they have made and their emerging needs
- demonstrate knowledge and understanding of how pupils learn and how this impacts on teaching
- encourage pupils to take a responsible and conscientious attitude to their own work and study.

3. Demonstrate good subject and curriculum knowledge

- have a secure knowledge of the relevant subject(s) and curriculum areas,
- foster and maintain pupils' interest in the subject, and address misunderstandings
- demonstrate a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship
- demonstrate an understanding of and take responsibility for promoting high standards of literacy, articulacy and the correct use of standard English, whatever the teacher's specialist subject
- if teaching early reading, demonstrate a clear understanding of systematic synthetic phonics.

Finally the analysis of standards in different countries should be complemented with the criteria described by Louden, (2000), who highlights the features of teaching standards that have a positive impact on the system. The criteria are that standards should be:

- Brief;
- Transparent (so that it is clear what is expected of teachers);
- Specific (by discipline, student development level);
- In context (show in what context the expected performance is to be demonstrated or how evidence is to be collected to show achievement); and
- Clear focus on teaching and learning.

What content is considered in teaching standards?

With respect to the content of standards, whether general or specific, brief or elaborate, it is possible in most of the cases analysed to discern a structure that distinguishes between central domains or dimensions and their component elements. In most of the cases, the main domains considered are: disciplinary knowledge, teaching practice and teaching values. Table 4.1 summarises the dimensions and content observed in each of the teaching standards reviewed.

Table 4.1. Contents considered and emphasized by teaching standards in different educational systems

	Au	Qn*	Vc *	BC	Ch	US NBPT	US INSTAC	Cl	Tx	En	Mx *	NZ
Disciplinary knowledge												
- Knowledge and understanding of the subject (expressed in general terms)	x	x	x	x	x		X	x		x	x	x
- Knowledge and understanding of the subject (specified for each particular subject and stages of scholing)					x[a]	x			x			
Pedagogic Practice												
- Know, value and teach according to student characteristics (different cultures, past experience, educational needs etc.)	x	x	x		x	x	X	x	x	x	x	x
- Understand and use knowledge about how students learn, (theories of learning and development)	x	x	x	x	x[a]	x	X	x	x	x		x
- Hold high expectations about all students	x		x	x	x	x	X	x	x	x		x
- Know how to teach disciplinary content	x		x	x	x	x	X	x	x	x	x	x
- Develop higher order critical thinking and skills	x	x	x	x	x	x	X	x	x		x	x
- Plan, implement and assess teaching and learning	x	x	x	x	x	x	x	x	x	x	x	x
- Create and sustain an environment that encourages learning	x	x	x		x	x	x	x	x	x	x	x
- Value the families' role in student learning and development	x	x	x	x	x	x	x	x	x			x
- Promote social values and ethics among students		x		x		x			x			
- Know how to use ICT for learning	x	x	x		x[a]	x	x	x	x	x		x
- Incorporate democratic values in classroom teaching practice						x						
Values and professional teaching practice												
- Be committed to students' learning and development			x	x	x[a]	x						
- Reflect on his or her teaching practice	x	x	x	x	x	x	x	x	x	x		x
- Know the rationale for and implementation of current educational policies				x					x			x
- Commitment to professional learning (continuos learning)	x	x	x	x	x	x	x	x	x			x
- Contribute and be committed to the school community	x	x	x		x	x		x	x	x		x
- Contribute to the development of the teaching profession	x	x	x	x			x	x				
- Know and apply guidelines for ethical behaviour		x	x	x				x	x	x		x
- Be capable of performing administrative tasks (e.g. registration etc.)	x		x						x			

Au =Australia, Qn=Queensland, Vc=Victoria Au, BC=British Columbia, Ch=Chile, US=United States, Cl=California, Tx=Texas, En=England, Mx=Mexico, NZ=New Zealand.

Notes: In the case of Chile, these areas that were further specified in standards for graduate teachers developed between 2009 and 2011. More information in http://www.cpeip.cl

In the case of Queensland and Victoria, these standards have been replaced by the Australian Professional Standards for Teachers since 2013, but in Victoria these are still valid for teachers that registered before their 5 year period of registration expires. In Mexico, there is a draft version by the Ministry of Education, which is not yet official.

Sources: Australian Institute for Teaching and School Leadership, (2011); Queensland Department of Education (2005), Victorian Institute for Teaching (n.d.), British Columbia Ministry of Education (2012), Ministerio de Educación de Chile (2003; 2011), National Board for Professional Teaching Standards (n.d.); Council of Chief State School Officers, The Interstate Teacher Assessment and Support Consortium InTASC (2011); Commission on Teacher Credentialing, California (2009); Texas Education Agency, State Board for Educator Certification SBEC (n.d.); Department of Education U.K. (2013); Secretaría de Educación Pública de México (2010); New Zealand's Teacher Council (2009 and 2007).

As the table shows, the majority of the reviewed standards describe similar teaching tasks with differences to be found in the details provided for each area. For example, all the standards reviewed indicate that teachers should plan, implement and assess their teaching for student learning, although in some cases these components are presented through various standards and indicators while in others –such as in the teaching standards of British Columbia– these elements are expressed as a general statement (British Columbia College of Teachers, 2008e).

Another significant feature is that very few countries require teachers to show administrative skills. For example, the draft version of teaching standards in Mexico concentrate almost exclusively on classroom teaching practice, leaving aside other professional tasks that are not subject to a direct observation of classroom performance (*Secretaría de Educaciońń Pública*, 2010).

4.3 How have teaching standards been developed?

Developed centrally or from practice?

Elmore, (1996) describes two ways by which public education policies are developed, which can be applied to the development of teaching standards. The first is called '*forward mapping*' with the central government developing policies; the second is '*backward mapping*', where policies are based on the activities of participants who are closer to educational practice than educational policy makers.

Both modalities are found in the cases reviewed. England, Chile, Mexico, Australia and New Zealand have set their standards centrally, while in other countries such as the United States, standards developed by different institutions and associations of teachers coexist with state level standards.

The development of the Australian teachers' standards is interesting. Originally teacher standards were developed as a result of independent activities of different states and professional teaching bodies to guide professional practice in different areas and levels of the educational system. Since 2003, these activities were developed in agreement with the Ministry of Education and had as their background the *National Framework for Professional Standards for Teaching*. This framework was produced following an intensive consultation and announced in 2003 at a meeting held by the Ministerial Council of Education, Employment Training and Youth Affairs, MCEETYA, (Ingvarson, 2009; Jasman, 2009). This was the first step towards a progressive and complete alignment of states and territories to the *Australian Professional Standards for Teachers* that from 2013 defines the criteria for teacher registration in Australia.

In the United States, there are teaching standards at the state level (as those established by California Commission on Teacher Credentialing or the Texas Education Agency as well as standards, defined by different institutions and bodies (accrediting and different specialized agencies). Among the latter are those developed by:

a) The National Board for Professional Teaching Standards (NBPTS)

b) The New Teacher Assessment and Support Consortium (INTASC)
c) National Council for the Accreditation of Teacher Education (NCATE)
d) Different teaching associations for specific disciplines.

Widespread consultation is a common way to obtain the support of teachers. The development of teaching standards often involves broad consultation processes with a large number of scholars, teachers and institutions associated with education.

Australian standards have often been the subject of consultations, the last being in 2009 when the 2003 standards were brought up to date. This consultation process was based on national agreements, with the participation of federal, state and territorial government experts, regulatory authorities, teachers' unions, schools and teachers. They received more than 120 proposals. All comments received were considered in the drafting of new standards, which underwent a comprehensive validation process between July and November 2010. As a final step, the standards were tested in all states, with around 6,000 teachers and principals from hundreds of schools across Australia taking part (Australian Institute for Teaching and School Leadership, 2011). A similar process of consultation was implemented in New Zealand[2], and in Chile teachers and teachers unions were consulted about the Framework for Good Teaching and teacher education institutions were consulted about the standards for graduates.

It is possible to argue that the widespread nature of the consultations marks the difference between regarding standards as a banner and expression of professional identity or as imposed policy that restricts teaching activities.

A third development modality incorporates teachers in working groups to draft standards. This occurred, for example, in the United States with the NBPTS. In the case the NBPTS, standards were developed by working teams where the majority of members were teachers. Members of the commissions that set standards for student learning also participated in these teams thereby guaranteeing compatibility between both sets of standards, (Diez, 2002). Other participants were experts in child development, teacher training, and academics from relevant disciplines, (National Board for Professional Teaching Standards, n.d.).

In Mexico, the draft version of the standards was developed by a 16 member team from nine different constituencies; four in-service teachers; two experts in pedagogical technology; two senior officials from the *Centros de Maestros*; one primary school principal; three with a background in life-long learning activities at the state level; an academic involved in teacher training, and three members of the General Directorate for Continuous In-Service Teacher Training (*Dirección General de Formación Continua de Maestros en Servicio, DGFCMS)* of the Secretariat of Public Education *(Secretaría de Educaciońń Pública)*.

Kleinhenz and Ingvarson (2007) point out that in addition to the need for teacher participation, valid standards should be based on evidence or research about teaching practices that have impact on student learning outcomes. In other words, stating that teaching standards reflect what is valued as good practice is not synonymous with saying that standards can be developed only on the basis of opinions and views not supported by research. However, institutions in charge of developing standards often do not report the research on which the standards are based. In this regard the standards developed in Mexico and the United States (InTASC) deserve special mention. Mexican standards make explicit the assumptions and constructs on which they are built, while InTASC standards are made available to the public with summaries of the research that underpins the standards (Council of Chief State School Officers, InTASC, 2011).

[2] http://archive.teacherscouncil.govt.nz/research/dimensions/rtchandbook.stm#h3

The other interesting consideration is, which type of institution is responsible for the development of teaching standards? Some are developed by agencies dependent on central government, as in England and Australia, while others by institutions, which are not directly linked, as in the USA, to the federal government. In other cases, such as Mexico and Chile, research institutions develop standards on behalf of the central government. Table 4.2 sets out the institutions responsible for developing national standards in some of the countries examined:

Table 4.2. Institutions responsible for teaching standards development in different countries

Country	Institution responsible for standards development	Description
England	Since 2012, Department for Education (this was formerly a responsibility of an independent body, the Training and Development Agency for Schools)	Equivalent to the Ministry of Education
United States	National Board for Professional Teaching Standards (NBPTS)	Independent non for-profit institution with neither political party nor central government links
	National Council for Accreditation of Teacher Education (NCATE)	Independent institution of 34 organisations that includes teachers' groups, curriculum discipline specialists, state and local institutions. It is recognised by the Department of Education as an organisation that can certify teacher-training suppliers.
	Interstate Teacher Assessment and Support Consortium (InTASC)	A consortium of state agencies and national organisations that provide teacher training.
Mexico	Centre for Educational Studies (*Centro de Estudios Educativos* CEE)	An independent centre that developed standards on behalf of the central government.
Australia	Australian Institute for Teaching and School Leadership (AISTL)	Public and independent body funded by the Australia Government and the Minister for School Education, Early Childhood and Youth.
Chile	Ministry of Education (for generic standards) University of Chile and the Pontifical Catholic University of Chile (specific standards for recently graduate teachers in different subjects)	General standards developed by the Ministry with inputs from the teachers professional organisation, and Chilean Association of Municipalities Specific standards for graduate teachers developed by these universities on behalf of the Ministry of Education.

4.4. How is the achievement of teaching standards assessed?

In most countries, the assessment of teaching performance is controlled at the national level with the participation of local authorities. In decentralised countries, such as the United States, Germany and Australia, it is the local authorities who decide what components of teacher performance are to be assessed and how. In England and Chile, teacher evaluations are defined by the central government, (Manzi, 2010; Sclafani, 2009).

Dinham, Ingvarson and Kleinhenz (2008), advocate that for assessments to have a positive effect on the educational system, it is essential that such assessment programmes are linked to teaching standards. In addition, and contrary to what was believed a few decades ago, teaching performance can be assessed in valid, fair and reliable ways. More importantly, it can be carried out in such a way as to be acceptable to teachers, even when the results have an important impact on their professional careers. The following section reviews how the different education systems selected have approached these challenges. These evaluations may or may not have consequences for teachers and institutions, may or may not be undertaken by the same institutions responsible for developing the standards and may use different assessment tools (peer assessment, standardised tests, classroom observation, portfolios, etc.).

Table 4.3 synthesises the main characteristics of the assessment of teaching standards in the countries and states studied.

Table 4.3 Assessment of teachers in different countries, states and provinces

	Main purpose of assessment	Consequences	Instruments	Institution
Victoria (Australia)	License teachers at the beginning their careers.	High stakes assessment. If the teacher fails, he or she will be unable to practice.	Presentation of evidence generated with help of the school	Victorian Institute of Teaching
British Columbia (Canada)	License teachers at the beginning of their careers. Accreditation of initial teacher training programmes.	High stakes assessment. A teacher cannot practice if he or she graduated from a non-accredited programme or if the Teachers' Union considers that he or she does not meet the standards).	Performance assessment for new teachers or evidence provided by teacher training programme. Expert panel for review of teacher training programmes.	British Columbia College of Teachers. Association of British Columbia Deans of Education
Chile	To assess performance of teachers working in public schools. Assess disciplinary and pedagogic knowledge of new teachers.	Consequences for teachers: monetary incentives in-service training, dismissal Consequences for institutions: published results of graduates.	Standardised tests, portfolios, videos of lessons, peer assessment Paper and pencil tests, performance assessment of ICT skills.	Ministry of Education commissions a university for the implementation of the assessments (presently the Catholic University through Mide-UC)
United States	NBPTS: Certification of accomplished teaching	Dependent on state policies	Standardised tests, portfolios	National Board for Professional Teaching Standards
	NCATE: Licensing teacher training programmes.	Dependent on state policies	Standardised tests administrated by each state Inspection. Evidence collected by the institution.	NCATE
California	Certifying teachers at the beginning of their careers, (according to state standards) Licensing accomplished teachers (using NBPTS standards)	High stakes assessment. If the teacher fails, he or she will be unable to practice (state standards)	Standardised tests (MSAT, CBEST, CSET, PET, etc.) (NBPTS tests and state standards), portfolio (NBPTS).	Commission on Teacher Credentialing National Board for Professional Teaching Standards
Texas	Certifying teachers at the beginning of their careers	High stakes assessment. If the teacher fails, he or she will be unable to practice.	Standardised tests	Texas Education Agency and ETS
England	Certifying teachers at the beginning of their careers Assessing teachers' performance Supervising teacher education quality and accrediting teacher education institutions.	Consequences for teachers: High stakes assessment. If the teacher fails, he or she will be unable to practice. Monetary incentives Consequences for institutions: Special measures or closure for initial teacher training institutions	Standardised tests of basic skills (administered by a Pearson Professional Test Centre on behalf of the Department for Education). Portfolios, observations (applied within teacher training institutions and supervised by Ofsted or through the process of accreditation).	The Department for Education, specifically the National College for Teaching and Leadership (merging the Teacher Agency and the National College for Teaching and Leadership) School principals assess teachers in schools The Office for Standards in Education, Children's Services and Skills (Ofsted) evaluates ITT institutions.
Mexico	Promoting improvement in teacher performance	No	Self-assessment, co-evaluation and multiple evaluation	Colleagues, principals, supervisors, advisers in pedagogical use of ICT
New Zealand	Provisional and full registration of teachers at the beginning of their careers. Performance assessment of teachers.	High stakes assessment. If the teacher fails, he or she will be unable to practice.	Assessment by teacher training institution or the school (in the case of currently practicing teachers)	Teacher training institutions, principals and other educational leaders in agreement with the New Zealand Teachers Council

As this table shows, most of the assessments linked to standards have among their objectives the licensing or registration of new teachers. So too, assessments to certify a specific level in the teaching cycle are common, while programme accreditation or improving teaching quality are less frequent.

Consequences can be targeted to teachers or to initial teacher training institutions. Actions targeted to teachers can vary from feedback with no consequences, recognition of excellence, salary increases, the requirement to take in-service training to being unable to practice as a teacher. The consequences for initial teacher training institutions can include closure.

Regarding the instruments and procedures used to assess teachers in relation to teaching standards, it is noteworthy that few systems are based on standardised tests alone. The exception is the state of Texas, while all the other systems either use portfolios, observations of classroom practices or rely on the assessment of performance developed by school principals. The majority of the systems meet the proposals of Ingvarson and Chadbourne (1994), in Jasman (2009) who suggest that besides the formative impact of assessment, this should be summative, criterion referenced and based on different sources of evidence (portfolios with teaching plans, student-learning assessments, analysis of responses, videos of lessons, etc.) to determine if a teacher has reached the standards or not. The validity of the assessment will depend on the degree of authenticity of the tasks that are used.

Pearlman (2008) identifies the elements of the architecture that supports any accomplished teaching practice and relevant evidence to be considered as part of assessment. This architecture has been used to assess teachers in NBPTS and consists of the following:

1. Assessing who the learners are, what they know and are able to do.

2. Setting worthwhile learning goals aligned with the curriculum and suitable for students.

3. Conducting activities or teaching strategies which have been planned to achieve learning goals.

4. Assessing student learning in the light of the learning goals and instruction.

5. Reflecting on student learning and the effectiveness of the instructional design.

6. Setting new goals for the same group of students.

Authentic tasks when used to assess content standards will usually collect evidence presenting exercises or situations that will reflect these above-mentioned aspects of teaching practice. What matters here is that the array of instruments to assess standards should permit the various dimensions of teaching to be captured.

Finally, it is interesting to examine the difficulties of setting cut-off scores in order to decide whether standards have been met or not, in assessments with varied tasks that combine, for example, tests with encoded videos and portfolios that provide evidence of the teacher's activities. The procedures for standard setting in these cases are highly complex even though they function under the same logic described at the beginning of this paper – the deliberation of a group of qualified judges.

4.5. Implementation of teaching standards in educational systems

Defining teaching standards, assessing them and attaching consequences to the results of these assessments (in-service training, improvement of initial teacher training institutions, incentives for teachers, teacher certification, etc.) are policies aiming at improving the teaching force of a particular country. However, these measures could have no effect if schools are allowed to hire teachers that have not been certified or if they assign them roles in different subjects to those in which they have become experts. This impacts student learning negatively for it has been shown that students learn

significantly less when their teachers are not specialised or have not been certified for the appropriate area (Darling-Hammond and Bransford, 2005).

For these reasons, it is not enough to define what teachers ought to know and teach. In addition, it is important to be able to count on a professional development system for teachers, which is consistent with standards. According to Dinham, Ingvarson and Kleinhenz (2008), a professional development system should have the following elements as a minimum:

- Teaching standards that set out in detail what is to be expected of them;
- Teacher development 'milestones' with recognition and incentives for those that achieve them;
- Resources for teachers' professional development linked to the requirements of the standards;
- A legitimate and voluntary professional certification process based on authentic performance evaluations.

The absence of one of these elements weakens the effect that the other components could have on the professional development of teachers and, therefore, on student learning.

As noted previously, many of the systems reviewed use standards to ensure a common baseline for teachers entering the classroom for the first time. Ingvarson (2009) has pointed out that in order to have a complete quality assurance system, teaching standards should be complemented by the following:

- Accreditation of teacher training programmes (with criteria about the number of students that achieve their license and can work as teachers);
- The existence of rigorous selection or admission procedures to teacher training programmes;
- Standards (process and institutional conditions) for the accreditation or authorisation of teacher training programmes;
- Consequences for the non-accreditation of training programmes (closure);
- Assessment and accreditation of graduates; and
- Assessment prior to joining the profession.

On the one hand, the development of teaching standards should not be considered as an isolated strategy in itself. On the other hand, education systems can also achieve quality assurance in teaching without needing to define specific standards. For example in Finland, teaching quality is safeguarded by the rigorous and demanding process of selection to teacher training institutions, (Finish National Board of Education, n.d.). In other words, the decision to develop and implement teaching standards ought to consider the other elements in the system that make such standards necessary or optional.

The topic of teaching standards and their impact is still quite new in the specialised literature. Clotfelter, Ladd and Vigdor (2007, in Lawrence, Ingvarson and Hattie, 2008) concluded that teacher certification through the NBPTS had significant effects on the math performance of children, while a teacher's postgraduate degree or other qualifications could have a negative impact on student performance. Furthermore, other research shows that teachers who graduate from institutions accredited by the NCATE are more likely to pass state tests to gain teacher certification, and, in

addition, such teachers have a positive impact on their students' learning (Kleinhenz and Ingvarson, 2007).

As Linda Darling-Hammond (2012) states, "the critical question for the teacher standards movement, where it is emerging, is how the standards will be used, how universally they will be applied, and how they may leverage stronger learning opportunities and a more common set of knowledge, skills and commitments across the profession. Robust standards weakly applied can be expected to have much less effect than those that are used as in other professions, as an inviolable expectation for candidates and institutions to meet".

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5. STANDARDS FOR SCHOOL PRINCIPALS

This chapter addresses how the group of countries analysed in this study has faced the design and implementation of standards for school principals. As it has been shown in previous studies (Ingvarson *et al*, 2006; Pont *et al*, 2008; Barber and Mourshed, 2007), many countries have been making an effort recently to define what is expected from school leaders, assuming that their performance is key for the improvement of school functioning and, consequently, student learning.

The definition of these standards is based on the vast existing research on the effect of leadership in the quality of the school process and outcomes (Waters *et al*, 2005; Leithwood *et al*, 2006; Seashore -Louis *et al*, 2010). Principals' leadership is the second most relevant intra-school factor for the quality of an educational institution, and that its influence is larger where it is most needed: in disadvantaged social contexts. The inclusion of this dimension also reflects an economic element in educational policy; namely, affecting a small group of people (school principals) would subsequently impact a greater number (teachers) who, in turn, would directly affect the final beneficiaries of the system (the pupils).

The strategy of ensuring effective school principals who exercise strong pedagogic leadership and affect the quality of the schools they lead is increasingly part of educational policies for at least two reasons. In the first place, most countries – developed and developing – have been aiming at strengthening autonomy and giving more responsibility to educational institutions as the foundation of the educational system (Eurydice, 2007). Although countries use different models, schools have begun to have more responsibilities and are increasingly held to account by educational authorities and the general community. This process towards greater school autonomy goes hand in hand with the growing expectation of increasing student performance, a tendency also common to educational systems that have committed to "raise the bar and shorten the gap" among their students. Both represent a direct challenge for school principals who are faced with managing a growing set of tasks, including financial administration, management of human and material resources, and the management of learning in schools, among others.

The "McKinsey Report" evidences that this is a priority issue in the international educational agenda (Barber and Mourshed, 2007). This study aimed to understand why a significant number of educational systems, in spite of social and cultural differences, had attained high standards of quality in student learning outcomes. In brief, the report shows that the most relevant policies developed by the countries with high performing educational systems are those related to school leadership, including policies for: selecting the best educational leaders, developing the capacities of these leaders, and focusing principals on their instructional function (pedagogical management) (See Box 5.1)

Box 5.1 Key points about principals' leadership for high performing educational systems

Selecting the best educational leaders. With the aim of getting professionals suited to the functions of leadership, the best performing systems offer important incentives, promoting in this way the application of the best teachers (or other professionals) for these posts. Added to these incentives in practically every case is a rigorous selection system.

Developing the capacities of these leaders. On-going professional training and development is as important as selecting leaders. Given that school leaders "rely on the same repertoire of basic leadership practices" (Leithwood *et al*., 2008), high performing educational systems have focused on transferring skills and developing these practices through training models that are consistent and aligned with them, generally combining a consonant initial training, a process of induction to the post (support for new principals) and a strategy for on-going professional development[1]. A clear manifestation of this priority is the creation of specialised institutions devoted to the strengthening of educational leadership (such as the National College for School Leadership in England and the Ontario Principals' Council in Canada).

Focusing principals on their instructional function (in pedagogical management). According to the McKinsey report, school principals in the majority of high performing educational systems devote around 80% of their time to improving instruction and taking action to better motivate and develop the professional capacities of teachers. This is due to the policies these countries have developed to structure functions, duties and incentives of school leaders and to the consistency of these instruments based on the idea that principals must focus on pedagogical leadership and not on school administration.

Source: McKinsey & Company (2007) *How the World Best-performing School Systems Come Out on Top*, *http://mckinseyonsociety.com/how-the-worlds-best-performing-schools-come-out-on-top/*,London

In spite of the progress and the strategic weight given to this issue in several educational systems, the challenge of strengthening leadership, even in those countries with good outcomes, has proven difficult. The recruiting of new principals is a widespread problem.[2] It has not been easy to establish performance standards for principals that are consistent with the legal duties of the role, and it has been difficult to find training systems that address the new needs.

One way to progress in this challenge has to do with a precise definition of the responsibilities associated with school leadership. Within this context, standards and frameworks for action are a key element, because they clarify and provide focus to the principals' function. As it was stated by the World Bank (2007), "specific performance levels should be established for every person or institution taking part in the production chain of educational quality. For example, there must be clearly defined standards for pupils, specifying what they should know and be able to do. Similarly, there must be well defined standards specifying what the teachers of every educational level should know and be able to do." According to Pont *et al* (2008), standards for principals are even more relevant now where the expansion of their duties and responsibilities implies a level of diversification that could lead to the non-prioritization of pedagogical management and support to teaching teams, key factors in student learning.

The next section will examine the different approaches to standards for school principals adopted by the different educational systems analysed in this paper. It is structured as follows: purpose, content, development, application, and implementation

5.1. Standards for principals' performance: What are they for?

In general terms, the function of standards for principals is conceptually not very different from that of teaching standards or learning standards. In a broad sense, standards for principals define what they must know and be able to do in the realms of their competence, hence guiding their work and outlining the goals that principals are expected to reach. Most countries perceive performance standards for school principals as a strategic tool for the improvement of quality of education. Once

this general purpose has been outlined, there is some variability regarding the specific objectives each standards-based policy defines. The most frequently mentioned are:

1. *Specifying the function of school principals.* This allows to clarify and to align expectations around the principal's role, to organise the array of policies that address the principal's function as well as to progress towards the professionalization of principals by defining common codes. This clarification also defines what the principal's function does not involve, elucidating its limits (Ingvarson, 2006).

2. *Guiding professional development*. Standards can be a useful frame of reference in the formulation of professional development strategies for principals. There are basically two ways this is done. The first, adopted in education systems in Australia, Chile, and the Province of British Columbia, Canada, consists in giving guidelines for professional development, which can be assumed by principals at an individual level, by educational administrators through the definition of professional development plans as well as by training centres, which design their programmes considering the standards. The second, more prescriptive way is structured training for principals, which defines compulsory curricular contents and minimal teaching methodologies. California, Texas and England have adopted variations of this second approach.

3. *Defining criteria for assessment*. Standards are a parameter against which principal performance can be assessed. There are two possible approaches to evaluation. . On the one hand, evaluations can serve to certify principals. Such an approach is often linked to compulsory participation in highly structured training programmes. On the other hand, evaluations designed at the local level can serve the narrower aim of enabling school administrators to manage performance and professional development of principals, as happens in New Zealand.

4. *Guiding the selection of principals*. Though specialised literature highlights their usefulness for this dimension (Ingvarson, 2006), in the education systems studied, there were no policies defining the direct use of standards in the selection of principals. Rather, school principals are selected by local administrators (districts or school councils) in accordance with their own recruitment criteria. This can be through a voluntary nomination process as, for example, is the case in the United States in the Inter State Leader Licensure Consortium or ISLLC or compulsory, as in the case of New Zealand. In some cases, as, for example, in the State of Texas, fulfilment of the standards may be a pre-requisite for the qualification of the principal; that is, a previous step to participating in selection processes.

In general terms, standards for school leadership are focused on school principals (rather than on management teams), but there are special cases, like British Columbia, where the same indicators apply to both principals and vice principals.[3]

5.2. Layout and domains considered in the standards for school principals

Analysis reveals that international standards for school principals show similarities and differences in several realms, allowing comparisons from at least three different perspectives. The first of them refers to the grade of precision reached by the definition of standards, while the second has to do with the format in which these are expressed, and the third one, to the contents that have been integrated to each one of these frameworks.

How specific are the standards for principals?

In contrast to learning and teacher standards, the specificity of standards for principals is quite low. In this sense, there are no distinctions regarding the different phases in a principal's career or the type of educational institution, as for example, those that due to their size present more or less

complex organisational structures (being able to rely on a bigger management team). Nor do such standards contemplate principals acting in a differentiated way in processes that happen at different levels of teaching or for every discipline; that is, for instance acting in consideration for the different levels of technical support to be provided by the school principal based on the circumstances. Among the education systems reviewed, only New Zealand presented a distinction between standards for primary and secondary education.

Also apparent from the review was the significant variability in the degree of structure and specificity in principals' standards. In this sense, there is a clear difference between those educational systems (like the United States through the ISLLC, or British Columbia) that have defined key performance areas for principals, moving towards a definition of actions, and others like Germany and Korea, in which what is stated are rather the realms of responsibilities for the principal. It is regarding the first type of educational systems that the existence of principals' standards can be more properly asserted, in the sense of definitions that can be used for management, training or evaluation of the principal's function.

Some education systems have progressed towards a higher level of complexity in the definition of their standards, making a distinction between those referred to as professional activities and those that refer to the values or personality traits that principals must have in order to carry them out. This distinction is consistent with what the literature has defined as functional and behavioural competencies (Fundación Chile, 2007). For example, Quebec distinguishes between professional and overarching competencies. Similarly, Australia makes a distinction between professional practices and "leadership requirements" (which correspond also to overarching competencies).

Box 5.2 National Professional Standard for Principals (Australia)

The NPSP are based on the assertion that all good principals share a set of common characteristics and capabilities, which can be expressed in three required leadership domains. These are: vision and values, knowledge and comprehension and finally personal qualities and social and communicational skills. These requirements are displayed in five areas of professional practice: leading teaching-learning processes: developing self and others; leading improvement, innovation and changes; leading the management of the school; and engaging and working with the community.

Australia shows the overarching character of some standards, more linked to the dimension of personal skills and values. These skills are a key element enabling principals to carry out their role successfully and, thus, achieve positive school outcomes. Though these standards can be organised in two different domains, it is important to highlight their interdependent character. The concrete way through which integration is achieved will depend on the specific working conditions of each principal.

The following chart summarises the inter-linkage between the three required leadership areas and five areas of functional practice, which must be combined in order to achieve the outcomes expected from a good principal.

Which elements and format adopt these standards?

With the exception of the countries where the definition of the principal's role does not go beyond the mention of his or her responsibilities and tasks within the school institution, all the education systems reviewed share a similar structure for principals' standards. All of them are based on key areas or dimensions, structured as follows: a general description, ranging from a sentence to a paragraph, that explains the meaning of the dimension followed by a list of practices that define how to put into action the content previously described. Examples of this structure can be found in the standards from California and Texas.

A more complex model can be found in countries like Chile, New Zealand or the province of British Columbia, where the standards are defined in a more detailed way. For example, in Chile, every practice or indicator is clarified through a set of descriptors, which are more specific actions

regarding the issues addressed by every indicator. British Columbia adds questions oriented to guide the reflection on whether the performance standards (practices) have been fulfilled, whereas in New Zealand the definition of the standards is complemented by evidence that illustrates their achievement.

The highest level of complexity is reached where there is a distinction between standards for functional performance and overarching behaviour skills. In some cases, both types of standards are presented in a parallel way with the understanding that the behaviour or attitudinal skills complement all the dimensions of professional performance as is done in both Quebec and Australia. England also draws this distinction. In the English model, there is a general description, followed by the knowledge required for its realization as well as the required professional qualities. Both converge in a list of actions specifying the combination of both elements for the specific performance area in question.

Which contents are considered in these standards?

There is considerable consensus in the literature regarding the competencies and traits that enable principals to affect school outcomes effectively (Leithwood *et al*, 2006; Robinson *et al*, 2009). A review of several meta-analysis and specific studies highlight – explicitly or implicitly – the existence of two types of competencies or key aspects of the principals' management: those linked to tasks which are proper to the principal's function, and others linked to attitudes and values that contribute to the exercise of this role (Muñoz and Marfán, 2011).

Regarding the contents of the standards proposed by the different educational systems, it is possible to identify several common elements, which in turn, are usually consistent with what is proposed in the literature. Table 1 and Table 2 present functional and behavioural standards and the dimensions and descriptors that allow visualising the common elements of the performance standards for principals from different education systems.[4] Though there is some variation in the different models, the intention is to show, in general terms, the contents that can be identified across the different education systems.

Table 1: Functional standards for principals in the education systems studied

DOMAIN	DESCRIPTOR	AU	BC	CA	CH	EN	GE	KR	NZ	QU	TX	USA
To establish a guiding mission	Organises the formulation of the institution's mission or educational project, oriented to ensuring improvement	*	*	*		*			*	*		*
	Aligns individual interests with the mission	*		*	*	*					*	
	Articulates the educational project with the characteristics of the environment and the community			*		*				*		
	Translates the mission in the achievement of concrete objectives	*		*		*					*	*
	Promotes excellence	*	*	*		*					*	*
To generate organisational conditions	Organises time to support teaching		*		*			*				*
	Organises the resources and the institutions according to the mission	*	*	*	*	*	*		*	*	*	*
	Manages workload allowing a balance between personal and work life			*		*						
	Links the educational institution with the environment	*	*	*	*	*	*		*	*	*	*
	Collaborates with the families in the educational process and school culture	*	*	*	*	*			*		*	*
	Promotes a culture oriented to improvement	*									*	*
	Promotes a culture oriented to collaboration	*	*		*	*			*		*	*
	Utilises technologies and management systems in leading the school organisation		*			*					*	*
	Ensures the educational institution responds to legal norms		*	*							*	
	Complies with the commitments made to stakeholders and collaborates accordingly		*			*			*			
	Introduces mechanisms for effective communication		*	*							*	
To create harmony within the school	Manages conflict resolution		*	*	*				*		*	
	Facilitates a climate of security and well-being that favours learning	*	*	*					*			*
	Ensures the fulfilment of norms			*			*	*			*	
	Addresses the special needs of pupils and the community		*			*			*		*	*
To develops self and others	Motivates teachers intellectually and promotes their professional development	*	*	*	*	*	*		*	*	*	*
	Guides human resources' management according to defined criteria of quality	*		*	*	*	*		*	*	*	
	Develops the leadership capacity in others	*	*	*					*			*
	Recognizes and celebrates individual and collective contributions and achievements	*	*			*					*	
	Reviews his or her own practice and professional development	*				*						
	Offers individual attention to each teacher			*							*	
To do pedagogical management	Analyses information for decisions aimed at making improvement	*	*	*	*	*			*		*	*
	Possesses pedagogical knowledge	*		*	*							
	Manages curricula-related planning					*	*	*				*
	Supervises teaching	*	*	*	*	*	*				*	*
	Monitors learning and the good use of data	*	*	*	*	*			*		*	*
	Implements actions for curricular improvement										*	*
	Spreads good practices and technologies for teaching	*	*	*	*	*			*		*	*

Acronyms: AU (Australia), BC (British Columbia), CA (California), CH (Chile), EN (England), GE (Germany), KR (Korea), QU (Quebec), TX (Texas), USA (United States- ISLLC)

Though the list of standards associated to the carrying out of professional tasks is long, all of them can be found in several of the education systems that have been analysed. The standards, categorised in five dimensions or realms, correspond to what the literature has frequently identified as "effective leadership practices."

A first set of standards can be identified, here grouped as 'to establish a guiding mission, which refers to the need for a common aim oriented to improvement and aligning interests and expectations towards this goal.

The second important group of standards refers to the organisational conditions required in order to carry out the mission successfully and the role of the principal in this regard. These standards address issues like resource allocation, time management, structuring of the organisation according to the mission, among others. The promotion of an organisational culture that is oriented to improvement and favours collaborative work are other elements. Within this same realm, there is also a set of standards that refer to the role played by the principal in the linking of the school with opportunities and resources found in the surrounding environment, including family, community organisations, public assistance institutions, other similar schools, governmental institutions and other key stakeholders.

The third set of standards is related to issues of school-based harmony. They aim mainly to ensure an environment of security and well-being, which underpins good organisational performance to secure student learning. In this regard, the ability to resolve internal conflicts that arise within the school and ensure the fulfilment of the special individual needs of pupils and community members are relevant skills.

Fourth, the capability of the principal to promote and guide professional development and leadership within the school is also highly relevant. In this sense, it is part of his or her function to intellectually motivate teachers and the community and promote a human resources system that is based on defined systems of control and promotion.

Lastly, within this type of standards, the pedagogical role of the principal is important. In this dimension, follow-up of school processes associated with learning, which, in turn, implies continuous monitoring of the students' and teachers' performance and analysis of available information and evidence are particularly relevant.[5] It is also part of the principal's role to promote the use of pedagogical strategies to improve learning and technologies that improve teaching.

There are also four behavioural dimensions. These correspond to the overarching qualities school leaders must possess in order to effectively fulfil their work.

Table 2: Behavioural standards for principals in the education systems studied

REALM	DESCRIPTOR	AU	BC	CA	CH	EN	GE	KR	NZ	QU	TX	USA
Flexible management for change	Adapts leadership to the needs of the school and the changing surrounding environment.	*	*	*	*	*				*		*
	Selects effective solutions from a comprehension of change processes	*	*	*						*	*	*
	Solves complex problems			*					*		*	
Communication	Communicates clearly his or her points on view and listens actively to the others	*			*						*	
Values	Demonstrates organisational values	*	*	*		*			*	*	*	*
	Promotes values of democracy, equity, respect and diversity	*		*		*						*
	Protects the privacy of pupils and families		*	*								
	Promotes interpersonal relationships in a context of respect and acceptance	*	*	*		*			*	*	*	
Links theory and practice	Incorporates inputs from research to his or her leadership practices	*	*	*		*			*		*	*

Acronyms: AU (Australia), BC (British Columbia), CA (California), CH (Chile), EN (England), GE (Germany), KR (Korea), QU (Quebec), TX (Texas), USA (United States- ISLLC)

The first behavioural dimension refers to the capability of principals to manage change. Principals are expected to be highly adaptable to respond to changes in context or policy environment. They are also expected to know how to choose the most effective mechanisms to produce the desired changes. The second dimension refers to the principal's capability to communicate clearly and be open to listen to others to benefit from their feedback.

The third dimension refers to the values the principal needs to possess and the way they must be applied within the school. Critical here are the promotion of the values of democracy, respect and acceptance of diversity, and the construction of interpersonal relationships within this framework. Additionally, it is expected that the principal to model school values, becoming an example of moral and professional performance. Lastly, the principal must be up to date on the research on effective teaching and learning practices and able to incorporate them in the decision-making processes within the school and as a guide for his or her daily work.

This exhaustive list of both standards for professional practice and personal qualities and attitudes shows the extent and diversity of the standards that are usually set for school principals. Though the specialised literature tends to criticise the models of standards which seem to set them out as near 'super heroes', this review shows that, in fact, the number of functions and competencies demanded of them cannot be easily assumed by one individual. As a result, they should be framed as expectations for a management team.

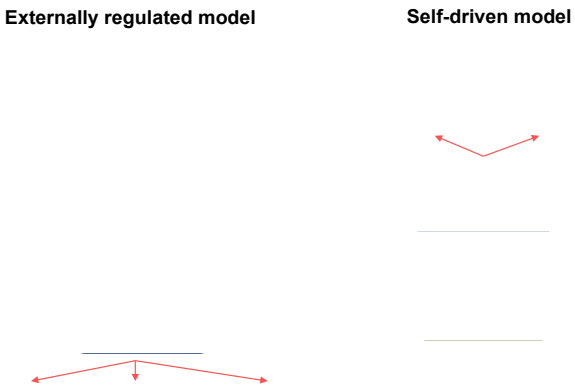
5.3. How have standards for principals been developed?

Given the movement towards decentralisation, most the educational systems studied define the standards for at the local or sub-national level. Thus, in countries like Germany, Brazil, the United States and Australia, there is no mandatory federal definition but rather the governing framework for each territory is decided on a local basis. In Germany, at the federal level, there are only general performance guidelines for principals while the duty of setting specific standards remains in the hands of the individual states.

However, in some federal countries, the opposite trend is occurring; that is, there is a movement towards centralization is beginning to appear, where local and national definitions are being merged, such as in Australia and the United States. For example, the United States has the ISLLC, which although a voluntary measure, has been adopted by all the states (Elliot, 2009), with major or minor adaptations, in their policies regarding principals. The interest in having contextualized frameworks and standards, but at the same time certain defined "minimums" and expected behaviours for school principals at the national level is not just a policy concern for federal countries. For instance, in New Zealand, the central state defines general standards that must be specified at the local level. The New Zealand approach also responds to the need of ensuring shared minimum standards within highly decentralized education systems.

The development of standards is not always centrally defined at the national or sub-national level, highlighting the need to achieve a certain political legitimacy among principals and other relevant educational actors. In general, the setting of standards is a participative process involving governmental authorities, professional associations of principals and teachers, groups of educational administrators, scholars, and representatives from faculties of education, among other actors. This participation can take many shapes. In cases like Chile or Quebec, standards begin as a proposal from the Ministry of Education that later goes through successive rounds of consultation and validation with different professional groups, scholars, politicians and representatives from the education community. In other cases, such as the United States and British Columbia, the process is reversed and performance standards for principals typically arise from professional and academic associations, who then lead the process of consultation and validation with a wider group of actors, which then leads to subsequent adoption by the educational authorities.

Figure 5.1: Models of use and development of standards



The processes of standard formation and the selection of actors taking part in them are intimately linked –at least in their origin- with the use given to these frameworks within each system. Thus, self-driven standards are usually understood as part of the professional development of the principals, whereas those that have been externally set reflect the needs of the education authorities and system to manage the work of principals effectively. British Columbia exemplifies the first approach where the standards (also called framework for action) are structured around the individual principal and his or her professional career. England exemplifies the second where the standards represent an organising tool for the educational system that individual principals have to assume.

A common element is the incorporation of research-based knowledge. In this way, the exercise of defining standards are informed using the evidence on effective leadership generated locally and internally as well as the experience of implementation from other educational systems.

Box 5.3 Process for the development of principals' standards in New Zealand

Principals' standards in New Zealand are the result of a long process beginning with an initiative of the educational authorities but with the participation of the professional organisations, training institutions, and inputs from research about school leadership. Currently, the main objective of the standards in New Zealand are to set out the minimum criteria with which the school boards and the principals in every school will define the specific characteristics of the post, the objectives to be achieved and the performance elements to be evaluated. These have been taken from a major document: *Kiwi Leadership for Principals* (KLP), which constitutes a wider framework for the definition of characteristics, knowledge and skills required to lead a school.

The KLP model aims to specify the shared expectations around the duties of principals, which enabled New Zealand to begin the development of a Professional Leadership Strategy. The document was developed by the Ministry of Education based on the results of the research and compilation of studies about effective leadership carried out by academic, Viviane Robinson (*Educational Leadership Best Evidence Synthesis Iteration*). Also considered were the work on school leadership that was then being developed by New Zealand for the OECD and the compilation of successful experiences in principal training programmes.

During a two year period, the development of the KLP involved constant review, feedback and subsequent validation by representatives from groups of primary and secondary education principals, researchers, leadership advisers and leaders of principals' and teachers' unions. In this way, the document –and the possibilities it opens– is the result of all the actors and information sources that took part in it.

Source: New Zealand Ministry of Education (2008), *Kiwi Leadership for Principals, Principals as Educational Leaders*.

The development of standards for principals grounded in high levels of participation and solid theoretical and empirical research are typically time-consuming. In the United States, the review of ISLLC standards took two years as did the development of standards in New Zealand and Chile. The experience of Australia, which has been revising its school leadership standards in the last few years, is also of interest. Australia has used a process that also involves research, external feedback and validation. In the case of Australia, an additional step of including a four-month pilot programme was incorporated into the policy process with the aim of proving the authenticity, utility and added value of the standards before their finalization.

5.4. Are principals assessed using standards? How?

Not all the school systems with defined standards for principals use them to evaluate performance. For example, although Chile and British Columbia have standards that define the areas and describe related actions for principals, their purpose is to provide a framework to guide professional performance and training, but they do not translate concretely into an evaluation device. However, other educational systems have developed mechanisms to evaluate the fulfilment of standards by the principals. The results of such evaluations are usually linked to consequences as, for example, the ability to work as a principal. In Texas, for example, candidates for principal positions must take an exam to obtain the Principal Certificate in order to begin to work as a principal. This evaluation consists of a highly structured multiple choice test administered by a non-governmental institution specialised in assessment (ETS). In New Zealand, the evaluation of principals is defined on a case-by-case basis through the contract signed between the principal and the school board, which defines the specific characteristics of the post, the objectives to be achieved, and the evaluation mechanism (i.e., the Principal's Collective Agreement). This evaluation, though defined and applied locally, must incorporate the standards for principals from the education system as a whole.

The examples of Texas and New Zealand show that the countries that possess evaluation systems for principals have needed to implement a precise definition of well delimited indicators that operationalise the variables considered in the standards as well as reliable and legitimate assessment instruments[6] to measure the performance of principals or candidates. It is not unusual, then, that such systems link incentives or consequences to the achievement of standards.

5.5. Implementation of standards for school principals

As stated above, the link between standards and consequences is strongly linked with the process by which standards were formed and the key actors involved in their formation. Thus, in the self-driven model typified by Chile, standards serve as a reference, but following them –or not- does not entail major consequences for the principals. In contrast, the externally regulated model ascribes consequences to the achievement of standards. For example, in Texas, the fulfilment of the standards may determine whether a person can apply or stay in a principal's post.

There can be also a link with the attainment of certain material or symbolic incentives. In New Zealand, the fulfilment of standards is associated with economic incentives and required professional development to upgrade skills. For example, a primary school principal may receive an annual bonus if he or she fulfils has three years' experience and can demonstrate recent achievement of the relevant professional standards. On the other hand, principals with a specified number of years of service who do not achieve the standards are sent to an upgrading programme that can last between three months and one year. Principals do not need to pay for this upgrading or divide their time between study and work because it is their employer's obligation to contract a temporary replacement. Another type of symbolic incentive, that is part of the standards' system in England, is the possibility of becoming a trainer of other principals.

Between these two extremes, there are intermediate situations, like the one in Quebec, where standards have served as a reference for the development of specialisation courses that nowadays educators must necessarily pass in order to become principals.

As Quebec shows, training programmes can represent an opportunity for guaranteeing the diffusion of the standards within the system. In general terms, in those cases where principals' standards must be part of the minimum curricular contents of the training programmes, it is usually considered that passing these programmes is a pre-requisite for the qualification of the principal.

An example of a strong link between state and training institutions can be seen in California, where principals' standards must not only be included within the curriculum of the training programmes (which, in turn, are compulsory to be qualified to work as a principal), but there are also standards aimed at the training programmes, regulating them in their methods and organisation. These are called Standards of Quality and Effectiveness from Administrative Service Credentials.

Beyond the way principals' standards have been initially developed, the general trend is to transform them into a tool for the management of systems marking a move towards greater regulation, greater expectations regarding the achievement of certain outcomes by the educational units and the handing over of more school managed duties to principals.

NOTES

[1]. Note that strategies of on-going professional development are increasingly based on a horizontal model of training and technical-professional support, in which the principals support the training of their peers (Hopkins, 2008).

[2]. In England, a third of the job competitions for new principals need to be called twice. In Hungary, there are1.25 applicants for every vacancy, and in many countries a significant proportion of teachers occupying the second line of responsibility do not want to apply to be principals (Pont, Nusche, & Moorman, 2008).

[3]. In this sense, there is a gap between specialised literature, which increasingly highlights the relevance of "distributing" leadership (Spillane, 2006) and the standards, which are usually defined principals only.

[4]. This table is based on the results from the study, "Formación y entrenamiento de los directores escolares en Chile: Situación actual, desafíos y propuestas de política" (Muñoz y Marfán, 2011) and, in its general structure, takes advantage of the dimensions developed by Kenneth Leithwood (Leithwood *et al*, 2006). However, while comparing standards between countries, the model has been modified in order to better describe what is being implemented in them. The classification between behavioural and functional principals' standards has been taken from an analysis of the literature about leadership. As a result, it does not necessarily coincide exactly with the standards developed in each individual education system.

[5]. This dimension is inevitable and increasingly present in the literature on effective school leadership: the over-abundance of information and the imperative of accountability compel principals to develop their skills in data analysis and data interpretation, at the same time posing the challenge of making good use of them in order to guide school improvement (Earl & Katz, 2002; Anderson *et al*, 2010).

[6]. Ingvarson *et al* (2006) show that, beyond the question of the methodological rigour of these systems, the instruments used are usually based on low knowledge.

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6. IMPLEMENTATION AND ALIGNMENT OF STANDARDS

A challenge in "standards-based reforms" is implementation. The most frequent problems encountered include changes and interruptions in the processes of implementation, the lack of clearly delineated institutional responsibilities, the unintended consequences of the standardised assessments of student learning outcomes, inadequate attention to the cultivation of the conditions needed for changes to occur, and, in particular, the active or passive resistance of teachers. This section examines and identifies good institutional practices as regards the implementation of standards.

6.1. Development and implementation of standards

Extensive and comprehensive consultation is a common feature of the processes of developing standards. It is common for various drafts to be submitted for review and revision by experts and stakeholders (academics, teachers and their unions, research centres, parents, administrators, and school principals). Usually, the validation of learning standards requires the participation of a wider range of institutions and stakeholders than those for teachers or school principals.

Without the ownership broad consultation creates, it will be very difficult for standards to be perceived as being relevant to the particular educational context and, consequently, very difficult to obtain support for the implementation of any measure based on them.

Reform of standards is multi-faceted. There is a political dimension but also cultural and symbolic aspects. As a result, negotiations with the main actors involved in the process of implementation of standards needs to be well managed. In particular, it is necessary to consider that the very idea of 'standards' is generally resisted by teachers, as they associate this concept with uniformity and serial production. Furthermore, research has shown that teachers support the principles of equity underpinning standards-based reforms, but they tend to reject standards if they are too focused on establishing major consequences for schools or teachers.

The implementation of standards or standards-based policy poses two central challenges. The first is to achieve an adequate balance between pressure and support. The second, which especially relevant for developing countries, is to manage the gap between their own realities and the expectations set by the models developed by developed countries.

The balance between pressure and support

A key dimension of the implementation of a standards-based reform is the balance to be achieved between pressure and support. As it has been widely argued (Hopkins, 2008), for balance to be achieved, there must be sufficient pressure to mobilise the system towards improvement, but also sufficient support to generate the conditions and build the capacities that make this change possible. Regarding standards, it can be hypothesised that there would be a *pressure deficit* when standards are not challenging or when they are developed as guidance to be used in completely voluntary fashion. There would be a *support deficit* when consequences and sanctions associated with not achieving the standards have been introduced in the absence of the necessary supports and capacity building efforts. To avoid the latter requires the construction of a support *infrastructure*, in which several institutions, such as universities or ministerial supervision structures, take part in the critical processes of capacity building for the schools and their main actors (teachers and principals). It also requires the allocation of adequate resources, including time and the distribution of responsibilities for the generation of these new capacities. This institutional support must also be framed within the so-called reciprocity principle according to which "for each performance unit I

demand of you, I have an equal and reciprocal responsibility to provide you with a unit of capacity to produce that performance, if you do not already have that capacity" (Elmore, 2010, Elmore, 2007, p. 9).

The underlying rationale is that it is not enough to demand better results: changes in practices must be actively supported, if one does not want unintended and undesired consequences to exceed the desired ones when installing mechanisms of accountability.

Managing the gap between national realities and international models

The rapid dissemination of standards and standards-based policies as well as the similarities observed among the dimensions considered by these instruments across different education systems analysed in this paper could be considered as an expression of the global institutionalisation of education, and the growing isomorphism of its basic structures and contents (Meyer, *et al*., 1992; Meyer, Ramírez, 2002): "[…] It seems evident that educational agendas are increasingly similar in the whole world, regarding both the educational framework in which some important problems are outlined, as well as the educational solutions given to them" (Meyer, Ramírez, 2002, p. 103*).*

The rapid dissemination of models and frameworks coming from first world educational systems, based on their particular traditions, institutions, and founded on the development of their social and natural sciences, have led to the situation where countries in the developing world must confront the problem of how to relate to such a clear pressure posed by the standards and standards-based reforms. Educational policymakers in developing countries need to manage the gap between their specific educational realities and the international frameworks and emphasis, which are driving the hegemony in educational standards worldwide. The first step is to compare and relate the criteria presented in international standards with the national conditions, recognising and addressing of the gap between context in which the international standards and related policies developed and the specific situation of their country. The legitimacy of standards for teachers and training institutions and the implementation of standards-based educational policy will depend to a great extent on the way in which this gap is managed.

In any event, adequate implementation of such standards is not a simple task. This process needs to be perceived as legitimate among the key actors, be coordinated among the different institutions that perform different functions and operate at different levels of the system, and strike an adequate balance between pressure (i.e., career consequences) and support (i.e., capacity development) and also between the pressure of international isomorphism in educational policies and the needs posed by each specific country's reality. Additionally, standards must be regularly updated in order to incorporate the most recent educational research about effective practices and to respond to the new demands posed by the need to prepare students for a changing world.

6.2. Alignment and coherence

The alignment between learning, teaching and school leadership standards can be analysed from the point of view of their formulation, of the assessment of their attainment, as well as of the institutions involved.

Coherence in the formulation of standards

In general terms, learning standards, as well as those for principals and teachers, have been developed independently by different agencies. There is usually no formulation explicitly linking all of them or aiming for an integrated system of standards. Though the first and most rudimentary way of articulating standards is to ensure that the formulation of each one of them contemplates, in its content, all the best, this 'reciprocity' is just beginning. Thus, for example, in practically every education system reviewed, learning standards specify that teachers must know the curriculum and/ or the learning standards their students are

expected to accomplish. They also typically set out that teachers should show the necessary knowledge and ability to teach for the attainment of these standards. School leadership standards also frequently require from principals the ability to supervise the performance of teachers in their school in relation to teaching standards, to know the learning standards pupils in their schools are expected to achieve, and to monitor the attainment of these learning standards within their schools.

Standards for teachers and principals usually share some common domains such as working with families and the community, generating a climate (at school/classroom level) which is favourable to teaching and learning, being able to reflect about their practice in order to improve it (and in the case of principals, the capability to promote and provide conditions for teachers to enable that professional reflection). However, these common elements are not always named using the same language, nor are they organised in the same way even in the documents for the same country, making it difficult to visualise them as part of the same system or common organising framework.

It is important to underline that just mentioning learning standards in the documents about teaching is not enough to achieve coherence between both sets of standards. To achieve coherence it is necessary that teaching standards specify the knowledge and pedagogical skills required to achieve the expected learning in each discipline and teaching level. In this sense, the learning outcomes that pupils in an educational system are expected to achieve should inform the development of specific standards for teaching the different disciplines and grade levels. According to Ingvarson (2009), it does not make sense to have differentiated learning standards and curriculum for Sciences, Mathematics, Language, while having generic standards equally applied to the teachers of all these disciplines. If learning standards for Sciences stress the development of skills related to scientific thinking, it is advisable to have specific standards for the science teachers that define, among other things, the knowledge they should have about the nature of scientific activity and the pedagogic skills required to develop those skills among their students.

In the case of standards for teachers and principals, the design of professional development pathways provide the opportunity to coordinate standards. In some of the educational systems examined, a good principal must simultaneously be an accomplished teacher with a proven track record of quality and teaching experience. This approach ensures alignment between professional standards (i.e., the standards for principals contain those for teachers). In California, for example, everyone wishing to apply for a principalship must first pass the state tests required for teacher certification. In Korea, although there are no defined standards for principals, professional experience requirements fulfil a similar function: an applicant must show at least 15 years' experience as a teacher and three as a vice principal to be appointed principal. In these cases, rather than looking for coherence between standards, the aim has been to ensure that the principal will have the required teaching expertise in order to be able to lead pedagogic processes. In contrast, the new Australian model establishes different levels of professional qualifications, the most advanced being for a school principal. Put another way, Australia has an articulated system of teaching standards expressed in progressive levels, from the recently graduate teacher up to the principal. This is an example where the same framework of standards is used for teachers at different moments of their professional career, including those for leadership positions.

The quality assurance aspects of some educational systems, including England and Chile, interweave the three different kinds of standards (students, teachers and principals) under a common framework of processes and outcomes that an educational institution has to reach. They may be voluntarily applied (e.g. Malcom Baldrigde in the United States or Sello de Calidad from Fundación Chile) or they can rather set out the basic requirements that the State demands from the educational institutions for their adequate functioning (e.g. model for school review from the New Zealand's Education Review Office).

Coherence in the assessment and implementation of the standards and of the incentives attached to them

Coherence and alignment are important not only with regards to development of standards, but also for implementation. The degree of success of a certain school curriculum (learning achievement standards) depends not only on an adequate definition of the capabilities required from teachers and principals, but also on the implementation of a related system of qualifications, initial and on-going professional development; that is, on the introduction of mechanisms that support and promote the achievement of related performance standards for teachers and principals.

The assessment of standards and the consequences linked to them offer an opportunity to ensure coordination and synergy but may also generate potential inconsistencies. Positive evaluations of the principals' performance –especially if the domain of pedagogical management is considered- should be reflected in teacher performance and, in turn, better student learning. Though there is research demonstrating this relationship between principal and teacher performance, and learning outcomes (Elmore, 2010; Day *et al*. 2007; Robinson *et al*. 2009; Hanushek and Rivkin 2006; Hattie, 2008; Nye *et al*., 2004; Rivkin, *et al*. 2005; Rockoff, 2004), it is possible to find cases in which the assessment of principals' and teachers' performances according to the respective standards does not coincide with student learning outcomes, be it because of inaccuracies in the assessment system, because insufficient time had passed to allow high performing teachers and principals to have an impact on results, or because it is not possible to isolate the impact of one teacher from the effect of the rest that taught the same group of students.

The undeniable pre-eminence of learning standards over the rest of the standards (because they are the final aim of school systems) has led some to assert that a way to attain coherence in the evaluation of the performance of principals and, especially, of teachers is to make student learning achievement on national testing programmes the main criteria. Under this approach, the performance of teachers and principals should be judged exclusively in light of its impact on student learning (Vegas and Umansky, 2005) rendering unnecessary an evaluation of specific defined competencies.

Using student learning outcomes in standardised tests as the only source of information in order to evaluate the performance of teachers is, however, a very controversial issue, and it does not seem advisable even when some technical requisites are fulfilled, such as the vertical scaling of the tests and the use of value-added indicators (Rothstein, 2009; Isoré, 2009). On the other hand, it would not make much sense to abstain completely from this source of information in the evaluation of teachers and school principals. It would be contradictory if a school principal or teacher received a reward or recognition based on their evaluation in relation to performance standards in a school with extremely poor learning outcomes. In the case of school principals, it would only be coherent if satisfactory achievement of the standards were linked to demonstrating that they had mobilised the energy and capabilities of the teachers in the required direction.

Given the complexities of including indicators of students' outcomes to assess individual teachers' performance due to the methodological difficulty of attributing the students' results to specific teachers, a related option has been to consider student achievement and progress as an indicator of the collective performance of the teachers, as it has been done, for example, in Chile, by associating incentives for the teachers' professional body to the improvement of the student learning outcomes on the standardised tests (Sclafani and Manzi, 2010).

Similarly, it is possible to conceive of an evaluation mechanism of principals' performance linked to the performance indicators of teachers and trends in the learning outcomes in their schools. Thus, evaluation can become the pivotal point for ensuring coherence and coordination among related educational standards.

Institutional alignment among different levels of the education system

Ensuring coherence and coordination among the different institutions in charge of implementing educational standards is equally decisive. It may be a major institutional challenge due to the number of different institutions involved. Indeed, it might be necessary to ensure two distinct forms of coordination: the coordination of institutions with different functions aimed at different actors or domains and the coordination of institutions acting at different territorial levels, operating and taking decisions at the national, regional, or local level.

From the functional perspective, there are at least two types of institutions that need to act under common parameters: those aimed at the generation, diffusion and monitoring of the attainment of standards by the different administration units –be they schools or districts- and those specialized in the management and assessment of standards for individuals (teachers and school principals).

Territorial coordination is also crucial. Even the most decentralised education systems can face serious coordination as regards harmonizing general guidelines from the central or federal government and policies initiated at the local level, even apart from the *oversight* role played by the intermediate level of decision-makers that operates between the central ministries and the schools (Barber and Fullan, 2005). A good way to estimate the level of coherence that school systems have actually achieved is to analyse how their policies are perceived and implemented in schools.

The coordination of standards is facilitated when there is one institution responsible for them. For example, in Australia, there is one single institution – the *Australian Institute for Teaching and School Leadership* (AITSL)-, which establishes the standards for teachers and principals, ensuring that they are part of a common standards framework and that they are evaluated against a continuum of growing competences. In the UK, very recently (during 2013) the agencies in charge of the professional development and standards for teachers and school principals have merged under the umbrella of the Department for Education. Furthermore, the functions of the Qualifications and Curriculum Development Agency (which had traditionally been in charge of the learning standards and the evaluation of their attainment) will be transferred to a new executive agency with the Department for Education. In Korea, the same institution is in charge of assessing pupils' learning outcomes and evaluating the qualifications of teachers. This ensures that the knowledge required for teaching the curriculum or achieving the learning standards is considered when evaluating teachers. However, most of the educational systems reviewed distribute these tasks among different institutions (i.e., those responsible for establishing standards and those in charge of evaluating their attainment). That being said, no definitive conclusion can be drawn with regard to the best way of balancing the need to ensure the independence of the different institutions in charge of different aspects of such standards and the need to ensure adequate coordination between them. In the UK, the merging of the agencies previously in charge of the standards for teachers, school principals and students is intended to maximize coordination, but it may also entail risks associated with potential conflicts among overlapping functions.

Whatever the institutional arrangement, coordination is key in those systems where there are several institutions with different tasks involved in the common objective of ensuring the quality of education (e.g., formulating standards, implementing them and evaluating their attainment). In many such cases, this coordination is mandated by law (World Bank, 2009).

A final point to note is that standards in themselves constitute an opportunity to reach a higher level of coordination in educational policies, since standards specify, with unprecedented precision, the results and practices expected from the actors involved in their application.

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7. CONCLUSIONS

This study has aimed to describe and compare the development, characteristics and implementation of educational standards in different OECD countries in relation to standards for student learning, teaching quality and school leadership. This final section summarizes the main findings of the analysis and outlines the policy lessons that might be derived from this review.

A clear trend towards defining national standards

Establishing national educational standards is a widespread trend among the systems studied, as a way of clarifying the ultimate goals towards which school systems should aim, as well as specifying the expectations about the major actors and processes. The most recent research suggests that the highest performing and improving educational systems have adopted a coordinated approach to such standards (Barber and Mourshed, 2007; OECD, 2009; Mourshed *et al.*, 2010, Pont, Nusche and Moorman, 2008).

There is also a clear process towards centrally defined standards. This is exemplified in the move towards establishing national standards in federal countries, after years of having different standards for the different states and territories. Within an overarching policy context of growing decentralization, the coexistence of national and sub-national standards has posed a challenge that has been solved, (or attempted to be solved), in different ways. In some systems, the definition of national frameworks is complemented with the inclusion of specific aspects of the sub-national or local levels. In others, standards operate as the national frame of reference, however, their assessment is delegated to the local level. Alternatively, national standards may be developed for some areas, while others remain subject to standards defined at the sub-national level. Overall, this trend seems to show that the richness of standards development at the local level must be complemented by national standards, which operate as a common framework and ensure the coherence of school systems.

In spite of their rapid dissemination, standards are a relatively new feature of school systems and are still evolving. In contrast to content standards for student learning, performance standards for teachers and principals began only a couple of decades ago. It is, therefore, important to learn from the successes and also the mistakes made by those who have been leaders in this process (i.e., mainly English speaking countries).

The content, format, and implementation of standards show a high degree of homogeneity in the educational systems studied. Standards for teachers tend to follow a common structure that distinguishes among disciplinary knowledge, pedagogic practices and professional performance. Standards for principals also tend to set out common competencies and behaviours linked to positive outcomes for schools. In the case of learning standards, content standards are typically developed for all subject areas of the curriculum, while performance standards are generally created for those areas covered by external testing programmes. In addition, learning standards, which have been around for longer, also tend to be more precise and specific than standards that have been developed to guide the work of teachers and school principals. The homogeneity of content and format of standards analysed might be caused by the impact of research or by rapid diffusion of international models. In the case of standards for school principals, for example, their structure follows the same factors that research has linked to effective practices in school management. In the case of learning standards, especially performance standards linked to national testing programmes, it is easy to recognise the impact of international assessments such as Programme for International Student Assessment (PISA), Progress in International Reading Literacy Study (PIRLS) or Trends in International Mathematics and Science Study (TIMSS).

Multiple policy rationales for standards

Depending on the characteristics of the school system, standards can be aimed at achieving different, though complementary, policy objectives. Standards may be used to clarify the expectations about learning outcomes and/or the work of educational actors, to guide their performance, to define the criteria for their evaluation and/or initial qualification, and to identify those domains where it is necessary to focus policies. However, it is important to differentiate between the rhetoric that accompanies the introduction of standards and the actual implementation of measures and the impact they have in the system (Shepard *et al*., 2009). A coherent definition of the purposes of standards within the system, without establishing too many expectations, is a critical step to facilitate their adequate use and to prevent them from becoming discredited.

The development of standards is a long process, increasingly led centrally, and involving mechanisms for the participation and consultation of different stakeholders

Learning standards, teaching standards and standards for school principals have different origins. Given the technical and political challenge implied in the development, social legitimisation and implementation of learning standards, these tend to be developed by central agencies. Though there are several examples of learning standards developed by teachers associations, this function is increasingly being played by central governments.

In the case of teaching standards and standards for principals, it is possible to find cases in which the design followed a "top-down" process (with growing participation on the part of specialised, often independent, agencies). However, in others the process was led by those who are closer to educational practice, generally teachers' and/or principals' groups.

The process of developing standards is always highly technical. In the case of learning standards, it is rare for policy development to take less than four years. In the case of standards for teachers and principals, it is possible to find slightly shorter time frames. A significant investment of time is made in the technical design of the standards, but the processes of validation and consultation are also time consuming but necessary to reinforce the legitimacy of these instruments.

Full implementation of standards depends not only on the process of policy development but also on striking an appropriate balance between pressure (consequences) and support (capacity development) and on achieving coherence within the different standards and coordination among the institutions and levels of government in charge of their monitoring.

A standards-based policy involves more than just defining goals. As observed previously, it is not enough to define what teachers must know and be able to do or to establish the learning level that pupils should reach. It is imperative to align resources and actions towards the attainment of standards, developing the necessary professional capacities to reach them, while establishing a balance between the pressure for their attainment and the supports provided to those in the system.

In most of the educational systems examined in this paper, the definition of standards (for student learning, teachers and principals) is linked to the development and use of mechanisms to assess whether the standards have been achieved. For standards to be assessed, it is necessary to develop i) content standards, ii) assessment procedures that are coherent with them, and iii) performance standards. Though there are multiple ways and strategies to undertake the evaluation of standards, all systems must have in place assessment systems that are properly aligned with content standards and methodologies that can determine who has or has not attained the standards in question.

There are important differences in the way countries address the assessment of their standards. Although evaluations different depending on the type of standard (i.e., student learning, teachers, principals) at stake, it is possible to identify two main models. One model is to attach significant consequences to the attainment /non-attainment of standards and place great importance on assessment. An illustration of attaching consequences to the assessment of standards is the publication of national test results at the school level, a clear trend in the cases analysed. The consequences of this "high stakes" assessment model may include the publication of results, the classification of schools, the certification of newly graduated teachers enabling them their access to the teaching profession, and the selection of principals according to. In the second model, standards serve as guidance. When they are assessed, the results play a predominantly *formative* function; that this, they are simply another plank in the policies aimed at capacity building in the school system.

Another important implementation challenge is to achieve coherence among standards and what they demand of the different actors of the system, including the different institutions in charge of defining and monitoring them at different levels of government (e.g., nationally, sub-nationally and/or locally). Similarly, successful implementation requires coherence between initial and on-going in-service training and the capacities required by the standards.

Different countries have found different solutions to the challenges posed by coherence and coordination. For example, some consider the same dimensions or domains for different sets of standards. Others establish a continuum in the performance standards for teachers and principals or cross reference standards to achieve coherent policy.

Even more complex is achieving coordination among institutions and the different governmental or administrational levels of the system. The challenge is striking an appropriate balance between the necessary separation of functions or independence between the institutions monitoring the attainment of standards and those implementing policies to achieve them) while simultaneously ensuring inter-institutional coordination.

On the particular issue of ensuring coordination among the different levels of the system, the challenge is to link national and sub-national (e.g., state or provincial) standards. The trend is to establish a core of common standards at the national level while either leaving space for complementary standards at the sub-national level or placing assessment in the hands of local authorities (e.g., the evaluation of the professional performance of school principals).

A final policy issue is ensuring coherence between the results from assessments of different standards and the incentives attached to these results. Of particular concern is linking the results of performance evaluations of teachers and principals' performance and the learning achievements of their students. It would be inconsistent if teachers and principals were evaluated positively when their students did not reach or progress in the attainment of learning standards. That having been said, to reduce the evaluation of teachers' and principals' performance solely to the results of their students in learning assessments is not advisable, because, among other things, the technical complexity of implementing a system capable of attributing the student learning achievement results to the performance of particular teachers or the management of a specific principal. An appropriate compromise is policy that includes, among its multiple evidence sources, students' learning results within the evaluation of the teachers' and principals' performance.

A further complexity for developing countries is the need to manage the gap between their own specific realities and the dominant models of educational standards that have originated in first world, mostly Anglo-Saxon, countries. To implement standards appropriately will require developing countries to bridge these differences and craft solutions tailored to their specific needs.

Finally, it is worth noting the impossibility of attempting to separate out the task and impact of defining standards from that of assessing their achievement. Development, implementation and assessment of standards are inexorably linked. An analysis that takes into account standards in their totality is required.

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