unicef

unite for children

ASIA-PACIFIC

END OF DECADE NOTES ON EDUCATION FOR ALL

EFA Goal
6

Quality Education

ASIA-PACIFIC

END OF DECADE NOTES ON EDUCATION FOR ALL

EFA Goal 6

Quality Education

The designations employed and the presentation of material throughout this publication do not imply the expression of any opinion whatsoever on the part of UNESCO and UNICEF concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The presentation of data and information as contained in this book, and the opinions expressed therein, do not necessarily reflect the position of UNESCO or UNICEF.

UNESCO and UNICEF are committed to widely disseminating information and to this end welcomes enquiries for reprints, adaptations, republishing or translating this or other publications. Please contact ikm.bgk@unesco.org for further information.

Contents

List of Boxes

List of Figures

List of Tables

Acronyms

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
BRAC	Bangladesh Rehabilitation Assistance Committee
CFS	Child Friendly Schools
EDN	End of Decade Note (*Asia-Pacific End of Decade Notes on Education for All*)
ECCE	Early Childhood Care and Education
EFA	Education for All
EGRA	Early Grade Reading Assessment
EMIS	Education Management Information System
EQUIP	Education Quality Improvement Programme
FMRP	Financial Management Reform Programme
GDP	gross domestic product
ICT	Information Communication Technology
IEA	International Association for the Evaluation of Educational Achievement
KERIS	Korea Education and Research Information Service
Lao PDR	Lao People's Democratic Republic
PMPTK	Peningkatan Mutu Pendidik dan Tenaga Kependidikan (Quality Improvement of Teacher and Education Professionals)
PTR	pupil-teacher ratio
MDGs	Millennium Development Goals
MDA	Mid-Decade Assessment
MESC	Ministry of Education, Sports & Culture (Samoa)
MOE	Ministry of Education
MOET	Ministry of Education and Training (Viet Nam)
NCTB	National Curriculum and Textbook Board (Bangladesh)
NESDB	National Economic and Social Development Board (Thailand)
NGO	Non-Government Organization
OBEC	Office of the Basic Education Commission (Thailand)
OECD	Organisation for Economic Co-operation and Development
PACE-A	Partnership Advancing Community-based Education in Afghanistan
PISA	Programme for International Student Assessment
PTR	Pupil-Teacher Ratio
SABER	Systems Approach for Better Education Results
SAFED	South Asian Forum for Education Development
TIMSS	Trends in International Mathematics and Science Study
UIS	UNESCO Institute for Statistics
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-HABITAT	United Nations Human Settlements Programme
UNICEF	United Nations Children's Fund
UNICEF EAPRO	UNICEF East Asia and Pacific Regional Office
UNICEF ROSA	UNICEF Regional Office for South Asia
USAID	United States Agency for International Development
WEI	World Education Indicators programme

Preface

"The equation is simple: education is the most basic insurance against poverty. Education represents opportunity. At all ages, it empowers people with the knowledge, skills and confidence they need to shape a better future."

Irina Bokova, Director-General, UNESCO

Article 26 of the 1948 Universal Declaration of Human Rights states that "everyone has the right to education". Not only is education a basic human right, it both equips individuals with the skills and knowledge to lead better lives and underpins human development. But education is still not a right recognized by all, and many who miss out on education miss out on the opportunity to improve their lives.

In recognition of this, governments, United Nations agencies, donors, NGOs and civil society groups made a joint commitment to provide Education for All (EFA) in March 1990 at the World Conference on Education for All in Jomtien, Thailand. The pledge was made by 155 countries and representatives of 160 government and non-government agencies. The World Declaration on Education for All and the Framework for Action to Meet Basic Learning Needs adopted by the World Conference on EFA in Jomtien reaffirmed education as a fundamental human right and urged countries to intensify efforts to address the basic learning needs of all by 2000.

The global assessment of EFA progress in 2000 showed that the commitment made in Jomtien was not delivered. Thus in April 2000 at the World Education Forum in Dakar, Senegal, the international community reaffirmed its commitment to achieve Education for All this time by 2015.

The Dakar Framework for Action specifies the following six goals:

1. Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.

2. Ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality.

3. Ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programmes.

4. Achieving a 50 per cent improvement in the levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults.

5. Eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality.

6. Improving all aspects of the quality of education and ensuring excellence of all, so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

Some of these goals were later reiterated in September 2000 when 189 nations came together at the United Nations Millennium Summit and endorsed the Millennium Declaration. The Declaration set out the eight Millennium Development Goals (MDGs) to be achieved by 2015, including achieving universal primary education (MDG 2) and promoting gender equality and empowering women (MDG 3). There is clear consensus that the achievement of EFA contributes to the attainment of the other MDGs as well.

The End of Decade Notes

At the close of the 2000s, the Asia-Pacific region reviewed regional and national progress toward the EFA goals and targets. The resulting *Asia-Pacific End of Decade Notes on Education for All* take stock of the progress, persisting issues and remaining challenges in achieving each EFA goal.

The End of Decade Notes, or EDNs, highlight examples of innovative policy reforms and strategies, particularly those aimed at reducing disparities in access to and quality of education. They also emphasize the policy, capacity and governance gaps to be addressed in order to achieve EFA in the region.

The EDNs consist of six reports, one for each EFA goal, and a synthesis report summarizing the overall progress of EFA in the region. The six reports build on the findings of the Asia-Pacific EFA Mid-Decade Assessment (2006–2008), which examined EFA progress and gaps at the mid-way point of the 2000–2010 decade.

The first section of each EDN report provides an overview of progress towards the respective EFA goal. The second section discusses the remaining challenges and priority issues. Each report concludes with recommendations on what needs to be done to accelerate progress towards the 2015 targets.

While each EDN covers the Asia-Pacific region, it also highlights issues and challenges specific to subregional groupings, as per the *Education for All Global Monitoring Report*. The EDNs thus cover the subregions of Central Asia, South and West Asia, East Asia and the Pacific. Details on which countries are included in the subregional groupings are found in the Statistical Annex at the end of this EDN.

Foreword

In 1990, a World Declaration on Education for All was adopted in Jomtien, Thailand reaffirming the notion that education was a fundamental human right.

With less than four years remaining for the EFA goals to be achieved, it is now an opportune moment to take stock in Asia and the Pacific of both achievements and shortcomings to draw lessons and move forward. Understanding and sharing the information on how much has been accomplished during the past decade and the main hurdles to attaining the goals by 2015 will help countries and EFA partners in the region identify options and strategies for achieving the goals. Success in Education for All is critical to meeting the Millennium Development Goals, including in areas related to poverty reduction, nutrition, child survival and maternal health.

Within this context, the *Asia-Pacific End of Decade Notes on Education for All* examine what the region has attained between 2000-2010. The Notes highlight policy reforms and strategies implemented by countries, especially addressing disparities in education, as potential models and provide the latest thinking on ways forward.

The Asia-Pacific region has experienced strong economic growth, substantially reduced poverty and ensured more children are enrolled in school. This progress, however, has been skewed; rising income inequality and inequalities in access to basic human services continue to plague the region, presenting significant challenges and long-term consequences.

Progress in meeting the six goals has been uneven with some groups of children left out, such as ethnic minorities, migrant children, children with disabilities and in South Asia, girls. Slow progress has been especially noted in the expansion of early childhood care and education, in reducing out-of-school numbers, and in improving the quality of education.

To ensure regional stability and prosperity, we must address these inequities and we must ensure the provision of quality education for all learners. Many countries in the region have endeavoured to 'reach the unreached' and ensure that education is truly for all. The End of Decade Notes aim to support and strengthen this momentum, energy and commitment to EFA in the region.

With less than four years remaining before 2015, we are racing against time. We need renewed vigour and concerted action to guarantee equitable access to quality education and to ensure that children are not missing out on schooling and learning opportunities because of their sex, geographic location, ethnicity, disability, socio-economic status or other causes of marginalization.

UNESCO and UNICEF are committed to supporting countries and working with partners to speed up progress in meeting the EFA targets by 2015. The End of Decade Notes, created under the auspices of the Regional Thematic Working Group on EFA, which UNESCO and UNICEF co-chair, is one way of extending our support and advocacy for EFA.

We hope the End of Decade Notes will serve to guide actions and interventions and ultimately accelerate the progress towards the EFA goals.

Gwang-Jo Kim
Director
UNESCO Bangkok

Daniel Toole
Regional Director
UNICEF (EAPRO)

Karin Hulshof
Regional Director
UNICEF (ROSA)

Acknowledgements

---

[*]   Website of the Regional TWG on EFA: http://www.unescobkk.org/education/efa/efa-network/east-and-south -east-asia/twg-on-efa

Executive summary

Throughout the Asia-Pacific region, most countries have made remarkable gains in expanding access to education at all levels. However, there is little evidence on such widespread progress when it comes to improving the *quality* of the education provided, particularly in terms of student learning and related teaching and learning conditions.

The Asia-Pacific region comprises some of the world's top-performing education systems and some that continue to struggle to provide basic education to all children. Although some of the region's wealthier countries offer advanced educational opportunities in many developing countries, children lack the most basic literacy and numeracy skills. For children in these countries, the poor quality of education puts at risk their capacity to acquire useful knowledge, skills, perspectives and values for living, participating and prospering in society. Disparities between and within countries are apparent in both access to and quality of learning, suggesting that the factors of marginalization of certain groups have not only been mitigated through education but may in fact have been reinforced.

With concerns mounting over the perilous state of the quality of education, the Dakar Framework for Action in 2000 (UNESCO) pointedly placed the issue at the heart of education and integral to the commitments of Education for All (EFA). An array of concepts and frameworks regarding quality exists. Indeed, as education systems develop, what constitutes quality education evolves, making the design of a quality 'standard' difficult. Nevertheless, the majority of quality frameworks single out cognitive, social and emotional development as common objectives of all education systems.

Measuring the progress on quality of education is beset by vast disparities in measurement and data collection. The Programme for International Student Assessment (PISA) surveys, for example, provide extensive data on the performance of education systems in reading, mathematics and science, and the latest surveys show that of the 11 economies that statistically perform significantly above the Organisation for Economic Co-operation and Development (OECD) average across all three domains, seven[1] are within the Asia-Pacific region.

However, the same wealth of information is not available for all countries and the review for this *Asia-Pacific End of Decade Note on Education for All* regarding Goal 6 on quality found limited information on the levels of student learning in the region's developing countries. What is available reveals mixed and limited progress. Average student performances in reading and mathematics are near or below basic competency levels set by the international standards. In particular, reading levels in the early grades are alarmingly low in many countries, a worrying signal that learning opportunities in subsequent years are in serious jeopardy. Based on individual or family characteristics, such as relative poverty, gender biases, home language and geographical location, the evidence shows that cross-country disparities in learning are large, and inequity in learning achievements within countries is as high, if not higher. Most important, the quality of education, especially for those in disadvantaged communities, remains poor; schools and systems are often unable to respond to the diverse constraints to quality learning due to various individual and family factors, such as poverty, gender, language and location.

Gaps in some of the important building blocks of quality education are also apparent across the region. Generally, statutory requirements for instructional time for primary and secondary schools are on par or higher than the recommended international benchmarks, while actual learning time remains well below national regulations and recommended international benchmarks. The allocation of instructional time between grades is not optimum. Also, instructional time 'leaks' occur because of systemic and school-level weaknesses, such as high rates of teacher absenteeism, unofficial school closures and wasted

1   Australia, Hong Kong (China), Japan, New Zealand, Republic of Korea, Shanghai (China) and Singapore.

EFA Goal 6: Quality Education

1

time 'on task'. Learning time is also curtailed by unforeseen circumstances due to conflict and natural disasters and student absenteeism. The severity of instructional time lost is significant in some countries, suggesting a critical need to address a range of issues associated with weak schools and systems, such as school management, teacher management and governance.

Textbooks are one of the most essential inputs for quality learning. But a shortage of availability, delayed distribution to remote areas and general poor quality of instructional materials are common issues in many of the region's developing countries. The available information shows that textbooks are often error-laden, misaligned with curricular objectives and instructional time, not available in minority languages and not conducive to child-centred teaching and learning. Not surprising, children from disadvantaged backgrounds are impacted the most by such gaps in textbook supply and quality. Also, while the development of quality textbooks and their timely distribution is dependent on strong monitoring and evaluation and rigorous research, such processes are often inadequate, thereby limiting the capacity to develop materials that are relevant and responsive to a local context. Weak capacity and a poor policy environment for working with the private sector also hamper governments' ability to leverage the competitive strengths of the private sector towards timely production and distribution of textbooks.

What teachers know and practise is widely recognized as central to the quality of education, and teacher quality is considered one of the strongest determinants of student achievement levels. However, the available data underscore that teachers' pedagogical skills and subject-matter knowledge are generally limited, despite vast improvements in upgrading the proportion of teachers meeting standard qualifications for teaching. Many countries require dedicated induction phases to assist in the transition of new teachers, which is a critical way of improving teacher retention in their initial years of service. There is limited information to measure the levels of teacher motivation – another important factor of their performance – although the high levels of teacher absenteeism in some countries suggest room for improvement. Increasing emphasis on the measure of improved teacher quality across the region is encouraging. The issues that need to be addressed include the demand for more and better teachers, weak and fragmented training systems, poor working conditions and weak school leadership.

Assessment systems, including large-scale and classroom assessments and exams, are an essential means to measure and improve the quality of education. Visible improvements have been made across the region, with an increasing number of countries participating in some form of large-scale assessments to diagnose system performance and areas for improvements. Nonetheless, considerable gaps remain in measuring learning beyond the traditional, cognitive domains, including around the social and emotional dimensions of learning. The reliability and validity of assessments also need to be strengthened, especially those administered in classrooms by teachers who are not adequately equipped to administer tests. Overall, the systematic capacity to plan, design and implement assessments and exams and then use the results to improve the performance of teachers, schools and the broader system need special attention.

Although the issues and challenges relevant to the quality of education are unique and sensitive to the local context of countries, four common areas of priorities emerged through the review for this End of Decade Note: First, a renewed focus on learning outcomes is needed, augmented by a clear definition of the goals and objectives of education, improved information systems on learning, appropriate and relevant assessment systems and investment in research and development on what matters for learning. Second, teaching and learning processes in the classroom need to be better supported by ensuring the improved skills of teachers and school leaders through adequate training and development opportunities. Priority investments should be made towards ensuring quality textbook development and distribution that reaches all children and towards improving teachers' working conditions so that they are conducive to effective teaching and learning. Third, school management improvements, including performance standards and monitoring, improved professional autonomy of teachers and principals, better use of information and strengthened school leadership, are critically needed. Finally, the complex set of barriers that the most disadvantaged children encounter requires targeted and comprehensive policies within and beyond the education sector so that no child is denied the fundamental right to a quality education.

1 Background

Substantial progress has been made towards achieving the goals of Education for All throughout the Asia-Pacific region and globally. More children are entering schools and staying there longer, with improved gender parity, particularly at the primary level. The transition to secondary education is also improving as countries increasingly define basic education to go beyond the primary scope. While challenges still remain, particularly for students disadvantaged by poverty, geographic isolation, ethnicity and language, the remarkable expansion of access is a reflection of sustained political commitments and investments towards education that have been made by governments, civil society and communities.

Despite increased enrolments, the evidence of progress made on the quality of education, and in particular student learning, is limited. High rates of repetition and low survival rates to the last grade of primary are far too common, suggesting poor efficiency in education.[2] Data on learning achievement – what there is available – show that while the Asia-Pacific region is home to some of the world's best-performing education systems, average student learning in developing countries in the region is alarmingly low. Many years of schooling fail to yield even basic literacy and numeracy skills. That students' time spent in schools is not resulting in increased knowledge and skills, both cognitive and non-cognitive, is a strong indication of the perilous state of education quality. The visible patterns of disparities between and within countries suggest that disadvantages indicative of marginalized groups are being reproduced, or even increased, through education.

In this context, this End of Decade Note presents a brief discussion of the various dimensions of a quality education along with the issues and challenges that must be addressed to accelerate progress towards the Education for All 2015 goal.

1.1 Introduction to the End of Decade Note on quality

Goal 6: Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

Governments and development partners reaffirmed their commitment to achieve EFA by 2015 at the World Education Forum in Dakar, Senegal in April 2000. The Dakar Framework for Action specifies six goals and 12 strategies to achieve EFA.

With the close of the 2000–2010 decade, there is a need to assess where Asia and the Pacific as a region and where countries in the region stand in terms of the EFA goals. Understanding and sharing the information on how much progress has been achieved during the decade and the main

---

2   Low internal efficiency of education is closely associated with the low quality of education, and while rates of repetition and survival to the last grade of primary are discussed under Goal 2, key topics of quality education discussed in this EDN affect them as they do learning outcomes.

obstacles to attaining the goals will help countries in the region develop strategies to accelerate the achievement of education for all.

The EDNs take stock of progress and remaining challenges for each EFA goal thus far. They highlight innovative approaches of policy reforms and strategies, especially in view of reducing disparities in education, and remaining policy, capacity and finance gaps to achieve EFA and the education-related Millennium Development Goals (MDGs).

The EDNs build on the findings of the Asia-Pacific EFA Mid-Decade Assessment (2006–2008), which examined progress and gaps at the midway point of the 2000–2010 decade. The End of Decade Notes aim to maintain the momentum, energy and commitment to EFA in the region, especially in "reaching the unreached in education" and "EFA with equity".

1.2 Defining quality: Concept and scope of the review

What constitutes a 'quality education' has been subject to intense debate. The concept has been beset by rigorous debates on the scope of the definition of quality as well as very real difficulties in agreeing on indicators and obtaining data.

In what became one of the first influential explanations of quality education, *Learning: the Treasure Within* defined the ultimate aims of education as four pillars: learning to know, learning to do, learning to live together and learning to be. The authors proposed that the quality of learning should be assessed by the capacity of individuals in their childhood, their youth and throughout life to acquire knowledge, skills, understanding and values to live and participate in society (Delors et al., 1996).

In the context of EFA, however, the relatively limited progress towards improving the quality of education, compared with access, is not surprising considering that for many years, efforts to improve the quality of education were hampered by the ambiguity of the goal. The overwhelming emphasis that the international treaties placed on participation rather than on learning was evident as recently as 2000, with the MDGs declaring the explicit target of education as being universal primary enrolment and gender parity, without any concern for the quality aspects of how education systems should perform or what students should achieve.

The World Declaration on Education for All (drafted at the World Conference in Jomtien, Thailand in 1990) made general reference to quality, noting that the quality of education needed to be improved for the sake of relevance and equity (UNESCO, 1990). The lack of specific standards and targets for quality was partly due to the challenges in defining quality indicators. It was also a reflection of the prioritizing of universal access and related policies. In the early years of the EFA movement, a financing gap, infrastructure needs and other input-based policies dominated the debates; innovations focused on many demand-side initiatives, such as targeted scholarships and incentive programmes that did not place learning outcomes as central objectives.[3]

In 2000, the guidance under the Dakar Framework for Action helped elevate the importance of quality, and it is widely recognized that quality of education is at the heart of education and integral for achieving EFA commitments. Under Goal 6, the Framework calls for attention to "improving all aspects of the quality of education, and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills (p. 8)." Box 1 highlights the essential criteria for quality education, including the desirable characteristics of learners, processes, content and systems.

---

3   The only demand-side programme that increased learning outcomes was a Kenyan scholarship scheme that directly related incentives to learning. See Kremer, Miguel and Thornton, 2009.

> **Box 1:** Dakar Framework for Action on Quality of Education
>
> Governments and all other EFA partners must work together to ensure basic education of quality for all, regardless of gender, wealth, location, language or ethnic origin. Successful education programmes require: i) healthy, well-nourished and motivated students; ii) well-trained teachers and active learning techniques; iii) adequate facilities and learning materials; iv) a relevant curriculum that can be taught and learned in a local language and that builds upon the knowledge and experience of the teachers and learners; v) an environment that not only encourages learning but is welcoming, gender-sensitive, healthy and safe; vi) a clear definition and accurate assessment of learning outcomes, including knowledge, skills, attitudes and values; vii) participatory governance and management; and viii) respect for and engagement with local communities and cultures.
>
> *Source:* Dakar Framework for Action (UNESCO, 2000), paragraph 44. Available at: http://unesdoc.unesco.org/images/0012/001211/121147e.pdf

1.2.1 Concept and framework of quality

Despite the increased consensus about the importance of quality education, the precise definition has been far from universal; how to measure quality education continues to remain a great source of debate. The range of definitions and standards associated with quality education reflects the diversity in the perceived purpose and objectives of education. Nonetheless, as identified in the 2005 *Education for All Global Monitoring Report: The Quality Imperative*, at least two elements of quality are commonly observed in the education literature: cognitive development and social and emotional development (UNESCO, 2004). Both are considered important aims of an education system. Two of the most well-known frameworks of quality education, presented by UNESCO and the Convention on the Rights of the Child, are elaborations of these two elements (box 2).

> **Box 2:** Quality as defined by UNESCO and the Convention on the Rights of the Child
>
> The UNESCO conceptualization of quality is based on the four pillars enumerated in *Learning: The Treasure Within, Report to UNESCO of the International Commission on Education for the Twenty-first Century:*
>
> a) *Learning to know* acknowledges that learners build their own knowledge daily, combining indigenous and 'external' elements.
>
> b) *Learning to do* focuses on the practical application of what is learned.
>
> c) *Learning to live together* addresses the critical skills for a life free from discrimination, where all have equal opportunity to develop themselves, their families and their communities.
>
> d) *Learning to be* emphasizes the skills needed for individuals to develop their full potential.
>
> <div align="center">*****************</div>
>
> In the Convention on the Rights of the Child, Article 29 (1), the State Parties agree that the education of the child shall be directed to:
>
> a) The development of the child's personality, talents and mental and physical abilities to their fullest potential;
>
> b) The development of respect for human rights and fundamental freedoms and for the principles enshrined in the Charter of the United Nations;
>
> c) The development of respect for the child's parents, his or her own cultural identity, language and values, for the national values of the country in which the child is living, the country from which he or she may originate, and for civilizations different from his or her own;
>
> d) The preparation of the child for responsible life in a free society, in the spirit of understanding, peace, tolerance, equality of sexes and friendship among all peoples, ethnic, national and religious groups and persons of indigenous origin;
>
> e) The development of respect for the natural environment.
>
> *Sources:* Delors et al., 1996; UN General Assembly, 1989.

Globally and in the region, greater efforts are now taken to measure learning outcomes as the ultimate indicator of educational quality, through international assessments as well as various national learning assessments. Interest in measuring non-academic attributes like values, attitudes and emotional development are gradually increasing, although the considerable difficulty in measuring them remains a huge challenge. In the absence of learning assessments that provide appropriate measures of education outcomes, other indicators, such as survival to the last grade of primary, the pupil-teacher ratio and completion rate, are also used as proxies – albeit limited – for measuring quality.[4]

There is also a growing body of knowledge on the dimensions and processes that interact to produce the desired education outcomes. A range of frameworks for quality exists in the education literature, and although details may vary, they can be traced back to two influential discourses: the human capital approach and the rights-based approach. Frameworks based on the human capital theory usually emphasize linear 'input-process-outcome' models, which account for human and resource inputs to produce outcomes in a given organizational context. These models are widely used by education economists and form the basis for many studies on education functions that identify the most effective deployment and use of inputs for quality outputs (Barrett and Tikly, 2010).

Some of the most common quality frameworks derive from the input-process-outcome model, including the 2005 *Education for All Global Monitoring Report's* framework for quality, which expanded the model to include dimensions of learner characteristics and context (figure 1). By presenting the complexities of interactions within education systems, the framework is a useful starting point for analysing the building blocks of quality education. Relationships among inputs, processes (or as dubbed in the framework, 'enabling inputs') and outcomes, however, are not linear in practice but are multidirectional and strongly influenced by context.

Figure 1: Framework for understanding education quality
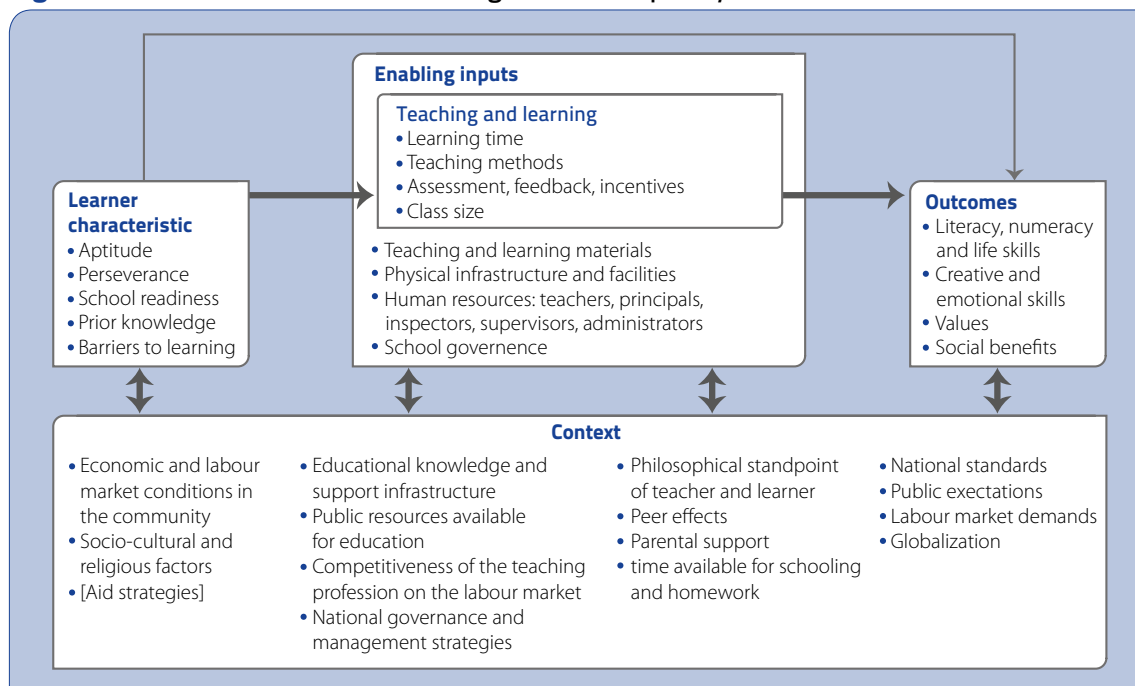
Source: UNESCO, 2004.

---

4   These indicators are most often recognized as core EFA indicators for Goal 6 and were used in the EFA Mid-Decade Assessment in the Asia-Pacific region.

In contrast to the human capital approach, the rights approach emphasizes rights *to* education, rights *in* education and rights *through* education in equal magnitude. Rights-based frameworks not only necessitate the elimination of all barriers to learning opportunities but also require that the learning experience have intrinsic worth and promote children's rights. Most notable of the rights-based approach to monitoring quality education is the child-friendly schools (CFS) model that defines quality with dimensions (figure 2) and is founded on the "rights of the whole child, and all children, to survival, protection, development and participation" (UNICEF, 2000, p. 4). Compared with the input-process-outcome model, the CFS framework provides a comprehensive understanding of quality and, perhaps more importantly, an approach to recognizing quality of education as a sum of the quality dimensions, each of which are also important ends in themselves.

Figure 2: Child-friendly schools framework
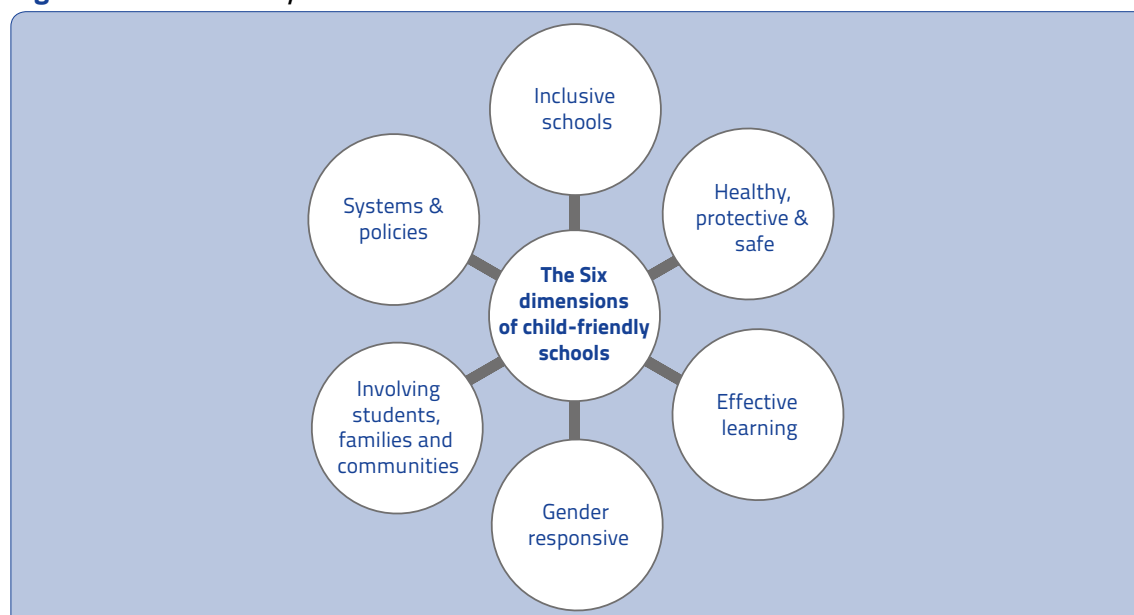
Source: UNICEF, 2006.

No single framework of quality can be universally applied; the diversity of economic, political and social-cultural contexts affects what constitutes quality in a country. Nevertheless, the influence of these two quality frameworks is reflected in various national EFA and education documents related to a quality education. The 2005 *Education for All Global Monitoring Report* recommends that governments identify detailed approaches to monitor and improve quality through a dialogue designed to achieve:

• broad agreement about the aims and objectives of education

• a framework for the analysis of quality that enables its dimensions to be specified

• an approach to measuring that enables the important variables to be identified and assessed

• a framework for improvement that comprehensively covers the interrelated components of the education system and allows opportunities for change and reform to be identified (UNESCO, 2004).

Notwithstanding the diversity in the analytical framework for quality, for the purposes of this EDN review, quality was analysed with reference to a select set of critical building blocks of quality education. The review considered cognitive and non-cognitive learning outcomes, the capacity of an education system to address risks of marginalization and the extent to which schools are equipped to promote strong learning outcomes (with reference to teacher resources, textbooks, instructional hours and the nature of assessment).

Particular focus turned to teachers and the variables related to their performance, because they are considered the greatest school-level factor in determining quality learning. The EDN concludes with recommended priorities for accelerating progress towards the 2015 goal.

1.2.2 Links with other EDNs

Access to education and quality of education are inextricably linked. Getting children to come to school and stay there are dependent on, among many factors, what and how well they are taught, which in turn affects the perceived quality of education by parents and, ultimately, the decision to attend. Poor-quality education cannot attract and keep students in school or help them to achieve meaningful learning outcomes. Thus, the topics and issues analysed under the EDNs on EFA Goals 2 and 6 are mutually reinforcing; to ensure the depth of analysis for each EDN, certain input variables (water, sanitation and hygiene facilities, school health and nutrition, curriculum and alternative/non-formal delivery models) and topics such as repetition, survival to the last grade of primary and completion rates are addressed more fully by the Note on EFA Goal 2, while the quality aspects, such as teacher quality, are discussed in this Note on EFA Goal 6. Other topics and issues analysed under both EFA Goals 2 and 6 are cross-referenced for consistency.

Goal 6 cuts across all other goals of EFA, from early childhood development to lifelong learning. For the purpose of this EDN, the focus is on the primary and secondary levels and academic learning outcomes. Detailed discussions on the quality of early childhood, life skills, lifelong learning and adult literacy are covered in the notes for Goals 1, 3 and 4, respectively. In particular, relevance of education is an important marker of quality education. For detailed analysis of the links between education, life skills and transition to work, see the EDN on EFA Goal 3.

Students experience quality of education differently due to the differences in their backgrounds and characteristics, such as their individual ability, socio-economic status, relative level of poverty, ethnicity and language, geographic location and sex. Where possible, these factors of disparities are highlighted throughout this EDN. See the EDN on EFA Goal 5, however, for an in-depth discussion on the range of gender-based disparities in quality of education.

1.3 Learning outcomes

Information on what students are learning, who is being left behind and by how much is relatively limited, particularly in developing countries in the region. Nonetheless, evidence from learning assessment studies in a selected number of countries reveals mixed and limited progress in ensuring learning, with average students performing near or below basic competency levels in reading and math. In particular, the reading levels in the early grades are alarmingly low in many countries, a worrying signal that learning opportunities in subsequent years will be in serious jeopardy. International and national assessments reflect that cross-country disparities in learning are large, and within countries, inequity in learning achievement is as high, if not higher, than disparities between countries.

1.3.1 National learning achievement levels

The available data on student performance provides further proof of the diversity in educational circumstances across the region. Indeed, as noted earlier, while the region boasts some of the world's best-performing education systems, there are many others struggling to meet basic standards of learning.

Across the region, countries have participated in international assessments (although somewhat limited in number), making it possible to compare performance levels in certain competency areas. The latest Programme for International Student Assessment (PISA) 2009, which assessed the reading, science and math performance of 15-year-old students, found a significant variation in

achievement levels among the 17 participating economies in the Asia-Pacific region. Performance levels in Australia, Hong Kong (China), Japan, New Zealand, Republic of Korea, Shanghai (China) and Singapore were among the highest in the world, with average scores well above the Organisation for Economic Co-Operation and Development (OECD) average in all three areas.

In contrast, achievement levels in Indonesia, Russian Federation, Kazakhstan, Kyrgyzstan, Thailand and Turkey were statistically significantly below the OECD average scores in the three subjects. The mean reading scores that were near or below the baseline proficiency level 2 (defined as an essential level of skills to participate effectively and productively in society) was of great concern. For instance, the proportion of students reading below level 2 was more than 79 per cent and 87 per cent in Thailand and Indonesia, respectively. Taiwan Province of China[5] and Macao (China) both performed above the OECD average in mathematics and science but only around or slightly below (respectively) the OECD average for reading (OECD, 2010b).

The results also revealed glaring gaps in the learning achievement between students from industrialized and developing countries at similar levels of schooling, indicating the general rise in learning achievement with national income. At the same time, however, per capita income was only a fraction of what explains student achievement. Average reading performances of students in Australia, Japan, Republic of Korea and New Zealand were much higher than in the United States, and the average reading performance of students in relatively affluent Qatar was also lower than their counterparts' levels in Indonesia and Thailand. One of the most striking findings is the achievement levels of a first-time participating economy of Shanghai (China), which marked an average score of 600, the highest score in the world by a wide margin. On the whole of the countries/economies that participated over a number of years, performance is increasing in almost all, and the Asia-Pacific region is home to some of the world's best performing education systems by this measure (OECD, 2010b).

While the results suggest national income and educational performance are linked, the variance in outcomes among countries at similar levels of development brings to light the flaw in the idea of a world divided into rich and well-educated countries and poor and poorly educated countries. The PISA results also find that more equitable education systems produce better results and supports the widely held belief that quality of teachers, schools and systems are equally, if not more, important than the level of financial investment in education.[6]

Figure 3: Average scores for reading, math and science in the Asia-Pacific region, selected countries/economies, 2009
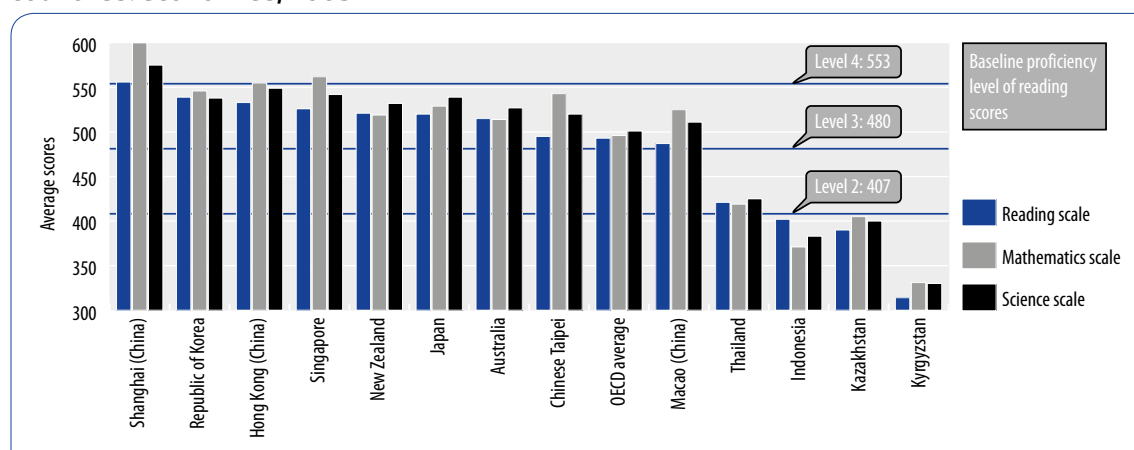
Note: OECD refers to Taiwan Province of China as Chinese Taipei.
Source: OECD, 2010b.

---

5   OECD refers to Taiwan Province of China as Chinese Taipei.
6   This is also confirmed by the largely stagnant average reading performance among OECD countries since 2000, despite major increases in financial investments in many countries; see 2009 PISA results, DECD, 2012b.

In addition to PISA, the Trends in International Mathematics and Science Study (TIMSS), which assesses the achievement of fourth and eighth grade students in mathematics and sciences, in 2007 found that average student achievement in five of the region's participating countries/economies of Hong Kong (China), Taiwan Province of China, Japan, Republic of Korea and Singapore were the highest in the world by a substantial margin compared with the next group of similarly achieving countries (England, Hungary, Russian Federation and the United States of America) (IEA, 2008, p. 40). As shown in figure 4, the wide score range suggests that closing the gap between high and low performers within the country remains a challenge. For non-OECD countries, such as Indonesia, Kyrgyzstan and Thailand, the majority of students performed below minimum achievement levels. In-country variations in achievement levels in less-developed countries were even greater than in the industrialized countries. In most developing countries in the region, there was a great need to address the dual challenge of raising overall performance and improving equity in learning achievements.

Figure 4: Average math scores in selected countries (top, TIMSS) (bottom, PISA)

Mathematics scores of fouth-grade students defining 10th and 90th percentiles, 2007

Percentage of students at each proficiency level on the math scale, 2006
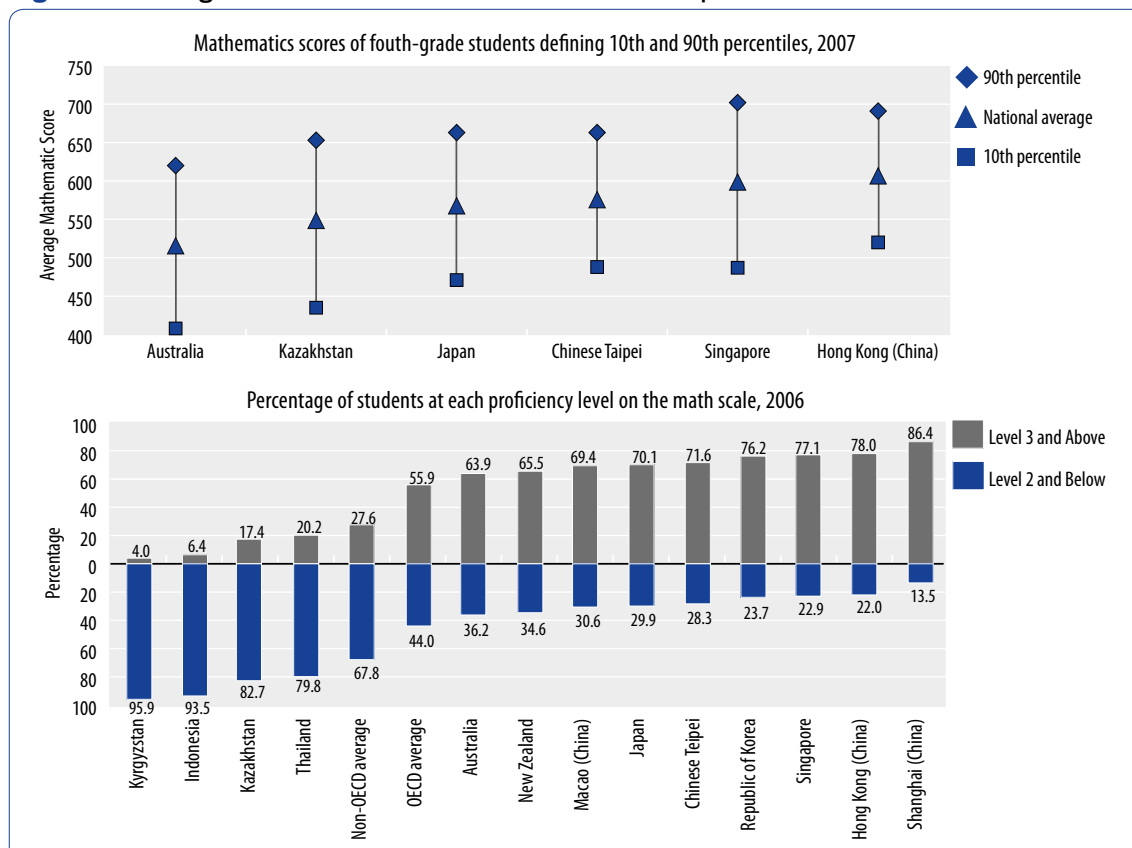
Note: OECD refers to Taiwan Province of China as Chinese Taipei.

Sources: IEA, 2008; OECD, 2010b.

Although the results are not internationally comparable, national assessments are being carried out with increasing frequency across the region and further demonstrate the dismal levels of learning outcomes that belie the high rates of enrolment and completion in countries. Examples include the following:

• In India, a survey conducted across all rural regions in 2010 showed that only half of students in grade 5 could read a grade 2 level text, meaning that 50 per cent of grade 5 students could not read at all. This was in comparison with 42 per cent who could read at grade 2 levels in 2007, showing learning gains had been made but were still limited. Also in 2010, math achievement was similarly low and even declining, with only 36 per cent of grade 5 students able to do simple division problems compared with 39 per cent in 2009 (Pratham Resource Center, 2011).

- In Pakistan, a 2010 survey conducted in 38 rural provinces showed that only 44 per cent of class 3 students were able to read sentences (level 1 text) in Urdu or his/her own language, while in arithmetic 39 per cent of class 4 students could only manage simple number recognition (level 1 standard) (South Asian Forum for Education Development, 2010).

- In Thailand, the 2008 National Achievement Tests for grades 6 and 12 students showed that the average achievement rates was below 50 per cent in English, math, science and social science (NESDB, 2008).

- The 2009–2010 national achievement levels in the Philippines were similarly low, with average grade 6 achievement below 65 per cent in math and science and below 75 per cent in Filipino (Department of Education, Philippines, 2011).

Considering the awareness of significant learning deficits at the time of the Dakar conference in 2000, there has been mixed progress made in learning outcomes over the past decade. In particular, the stagnant levels of improvement in the region's developing countries are of great concern. A review of performance trends since 2000 suggests that some countries continue to struggle to move onto the right track to improve learning achievement. Reading achievement levels in rural India have declined since 2007, with a smaller proportion of class (or grade) 5 students able to read a story designed for class 2 students in 2010 than in 2007, while the proportion of students who could only read a single word has been rising (figure 5). In contrast, there has been a steady, though small, increase in achievement in all subjects tested since 2005 in the Philippines (figure 6).

Figure 5: Percentage trends in class 5 reading achievement in India, by type, 2007–2010
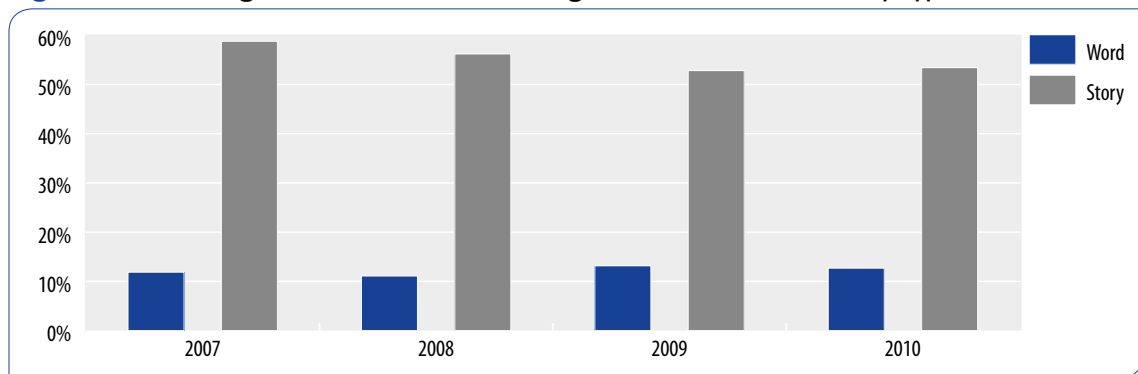
Source: Pratham Resource Center, 2011. Available at: http://images2.asercentre.org/aserreports/ASER_2010_Report.pdf

Figure 6: Trends in national grade 6 achievement test scores in Philippines, 2006–2010
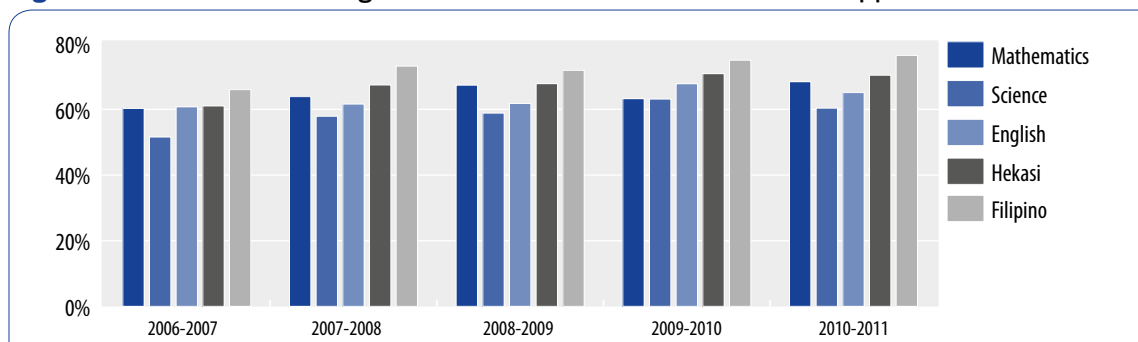
Note: Hekasi stands for HE-Heograpiya (Geography), KA-Kasaysayan (History) and Si-Sibika (Civics).

Source: Department of Education, Philippines, 2011. Available at: http://www.deped.gov.ph/factsandfigures/default.asp

According to PISA findings, Indonesia raised its average reading performance by 31 points between 2000 and 2009, making it the highest increase among participating Asian and Pacific countries (table 1). In particular, the increase in average student performance was achieved with improved equity in achievement levels, with gains mainly driven by improved performance from the bottom

end of the distribution. As shown in table 1, more than a 15 per cent decline was observed in the proportion of students performing below the baseline proficiency level 2. This is in contrast to the experience of the Republic of Korea, where during the same period, there was an increase in average performance, from its already high levels; but that increase was driven by the increase in the proportion of top performers while the share of poor performers remained constant. In Thailand, the average reading score for students at proficiency level 5 or above fell from its already low levels of a decade ago, with a greater proportion of low-performing students in 2009 than in 2000.

Table 1: Change in reading performance scores in selected countries/economies (or territories), 2000–2009

Country/territories	Mean score in reading 2009	Change in reading performance between 2000 and 2009		
		All students	Share of students below proficiency level 2	Share of students at proficiency level 5 or above
Indonesia	402	31	-15.2	N/A
Thailand	421	-9	5.8	-0.2
Australia	515	-13	1.8	-4.9
Japan	520	-2	3.5	3.6
New Zealand	521	-8	0.6	-3
Hong Kong (China)	533	8	-0.8	2.9
Republic of Korea	539	15	0	7.2

Source: OECD, 2010b.

1.3.2 Gaps in early grade reading achievements

Research has shown that investments in developing reading and writing skills must start in the foundational years and that the human brain can acquire such skills only once in a person's lifetime, with critical impact on reading levels later in life (Cunningham and Stanovich, 1997). Students who do not learn to read on time will experience difficulties in reading textbooks at their grade level and will thus develop negative attitudes towards reading and become less likely to stay in and complete school.

It has been difficult to gauge the levels of reading skills for early grade students in most developing countries in the region, with most international and national assessment studies testing students at higher primary grades. In fact, some concerns have been raised that the poor levels of learning revealed by international and national assessment studies may be a result of limited reading skills rather than just poor learning in subject areas, with students not able to read and comprehend textbooks or written exams. Thus, some countries in the Asia-Pacific region have started to turn attention to assessing early grade reading skills by measuring levels of consonant and vowel recognition, simple word recognition, reading fluency and comprehension.[7] A number of countries are using models of the Early Grade Reading Assessment (EGRA) approach to conduct sample-based assessments of varying scales, in which nationally defined standards of reading competency levels appropriate to their own linguistic characteristics are applied.[8] Differences in language standards and assessment protocols demand for considerable caution against making comparisons of results across languages and countries.[9]

The findings provide a sense of alarmingly low levels of reading achievement among students in early grades in most developing and emerging countries. A significant proportion of students

---

7   According to studies, fluent and quick reading is strongly correlated with reading comprehension. In general, approximately 40 words per minute is considered to be indicative of comprehension, but estimates vary by language. See Helen Abadzi, 2006.

8   EGRA is an initiative of USAID. See https://www.eddataglobal.org

9   In each country, there is considerable variation in the assessment methodology and analysis due to differences in language structure, theory of reading acquisition and local assessment practices. Thus it is not appropriate to compare average oral reading fluency rates across languages and countries.

in early grades are unable to read a single word, and those that can read still struggle to read with comprehension. Consequently, too many students are progressing through years of schooling without mastering basic reading skills to participate in meaningful learning activities. Findings from selected national, sample-based assessments illustrate the dismal findings:

- **Cambodia (2010)** Basic grade 1 reading test in Khmer language; administered to approximately 24,000 students in grades 1 to 6, in 40 schools in 18 provinces:
  - In total, 33 per cent could not read a single word.
  - In total, 28 per cent could not recognize basic vowels and consonants.
  - In total, 46.6 per cent could read but not comprehend (Ministry of Education, Youth and Sport, Cambobia, 2011).

- **Timor-Leste (2009)** Basic grade 1 reading test in Tetum and Portuguese languages; administered to approximately 900 students in grades 1 to 3 in 40 schools:
  - In total, 70 per cent of students at the end of grade 1 and 40 per cent of students at the end of grade 2 could not read a single word.
  - Two thirds of students in grade 3 could not read with fluency (Ministry of Education, Timor-Leste, 2011).

- **Tonga (2009)** Basic grade 1 reading test in Tongan language; administered to approximately 1,200 students in grades 1 and 3 in 60 government schools:
  - In total, 37 per cent of grade 1 students could not read a single word.
  - In total, 66 per cent of grade 3 students could not read with fluency (Ministry of Education, Tonga, 2011).

- **Vanuatu (2010)** Tests in French and English; administered to approximately 1,300 students in each language in about 70 schools:
  - In English, 73 per cent of grade 1 and 37 per cent of grade 2 students could not read a single word.
  - Only 9 per cent of all students tested were fluent in English, with 83 per cent average comprehension.
  - In French, 80 per cent of grade 1 and 25 per cent of grade 2 students could not read a single word.
  - Only 8 per cent of all students were fluent in French, with 64 per cent average comprehension (Ministry of Education, Vanuatu, 2011).

- In rural India, trends in reading levels in early grades, from 2006 to 2010, portray a rather gloomy picture, with very little gains made in recent years. As shown in figure 7, the proportion of students in class 1–3 who could read short paragraphs had been stagnating, with only a negligible amount of gains among class 1 students. With nearly 75 per cent of students in grade 3 unable to read short paragraphs in 2010, it was clear there was a dire need to elevate reading levels (Pratham Resource Center, 2011).

Figure 7: Percentage of students who can read standard 1 level text in India, by class, 2006–2010
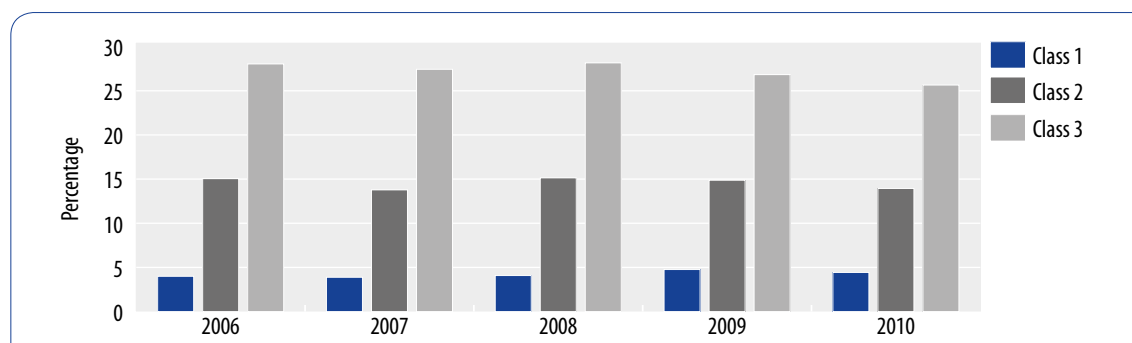
Source: Pratham Resource Center, 2011.

Various adaptations of the EGRA approach are also used by NGOs, such as Pratham Resource Center, Room to Read and Save the Children, for baseline assessments and informing the development of programmes. Although the results of these studies are not nationally representative, they provide useful observations (table 2) of reading deficits among young students in the region.

- In Pakistan, a startling 91 per cent of tested students in Pashtu and 66 per cent in Urdu could not read a single word by the end of grade 2.

- In Nepal, 79 per cent of tested students during grade 2 could not read a word.

Table 2: Findings from selected baseline early grade reading assessments

Country	Programme	Year	Languages	Grade	Sample size	% of children who cannot read a single word in a simple paragraph
Afghanistan	USAID/PACE-A	2007	Dari and Pashtu	End of grade 2	309	21
Nepal	EGRA	2009	Nepali	Mid-year grade 2	212	79
Pakistan	Save the Children	2009	Pashtu, Urdu	End of grade 2	234 234	91 66
Manila, Philippines	Save the Children	2009	Filipino, English	Mid-year grade 3	160 160	1 2
Mindanao, Philippines			Filipino, English		541 541	24 30

Sources: Stannard, 2008; Schuh-Moore et al., 2010; Dowd et al., 2010; and Cao, 2010.

1.3.3 Non-cognitive outcomes

In addition to academic learning outcomes, the critical learning objectives for most education systems include student values, attitudes and other social and emotional dimensions. Studies from OECD countries affirm that such outcomes are important ends but also have critical links for the long-term academic success and social and emotional well-being of both individual learners and society. However, international or national assessments often focus on student knowledge within well-defined domains on particular academic components, such as language and mathematics, and seldom examine non-cognitive outcomes. This trend is changing in the case of international assessments like PISA and TIMSS.

In East Asia and the Pacific, some efforts to promote and measure student learning beyond the commonly measured academic domains have taken place through a range of initiatives around social and emotional learning. In 2008, a UNICEF-American Institute of Research school-climate survey was conducted in selected schools in Cambodia, Philippines and Thailand to determine the levels of aspirations of school-level parties in promoting non-academic learning. The study found that despite the general absence of a cohesive, intentional plan to promote social and emotional learning, some disparate approaches exist, including through civic education and life skills education. The study also found that teachers, school leaders and parents wanted their children to become emotionally mature and socially capable individuals rather than just being academically successful, suggesting the need for greater efforts to realize those aims through coherent, quality approaches to social and emotional learning (UNICEF, 2009a).

In 2009, a social and emotional learning study conducted in China by the Ministry of Education measured the extent to which students were "supported, socially capable, safe, challenged, participating and leading" to assess the actual level of social and emotional capacities they displayed. The results revealed, similar to academic achievement, critical variations in the levels of social and emotional learning among students, influenced by school location, sex, grade level and family background. The study also found close positive associations between academic achievement and the social and emotional learning status of students, suggesting the broader theory on the links between the two also holds true in the context of the provincial studies (Ministry of Education, China, 2010).

1.4 Factors of marginalization in learning

Available evidence on learning achievements reflects considerable variations within countries. Disaggregated information is patchy in most developing countries in the region, but nevertheless, there are some commonalities. Individual and family backgrounds are inextricably linked to a child's capacity to learn to his/her fullest potential. Schools do not operate in equal contexts; rather, they inherit students of diverse socio-economic background, some whose learning chances may be crucially disadvantaged by extreme poverty, severe malnutrition, linguistic marginalization, gender biases and other influences. Geographical location and school and system factors also account for disparities in learning.

1.4.1 Student and family background

By the time students enter school at the average age of 6 years, a complex array of innate, socio-economic and cultural influences have already impacted their ability to participate and succeed as learners in the classroom. Those same factors, although variable over time, are likely to continue to influence students' learning opportunities after they enter school, because what is experienced and acquired in school can be either magnified or counteracted by what happens outside of school in critical ways. Certain student characteristics, such as sex (see the EDN on gender, equality), early childhood care (see the EDN on ECCE) and family background characteristics, such as ethnicity, language and poverty, often have prominent impact on learning outcomes. In some countries, factors such as caste system, immigrant status and family structure also affect learning.

One of the most common factors in learning disparities is the language spoken at home – if it is different from the language of instruction. In the Asia-Pacific region, an estimated 3,572 ethnic languages exist, but only about 50 languages are considered official languages in schools (Lewis, 2009). Despite tremendous linguistic diversity in schools, students are typically subjected to a medium of instruction that they do not comprehend, presenting a great obstacle to learning for ethnic minority students. Research has consistently shown that students who cannot use and build upon the oral vocabulary and phonemic awareness acquired in their mother tongue prior to being taught in an unfamiliar medium of instruction are likely to struggle in learning (UNESCO Bangkok, 2008b). Many linguistic minority students experience considerable difficulties to learning and, as a result, are often at greater risk of non-learning and dropping out of school.

An increasing number of studies are showing that children who are not taught in their mother tongue score significantly lower in reading and math than students whose home language matches the language of instruction (adjusting for socio-economic background and location) (Flores-Crespo, 2007; McEwan and Trowbridge, 2007). In Viet Nam, for example, 90 per cent of H'mong ethnic students ranked in the bottom 20 per cent of the national distribution for average years in school (UNESCO, 2010).

Socio-economic characteristics, including income poverty, parents' education and home educational resources also influence learning outcomes. Poverty, in particular, remains a pervasive and dominant obstacle to learning for students. Despite broad efforts to abolish school fees in primary education, a host of expenses associated with transport, uniforms, textbooks, extracurricular activities as well as opportunity costs of attendance make education unaffordable for the poorest families.

Even when students from poor families enter school, they tend to have higher rates of absenteeism and to drop out early, with lower survival rates to the last grade of primary school and the transition to secondary education. Reasons for dropping out may be broad, but research has shown that sensitivity to the cost of schooling is high for low-income households, suggesting greater likelihood of leaving in the higher grades as fee and opportunity costs increase (Orazem and King, 2008).

- In India, students from families in the lowest-income quintile complete an average of five years of schooling, compared with more than 11 years among students from the highest-income quintile (Ministry of Health and Family Welfare, India, 2007).

- In India, 38.4 per cent of women from the highest wealth quintile had completed 12 or more years of education, while only 0.4 per cent from the lowest wealth quintile acquired this amount of education. Among men, 47.7 per cent of those from the highest quintile had 12 or more years of education, while only 2.4 per cent from the lowest quintile did. Additionally, 46.5 per cent of men from the lowest quintile, and 76.6 per cent of women, had no education, while the numbers for the highest quintile were just 2 per cent of men and 8.2 per cent of women who had no education (Ministry of Health and Family Welfare, India, 2007).

- In Pakistan and Indonesia between 2006 and 2008 (figure 8), students from the poorest families were nearly 30 per cent more likely to drop out by grade 9 than students from the richest families.

Additionally, students from poor families are likely to have insufficient early childhood care and education, home educational resources and access to private tutoring, all of which can create a gap in their learning that their peers don't experience. Poor health and malnutrition, particularly in the form of iodine and protein-energy deficiencies, have adverse impact on students' brain development; a wealth of evidence points to a close association between malnutrition and school attendance and performance (UNICEF, 2009b). Learning-achievement studies by income clearly reflect the learning gap between students from rich and poor families. With a disproportionately large proportion of students from poor families dropping out of school, the actual learning gap between them and their peers are likely to be much greater than what has been assessed.

Figure 8: Grade survival rate, by income quintile, in Pakistan and Indonesia
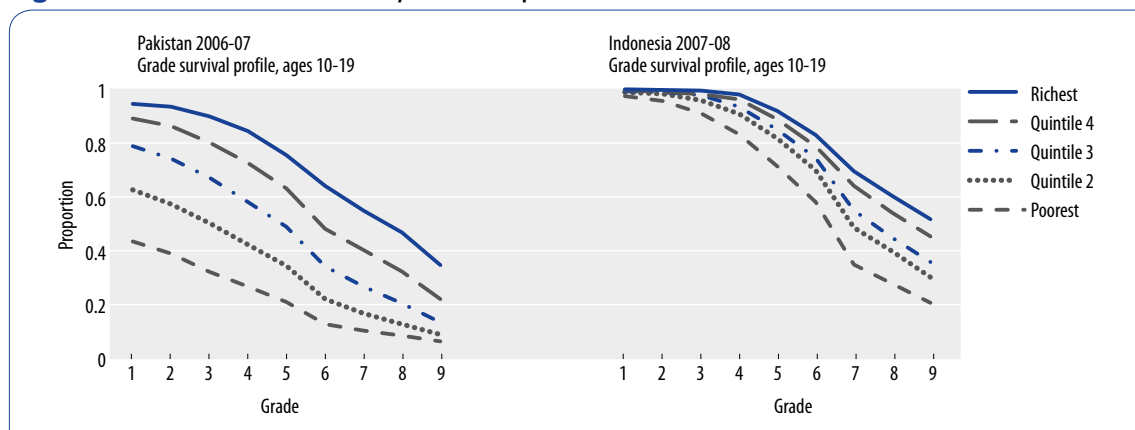
Source: Calculations based on national Demographic and Household Surveys, cited in World Bank, 2011.

1.4.2 Geographic location

Geographic location of residence is clearly associated with variations in students' learning outcomes. Typically, assessment studies show strong learning disparities at the subnational and regional levels and, when available, by an urban-rural divide.

The subnational and regional gaps are often reflections of differences in household wealth and income (linked to endowments and historical investments) and are deeply rooted in ethnic or cultural identities, which may be an additional source of disparity. Gaps between the urban and rural settings, on the other hand, suggest critical differences in the quality of schools, although there are expected overlaps with demand-side factors of marginalization. In rural regions, a lower population density means students are more likely to attend schools farther from home, creating potential hurdles to enrolment and attendance rates for both students and teachers. According to a UNESCO Institute for Statistics (UIS) study, the proportion of primary school principals reporting their students had to walk 5 or more kilometres to school ranged from 6.5 per cent in Malaysia to 8 per cent in Philippines to 18.3 per cent in Sri Lanka (UIS, 2008). Even when in school, students were more likely to be deprived of adequate facilities, quality teachers and learning materials. As discussed in the next section, the available data shows that, in general, the distribution and quality

of material and human resources across countries tend to be significantly uneven at the subnational level (UIS, 2008).

Learning achievement results reflect such quality gaps.

• In Philippines, a small-scale early grade reading assessment in 2009 found that 24 per cent and 30 per cent of grade 3 students in southern Mindanao could not read in Filipino and English, respectively, compared with less than 2 per cent of non-readers in Manila (Cao, 2010).

• In India, the *Annual Status of Education Report* for 2010 found that students in Kerala, Uttaranchal and West Bengal states performed substantially better on reading assessments, with less than 25 per cent or fewer students in standard 5 unable to read, compared with more than 45 per cent of students in Uttar Pradesh, Gujarat and Madhya Pradesh states (Pratham Resource Center, 2011).

Students living in urban slums are a significant category of marginalized students. Half of the world's population now live in cities, with an estimated one third of urban dwellers in developing countries living in slums (UN-HABITAT, 2008). They are likely to live in generally unhealthy conditions, exposing them to heightened risks of malnutrition, illness and violence. In many instances, urban slum populations are driven to cities by poverty, and students are likely to face additional disparities due to lack of formal residence status and a birth certificate and participation in child labour, the combined effects of which can have detrimental impact on attending school and learning.

An important policy concern is that, oftentimes, disadvantaged students experience multiple factors of marginalization. As noted in the 2010 *Education for All Global Monitoring Report*, "poverty, gender, ethnicity and other characteristics interact to create overlapping and self-reinforcing layers of disadvantage that limit opportunity and hamper social mobility" (UNESCO, 2010, p. 131).

1.4.3 School and education system factors

Students' learning outcomes are also influenced by the quality of both a school and the education system. International research demonstrates that, after adjusting for student and family backgrounds, differences in school-based factors have measurable impact on learning outcomes (Willms, 2006). School quality may suffer from insufficient classroom resources, inefficient use of resources or teachers who are frequently late or absent or do not speak the same language as the students (or a combination of any of these factors). For schools fraught with bullying, violence and a generally unsafe environment, students' sense of connection with teachers and the school and their general social and emotional capacity are lower, which research has found to have a negative impact on student attendance, motivation and learning achievement (Zins et al., 2004; Durlak and Weissberg, 2007; UNICEF, 2011). Despite such failings, however, there may be no realization of the shortcomings because there are no assessments or accountability for performance.

All of these factors would ultimately affect the quality of learning opportunities of students, and for disadvantaged students who require close attention and support to overcome the obstacles to learning, costs may be high. Schools that do not improve and fail to provide a quality education ultimately 'push out' students, in that the opportunities elsewhere seem better than those inside a dysfunctional school. Studies show that the importance of school and the education system in learning outcomes are especially pronounced in a disadvantaged context because schools of good quality significantly counteract the damaging effects of the marginalizing factors (Baker et al., 2002). The visible variations in school quality within countries, however, suggest that many education systems across the region often magnify the disadvantages. These patterns are highlighted in the remaining sections, with discussion on some of the essential building blocks that make up a quality school and education system – instructional time, textbooks, teachers and assessment systems.

2 Progress, issues and challenges

2.1 Instructional time

A wealth of research confirms that sufficient time spent on teaching and learning activities has a strong impact on learning achievement. According to numerous international agencies and reports, the recommended minimum hours of instructional time, also referred to as 'opportunities to learn', is approximately 850–1,000 hours of schooling per year (aside from breaks and lunch periods) for all primary school grades (World Bank, 2004a). The *2005 Global Monitoring Report* cites at least 850 hours, or about 200 days at five days a week (UNESCO, 2004). Of them, 80 per cent needs to be spent specifically on learning activities (time on task) to expect a positive learning achievement (Abadzi, 2006). Across the region, however, there is significant room for improving the average instructional time by grade, both in terms of allocation of *intended* time by grade level as well as *actual* instruction time.

Figure 9 depicts the varying levels of official intended instructional time by region, and average instructional time increases with grade level. Compared with other regions, the median instructional time as mandated by national policies in the East Asia and Pacific region is one of the highest in the world, starting with 765 hours in grade 1 and rising to 842 hours in grade 6. The South and West Asia region is close to the global median, but with notably steep increases by grades, from 675 hours for the early grades and increasing to the highest level in the world for grade 6, at 879 hours (Amadio and Truong, 2007).

Figure 9: Median yearly official instructional time in grades 1–6, by region
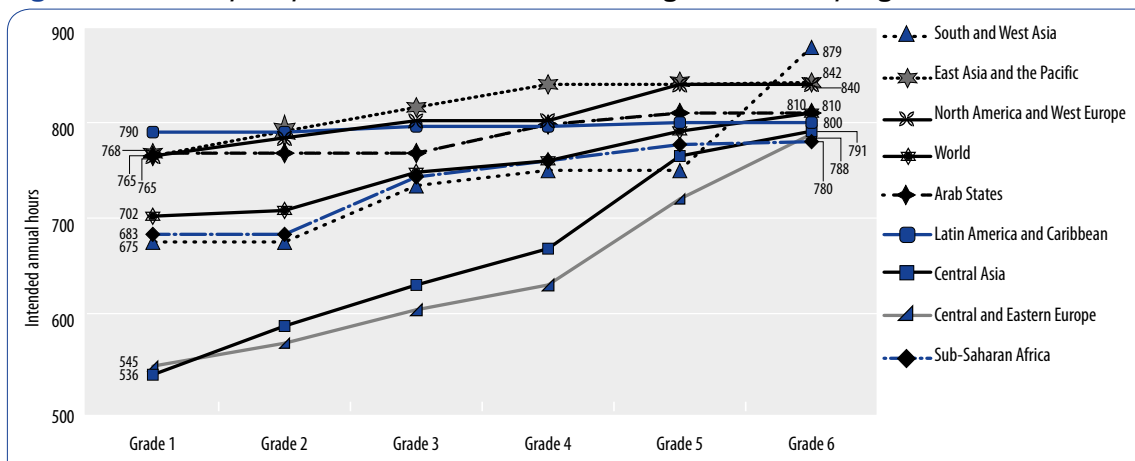
Data from selected World Education Indicators (WEI) countries (table 3) reflect the variations across countries (UIS, 2010). In general, Asian countries require far more than the recommended annual hours of instruction in primary school, with more than 1,000 hours of instruction required in Indonesia, Philippines and Sri Lanka, compared with the 705 and 755 hours required in Japan and the Republic of Korea, respectively. By levels, official instructional hours remain the same for primary and lower secondary levels for Malaysia, while in Sri Lanka and Thailand, longer hours of teaching are required for the secondary level, compared with those of the primary level; this contrasts with the

decreasing hours of instruction from primary to secondary school that have been reported among OECD countries. Indonesia is an interesting exception, with primary school teachers expected to teach 1,260 hours, compared with just 738 hours expected of secondary teachers.

Table 3: Statutory instructional time in public schools in selected countries, by level of education

Country	Teaching hours per year	
	Primary education	Lower secondary education
	(1)	(2)
World Education Indicators countries		
Indonesia (2008)	1,260	738
Malaysia (2007)	650	650
Philippines (2008)	1,182	1,182
Russian Federation (2007)	656	845
Sri Lanka (2008)	1,056	1,218
Thailand (2009)	740	925
OECD countries		
Australia (2007)	877	815
Japan (2007)	705	600
New Zealand (2007)	985	968
Republic of Korea (2007)	755	545

Source: Statistical Table 21, UIS, 2010.

Although most countries mandate the recommended instructional time, variations in time allocations by grade is not optimum in many countries in the region. In particular, the intended instructional hours in early grades need more attention. Larger class sizes in the early grades mean that students are likely to receive the least individual attention in the foundational years.

• In Bangladesh, the average class size in grade 5 is 30 students, while grade 1 average class size is 59 students (FMRP/Oxford Policy Management, 2006 as cited in UNESCO, 2010). Also, early grades are more likely to be designed as double- or triple-shift school days to meet the high enrolment rates, thus curbing the instructional hours and opportunity to learn. With research showing the importance of early grades as the years when students best gain the foundational skills in literacy and numeracy, insufficient instructional hours allocated for early grades have significant implications for adversely affecting learning achievement in subsequent years.

Despite the statutory requirements for instructional time, in reality the intended hours of instruction are often unmet. Systematic data and surveys related to actual instructional time is not available, but a number of independent studies suggest that time 'leaks' are widespread in most developing countries.

• In Nepal, a study conducted in a number of small primary schools in 2008 found that, compared with the officially required 192 days of the school year, the average student experienced only 97 days of learning (Dowd, 2009 as cited in UNESCO, 2010). Stark variations in instructional time are also expected across schools.

• In Bangladesh, an in-depth study conducted in government primary schools and registered, non-government primary schools in 2008 found that the bottom 10 per cent of the government schools provided fewer than 500 hours per year for grades 1–5, whereas the top 10 per cent schools provided more than 860 hours; in non-government schools, the average instructional hours were even less, with the equivalent range reported to be 470–700 hours (FMRP/Oxford Policy Management, 2006, as cited in UNESCO, 2010).

2.1.1 Issues and challenges

Efforts to ensure that the intended instructional time is on par with the actual time devoted to teaching and learning can be hindered by obstacles at both the school and individual levels, including unofficial school closures, high rates of teacher and student absenteeism and weak teaching and learning practices, to name a few.

At the school level, significant time loss can be incurred through weaknesses in the education system or the school, such as classes that start late and/or end earlier than the official calendar year, and on any given day, schools that open late in the day or don't open at all. Reasons are many and varied, with some imposed by the education system, such as late teacher postings, teacher-parent meetings and teacher training sessions, while others are voluntary, such as high teacher turnover or teacher strikes. Some days are also lost due to unforeseen circumstances, such as armed conflict or adverse climactic conditions, both of which are shocks that poor, underresourced schools cannot effectively cope with compared with more prepared, resourceful schools.

Instructional time loss also occurs due to another widespread malady of developing education systems – teacher absenteeism.

- In South Asia, numerous studies on teacher absenteeism indicate a considerably high incidence. In India, a nationally representative survey of 3,759 public primary schools was conducted in 2004 and revealed that an average of 25 per cent of teachers were absent at some point during a school day, with rates as high as 38 per cent and 42 per cent in Maharashtra and Jharkhand states, respectively (Chaudhury et al., 2004). Another study in Udaipur state in 2005 found that the average teacher absence rate in NGO-run non-formal education centres was 38 per cent (Duflo and Hanna, 2007).

- In Pakistan, a 2005 survey found teacher absenteeism to be around 14 per cent in public as well as private schools in the Northwest Frontier Province and Punjab Province, with some longitudinal studies suggesting a rate closer to 24 per cent (Sathar et al., 2005).

Many studies have looked at the underlying factors of teacher absenteeism, with limited accountability, poor professional support and low pay identified as some of the most common causes. In a sample of 3,000 public schools in India, only one teacher was reported to have been fired because of repeated absence (Kremer et al., 2005). Whatever the cause, instruction time loss incurred by teacher absenteeism and its ultimate effect on learning has been cited in many studies. One Indonesian study, for example, found that higher teacher absenteeism led to lower fourth-grade student achievement on math, after controlling for family characteristics, teacher quality and school conditions (Lewis and Lockheed, 2006: 67). Sometimes, teacher absence in a classroom manifests as delays to report to school as well as in obligations to perform administrative tasks. For example, schools in poor communities are often unable to afford administrative support and rely on teachers to fill managerial duties in addition to teaching (Chaudhury et al., 2005).

Instructional time is also lost due to wasting time on task, or classroom time, in which students are actively engaged in a learning activity. Inside the classroom, 'time off task' can be commonplace, with teachers required to spend time for classroom management, discipline and, in the context of limited teaching resources, lesson preparation, such as copying materials and writing on blackboards. The overall quality of teachers (discussed in the next section) also matters significantly in their ability to manage classroom time to its fullest effect.

Figure 10 depicts an example of time loss and resulting time on task, based on a 2008 school effectiveness study conducted in Nepal by the Education Quality Improvement Programme 2 (EQUIP), in partnership with Save the Children. After accounting for the cumulative effects of time-loss determinants, the number of days available for teaching is nearly half of the official days in the district of Kanchapur, and almost 60 per cent was lost in Kailali district.

Figure 10: Time on task estimates for grade 3 in selected districts in Nepal, 2008
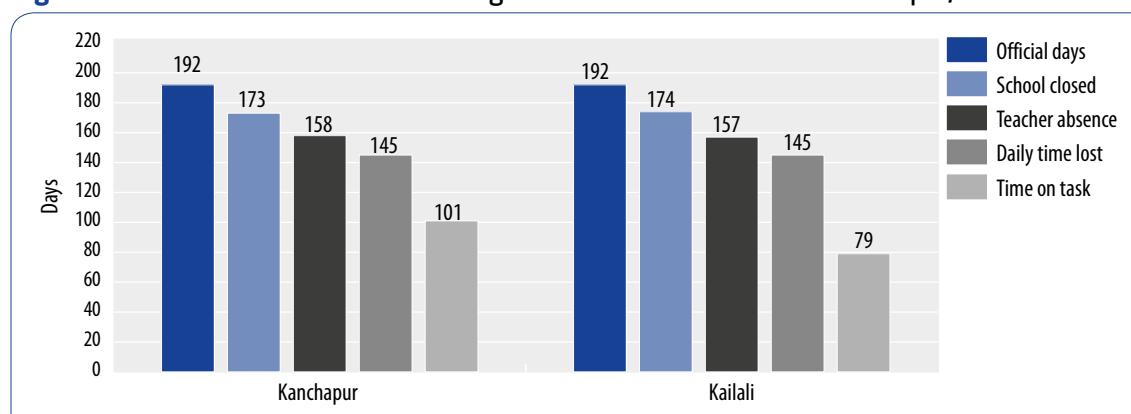
Source: Schuh Moore et al. for USAID, EQUIP2 case study, 2010.

High absenteeism rates of students and their general disengagement in learning activities can compound the problem with instructional time loss.[10] Although many factors in families and schools affect student attendance rates, the challenges arising from natural disasters are particularly critical in this region. According to a 2010 report by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), people in the region are four times more likely to be affected by natural disasters than those in Africa and 25 times more than those in Europe and North America (UNESCAP, 2010). The region is vulnerable to almost all types of natural disasters, from earthquakes and tsunamis to floods and droughts, and more hazardous situations may be in store due to climate changes. The Indian Ocean earthquake and tsunami in 2004, Cyclone Nargis in 2008 and the Sichuan earthquake in 2008 are just a few of the hundreds of disasters that have hit the region in the past decade. Impact is not only in the tragic loss of human lives but also in the medium- and long-term effects on the broader socio-economic realm.

In education, disruptions due to damage to school buildings and reduced attendance can be severe because of increased physical difficulties for students in accessing their school, reduced household capacity to meet the informal or opportunity costs of schooling or other risks.

- In Nepal, the 2008 Koshi flood reportedly disrupted the education of nearly 23,000 students, including both those whose households were displaced and the students of the host schools where they were sheltered (Acharya and Aryal, 2008). In such cases, instructional time inevitably suffers because class sizes increase beyond the management capacity of teachers as full-day shifts are converted into two or even three shifts per day. Disasters also have profound and psychosocial impacts on students (and teachers) whose attention span and interest in studies often deteriorate without proper attention and care.

Overall, instructional time loss of such magnitude can have serious consequences in the continuity and quality of learning, student motivation to learn and, ultimately, students' learning achievement. It is also likely that the negative effects of instructional time loss can be more acute for disadvantaged students in poor and remote communities because students from impoverished families are less likely to have access to compensatory options, such as private tutoring. Improving the situation may be challenging, with chronic overcrowding in classrooms and limited financial capacity to build schools presenting double shifts as the only option for many schools. Nevertheless, limited instructional time and variations within countries warrant attention from policy-makers. Improvements can be made through policy interventions that tackle a range of problems associated with teacher absenteeism (low pay, poor working conditions and teacher motivation) as well as strengthening the broader management and governance of schools and the education system.

---

10 High levels of student absenteeism can have severe impact on student learning achievement and similarly on access; a host of supply and demand factors need to be addressed to improve attendance rates. See the EDN on Goal 2 for more discussion on access and attendance.

2.2 Textbooks

Textbooks in the hands of students are vital for improving the quality of education provided to them. There is convincing evidence of the significant role of textbooks as a primary conduit for delivering content knowledge and one of the most consistently positive school factors predicting academic achievement (Fuller and Clark, 1994).

Textbooks are essential resources in the teaching and learning processes, guiding teachers through the curriculum, content, order of instruction and, if students can take books home, allowing learning to extend beyond the classrooms through self-study and review. In many developing countries and regions, particularly those with limited ICT infrastructure, the importance of textbooks is especially high because they are one of the most cost-effective approaches for ensuring that a common standard of educational content is delivered to students, regardless of the condition of their school or quality of their teachers.

Over the past decade, many countries in the Asia-Pacific region stepped up their commitments to ensuring the availability of textbooks for every student, and access to textbooks is recognized as essential in most national education policies and strategies. For primary education in particular, the move towards free and compulsory primary education has been accelerated by the abolition of school tuition and fees, in addition to the provision of free textbooks and other supplies (uniforms and school meals). This has resulted in notable progress in some countries.

- In Philippines, a pupil-book ratio target of 1:1 in key subject areas has reportedly been achieved at the primary and secondary levels (UNESCO Bangkok, 2008d).

- Indonesia also reported a 1:1 pupil-book ratio for every subject, helped by a range of programmes geared towards improving the content, publication and delivery of textbooks (UNESCO Bangkok, 2008d).

Many low-income countries in the region, however, face significant gaps in providing all students with textbooks at the primary level and to a greater extent at the secondary level. Due to a range of budgetary and technical constraints, textbook fees are still common, and some countries have set incremental targets towards reaching universal coverage of free textbooks.

- Papua New Guinea set a target to deliver one textbook for every two pupils in primary school by 2015, with the expectation that students will share. In addition, the provision of textbooks for certain core academic subjects, such as language and math, is prioritized in the curriculum (Ministry of Education, Papua New Guinea, 2011).

Official data on the supply and distribution of textbooks are scarce, but available estimates suggest that progress has been slow and stagnant, with average pupil-book ratios well over one in some countries.

- In Lao People's Democratic Republic, for instance, the national level pupil-book ratio for Lao language and math is between 3:1 and 4:1 (ADB, 2008).

- Most countries in Central Asia reported a shortage, with 20–40 per cent of students not provided with a full set of textbooks (UNESCO Bangkok, 2008c).

- Similarly, many countries in South Asia, including India, Nepal and Sri Lanka, struggle to provide free textbooks. Many countries identify in their national education reports that textbook scarcity remains a major barrier to improving the quality of education (UNESCO Bangkok, 2009).

The situation is particularly acute in disadvantaged schools serving poor or remote communities, where a combination of cost and distribution challenges further inhibit the timely delivery of textbooks.

- In Lao PDR, for example, the availability of textbooks is greater in non-poor districts, compared with the poorest districts, despite the continued government and development partners'

emphasis on targeting assistance to the poorest districts. Also, the availability of books for 'non-core' subjects, such as arts, ethics and social sciences, is extremely low. The pupil-book ratio for the World Around Us, a subject combining topics in natural and social sciences, is as high as 10:1, much worse than those of language and math (ADB, 2008). Such marginalization of textbook publication and distribution in certain subjects will have inevitable impact on the overall learning opportunities for those subjects.

In addition to limited supply, the quality of textbooks in many countries is also of great concern. Some of the most commonly reported gaps in quality include technical errors, misalignment with curriculum and actual instructional time and failure to reflect language diversity.

Errors: Error-laden textbooks can hamper quality of teaching and learning, particularly in subjects for which knowledge acquired is cumulative. Textbooks are replete with errors in some countries, and where standards for textbooks are generally low and enforcement lax, errors can sometimes go undetected.

- In Philippines, the problems of textbook errors was brought to public attention by an independent researcher through a highly publicized news article in 2004 that alleged a large scale of errors found in the country's primary school textbooks. Although questions remain on the validity of the researcher's claims, the report triggered further review by the Department of Education, which found numerous factual errors and subsequently instituted stringent measures in textbook procurement and content review before approval (Lontoc, 2007).

- In India, a 2005 review by the National Council of Education Research and Training found that "textbooks are poor in content and often factually incorrect" for classes 1–5 (Raghavendra, 2005).

In other cases, textbooks become subjects of controversy due to historical interpretations presented as a result of political influences inherent in the curriculum and textbook development processes. Controversies surrounding social sciences and history textbooks are common in both high- and low-income countries in the region, indicating the need to step up efforts to ensure that the critical role of education in fostering peace, understanding and mutual respect are fulfilled.

Misalignment with curriculum objectives and actual instructional time: In some countries, textbooks are not sufficiently aligned with curriculum objectives and/or are insensitive to the realities of instructional time required to teach the educational content effectively, thereby making it difficult to be used as an appropriate guideline for teachers in planning lessons.

- In Bangladesh, a study by the BRAC NGO on one textbook series for the primary level found that textbooks for grades 2–4 reflected only half of the competencies, while grade 5 textbooks reflected only a quarter of the competencies in the curriculum (Roy, Akbar and Gomes, 2008).

- In Cambodia, an analysis of the grade 1 textbook for Khmer language determined that it was 'too long' compared with the instructional time needed to teach the complex Khmer script well, often leaving teachers unable to complete the textbook lessons or rush at the end of the year, without sufficient attention to student mastery (Room to Read, 2010).

Failure to reflect language diversity: Across the Asia-Pacific region, there is tremendous language diversity in countries, but textbooks are provided only in selected dominant languages. Not surprisingly, textbooks written in a language that is not understood by teachers and students significantly limit the quality of teaching and learning process. The challenges that early grade students encounter in acquiring critical language competencies can limit their learning in subsequent years, leading to higher rates of repetition and drop-outs.

- In Timor-Leste, textbooks and teaching materials were provided only in Portuguese, one of the two official languages but spoken by less than 10 per cent of the population. According to a report by the World Bank Independent Evaluation Group, such lack of mother tongue-based textbooks and teacher training and limited school infrastructure are the main culprits for a full cohort of the population estimated to be functionally illiterate (Independent Evaluation Group, 2011).

In some countries, however, notable progress has been made in promoting mother-tongue and bilingual education policies and programmes, leading to expected improvements in the development and provision of textbooks in minority languages.

- In Nepal, a template was developed that includes guidelines for developing textbooks in minority languages (UNESCO Bangkok, 2009).

- In Philippines, the Department of Education order on Institutionalizing Mother Tongue-Based Multilingual Education enabled the use of local languages as the medium of instruction in preschool to at least grade 3. Although local language materials and core textbooks still need to be developed, there is great hope that the high levels of drop-outs and repetition in grades 1 and 2 will be reduced by this measure (Department of Education, Philippines, 2011).

- In Viet Nam, a pilot project of mother tongue-based education was started in primary schools for Jrai ethnic minorities in central Gia Lai province; Khmer in southern Tra Vinh, and H'mong in northern Lao Cai in which development of local language textbooks and materials have been an integral process to boost learning opportunities for ethnic minority children (Ministry of Education and Training, Viet Nam and UNICEF Viet Nam, 2011)

Others: Highly centralized textbook development processes in some countries can also result in the inadequate integration of cultural and local knowledge, thereby limiting the relevance and the level of engagement for teachers and students in diverse settings. Textbooks may present limited ways to convey the curriculum rather than facilitate learning processes that are more responsive to different learning styles, abilities and needs. Additionally, gender biases and stereotyping in textbooks are common, potentially leading to the teaching and learning of biased roles for males and females.[11]

2.2.1 Issues and challenges

In many countries, a shortage of textbooks is in large part related to the government's overall financial capacity to provide education inputs and to bear the cost of developing, producing and distributing them. Beyond such financial limitations, however, there are other pertinent issues and challenges that need to be addressed to ensure quality textbooks for all children, including multiple disparities that marginalized students experience, the distribution challenges, working with the private sector and limitations in research and development.

Multiple disparities for disadvantaged students

For teachers and students in poor and remote communities, the adverse impact of an inadequate supply and the quality of textbooks can be greater than it is for students in more privileged schools. The research shows that teachers rely on textbooks for an average of 60 per cent of the instructional time and as much as 90 per cent of the learning process in early grades, especially in disciplines such as math and history (Textbook Development Institute, South Africa, 2009). The critical role of textbooks can be even greater for new teachers as they gradually practise and experiment with pedagogical methods and adapt to classroom environments.

It is also critical for relatively underqualified teachers with less training and skills. Thus, for schools in poor and remote communities with few well-qualified and motivated teachers, the absence of good-quality textbooks means depriving students of critical and, where teachers are absent, their only medium of instruction (see the section on teachers for more discussion on disparities in teacher quality). Limited availability of teacher guidebooks can also greatly reduce the quality of teaching and learning in schools in disadvantaged regions. As noted in the Bhutan national EFA Mid-Decade Assessment report, there is a need for developing quality teacher guides to ensure that the content of the curriculum and textbooks are conveyed to students (Ministry of Education, Bhutan, 2007).

11 See the EDN for Goal 5 for more information on gender stereotypes in textbooks.

The importance of supplementary reading materials at home for learning support has been well documented, and for students who don't have textbooks, especially textbooks they can take home, the importance of in-home books is significant. Reading material for students from disadvantaged households, however, tends to be limited. Similarly, the presence and use of school libraries are closely associated with students' reading achievement, but schools in disadvantaged communities often lack a library that is properly resourced and maintained. The situation for linguistic-minority students is particularly grim because books in their languages are generally scarce.

Distribution challenges and limited capacity to work with the private sector

Despite policy commitments and programmatic efforts to invest in purchasing textbooks specifically for use by schools in disadvantaged communities, the main barrier often lies in the limited capacity of governments to ensure the timely distribution to remote or rural locations. Difficult road conditions as well as dispersed and hard-to-reach locations of many disadvantaged communities present challenges for delivering textbooks, causing delays in school sessions and cutbacks in overall instructional time.

- In Nepal, a 2008 study on the effectiveness of government support to community schools revealed that only 11 per cent of parents reported their school's textbooks were delivered on time for the beginning of the school year, while more than 55 per cent reported receiving the textbooks two to three months after school started (National Council for Economic and Development Research, 2008).

- In Philippines, numerous policy directives made in recent years have resulted in an improved supply and quality of textbooks, but timely distribution continues to be a bottleneck (Esplanada, 2008).

Related to this issue of delayed distribution is that in most countries, governments closely work with the private sector to develop, publish and distribute textbooks, yet they lack the capacity to plan and institute quality-assurance mechanisms. Also, the dearth of quality publishing companies in many low- and middle-income countries in the region make it challenging to ensure a competitive selection process for the efficient production of quality textbooks. With such limited choice of suppliers, combined with the absence of strong standards and capacity for public-private partnerships in education, opportunities for corruption and ambiguous deals are ripe, which can result in neither the government nor the private sector being held accountable for the poor products and services delivered to children. As experienced in the Philippines, the procurement of textbooks is particularly prone to corruption, and measures to improve transparency, accountability and quality standards are strong features of textbook-reform policies (APEC, 2006).

Weak research and development for textbooks

To develop textbooks that are relevant, engaging and responsive to different contexts and needs of teachers and students, reliable measures to monitor their use and assess their impact on teaching and learning is critically important. Textbooks need to reflect current concerns about competencies and skills for children, such as critical thinking, problem solving and interpersonal skills, which are of growing importance in the context of broader socio-economic and labour market demands. At the same time, fast-paced technological advances are providing new opportunities to transform the way such resources as textbooks are used and supplemented with other resources in the classroom.

Yet, few countries have invested in the research and development of textbooks and emerging technologies for different modes of delivering education content. Some countries have made significant efforts in revising the curriculum only to fail in ensuring that appropriate adaptations are made to textbooks. Not surprisingly, some of the best performing education systems, such as in Japan, Republic of Korea and Singapore, are also heavily involved in textbook research and development. In recent years, converting textbooks into electronic format has attracted attention in many countries, either to be downloaded and printed from the Web or to be used on computers or tablet computers in lieu of paper textbooks.

A number of countries, including Philippines, Taiwan Province of China and Thailand, are exploring steps towards developing textbooks in electronic format. The potential benefits of digital textbooks include overcoming the distribution challenges, reducing production costs and improving the efficiency of quality monitoring. For example, allowing the public – and not just the textbook developers – to review and identify potential errors can accelerate the finding and revising of errors, with inputs from multiple actors in a cost-effective way. The application of new technology, however, must be based on a local context, valid experiments and evidence for positive impact so that the benefits accrue to all teachers and children equitably. Without robust planning and research, results can potentially exacerbate existing disparities that are based on access to technology and the capacity to use it.

In summary, because textbooks are one of the most critical inputs to quality education, governments should prioritize improving their availability and quality through better research and development, production and distribution. In particular, improved government capacity to engage in successful partnerships with the private sector will be critical not only in ensuring strengthened production and distribution to all schools but also in leveraging innovations and creativity to contribute towards textbook research and development in paper, computer or combined formats. As discussed, throughout the region, the negative impact of limited supply and low quality of textbooks is more pronounced among the disadvantaged, and efforts should be made to target the provision of quality textbooks to marginalized students as an inventive measure to improve equity as well as quality education.

© UNICEF/LAOA2008-5767/Jim Holmes

2.3 Teachers

What teachers know and practice is widely recognized as central to quality education, and ensuring that they are well trained, resourced and supported is the single-most important requirement for raising learning achievements. Teachers are the ultimate link that can turn ordinary resources into effective teaching and learning processes: facilitating the construction of knowledge rather than simply transmitting information, promoting students' ability for analysis and synthesis rather than simple, rote memory, ensuring gender and culturally sensitive practices and overall, providing learner-centred processes (as opposed to teacher-centred). Teachers are role models whose general attitudes, behaviours and presence can have a tremendous influence on students' social and emotional development.

The importance of teacher quality is particularly strong in determining the achievement levels of students from disadvantaged socio-economic backgrounds, with evidence pointing to the cumulative nature of benefits from good teaching. Disadvantaged students taught by effective teachers over consecutive years have the potential to offset their learning deficits (Hanushek and Rivkin, 2005; and Nye et al., 2004). Thus, one of the most influential strategies for closing the gaps between students from different backgrounds is to ensure that schools serving disadvantaged students have a sufficient number of good teachers (Sanders et al., 2007). In the Tennessee Value-Added Assessment System – a method of measuring teacher effects on student performance by tracking the progress of students over their school career – results have shown that students who started at age 8 in the 50th percentile of a standardized exam and were taught by strong teachers consistently for three years improved to the 90th percentile on average, while students at the 50th percentile who had ineffective teachers scored in only the 37th percentile on average (Sanders et al., 2007). This 53 percentage point difference demonstrates how teacher effectiveness can make a huge difference in student outcomes.[12]

What type of policy shapes the quality of teachers and results in improved classroom practices remains a subject of debate and research. While policy measures to attract, train and retain quality teachers are central to improving the quality of education across the region, they are often complex, inter-related and dependent on the broader context for successfully yielding positive returns on student learning. Indeed, empirical evidence on which types of policies are most effective for improving teacher quality has been inconclusive, particularly in the context of developing countries and the most disadvantaged schools (Goldhaber, 2002). Certain factors are generally believed to be important attributes of quality teachers, however, and they can be classified into the following categories: teacher competence (subject-matter knowledge and pedagogical skills derived from training and selection), experience (especially the first four to five years supported through an induction phase) and motivation. In addition, a teacher's sex also has an impact on learning in many developing countries (see the EDN on gender equality for further discussion). The following section provides a review of the progress and gaps in these areas for which data was available.

2.3.1 Teacher competence

Many studies demonstrate that students taught by teachers who have acquired strong skills in pedagogy and corresponding certifications tend to perform better than those taught by teachers without such training, although the effects of training and certification cannot be generalized due to large variations in the quality of training and certification standards (Darling-Hammond et al., 2001). The initial training is often considered the primary means of raising teachers' competence, but in-service training, selection standards and other factors also have similarly strong influence on students and their achievement.

---

12 Also see: http://obs.rc.fas.harvard.edu/chetty/value_added.pdf. In addition, see work by John Hattie: http://growthmindseteaz.org/files/RC2003_Hattie_TeachersMakeADifference_1_.pdf

Across the region, various forms of teacher education have been and continue to be one of the important policy priorities in education, and a specific minimum number of years of pre-service teacher training prior to entering the profession are required for certification. As depicted in figure 11, an average of four years of training is officially required for primary and secondary school teachers in industrialized countries, while developing countries require an average of three years of training. However, the years of schooling required before entering training programmes is highly variable by country and by level, and cumulative years of schooling vary accordingly. Usually people seeking to become teachers are required to have graduated from secondary education, and some of the variation in the years of education reflects differences in the duration of the secondary education programmes. In many countries, trainee teachers also require a certain time as a 'probationary teacher' before they are officially deemed to be fully qualified. This period can be regarded as part of their training, and new graduates may continue to be supervised during their initial employment.

- In Lao PDR, primary teachers need to have between 8 and 11 years of schooling before entering three years of training; secondary teachers need 10–11 years of schooling prior to entering the three or four years of teacher training.

- This contrasts with 12 years of prior schooling required in Thailand before entering four years of training, plus one year of internship.

Figure 11: Years of pre-service teaching training required in selected countries by level of education taught, 2005–2010
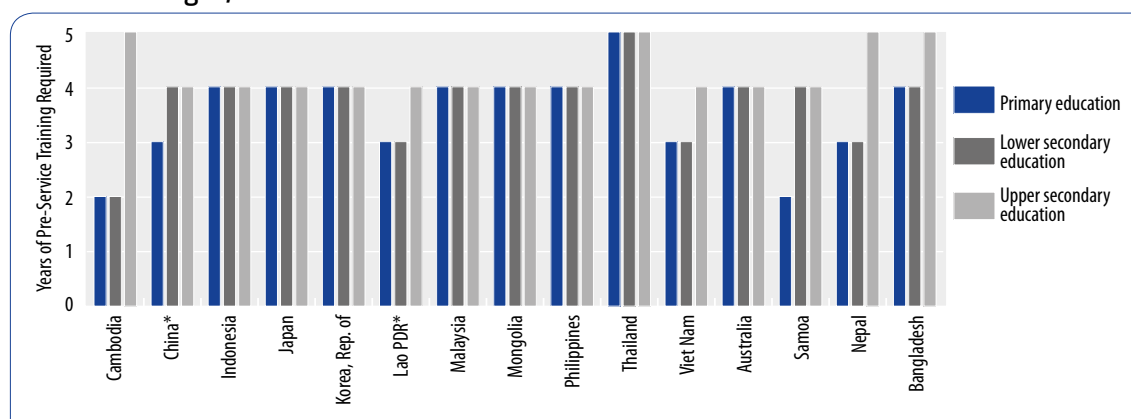
Note: * China's pre-service training requirement for primary is three to four years, while Lao PDR for upper secondary is four to five years. The minimum requirements for each country are used in the figure.

Sources: Santika and Cahyanto, 2009; UNESCO Bangkok, 2008a; Ministry of Education, Thailand, 2006; Ministry of Education and Training, Viet Nam, 2005; Department of Education, Australia, 2010; Ministry of Education, Sports and Culture, Samoa, 2007; Ministry of Education, Nepal, 2009.

Change in the proportion of trained teachers has been modest and variable across the region, with only Mongolia, Uzbekistan and Viet Nam having all primary teachers trained (figure 12).

- Compared with 2000, the proportion of trained primary school teachers in Viet Nam reportedly increased from 80 per cent to nearly 100 per cent by 2009.

- Myanmar achieved similar progress, with 99 per cent of its primary school teachers and 96 per cent of secondary school teachers trained, compared with less than 70 per cent ten years ago.

The two countries also improved their share of trained secondary school teachers and did so even as enrolment rates increased and pupil-teacher ratios declined in both the primary and secondary levels, suggesting significant investments made in countries for teacher development.

By contrast, the proportion of trained teachers remains largely insufficient in most countries, and for some, is even declining.

- In 2009, the proportion of trained primary teachers was low in Bangladesh (58 per cent), Kyrgyzstan (66 per cent), Maldives and Nepal (74 per cent) (see the statistical annex at the end of this EDN).

- In Bhutan, the proportion of trained teachers declined between 2000 and 2006, from 95 to 92 per cent in primary education (see the statistical annex).

- In Lao PDR, the proportion of trained teachers at the secondary level reportedly declined from 98 per cent in 2000 to 87 per cent in 2008 (see the statistical annex).

- At the secondary level, only Uzbekistan (100 per cent) and Singapore (92 per cent) reportedly had more than 90 per cent of teachers trained (see the statistical annex).

Figure 12: Proportion of trained teachers in primary education in selected countries, 2000 and 2009
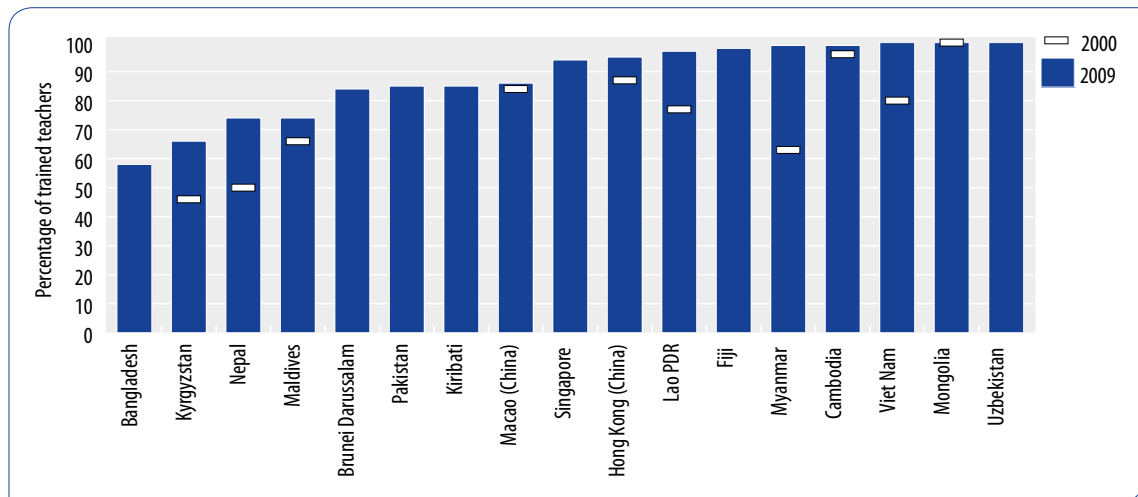
Source: Statistical Annex, UIS, 2011.

Generally, the gaps in trained teachers are larger in the secondary level compared with the primary school level, as in the case of Lao PDR, where in 2008, only 87 per cent of secondary school teachers are trained, compared with 97 per cent in primary education (see the statistical annex).

Despite the increased efforts to require training and certification, it is difficult to gauge the progress in actual levels of teachers' skills. The structure, content and the overall quality of training programmes vary widely, leading to variations in the levels of skills acquired through programmes across and within countries.

- According to a 2006 UIS report, nearly 55 per cent of primary teachers in Lao PDR in 2002 did not have a lower secondary education level, which is widely considered the minimum requirement to enter the teaching profession.

- The education levels of teachers were similarly low in Nepal, where in 2004 only 16 per cent of teachers had completed the upper secondary education level (UIS, 2006).

- In Papua New Guinea, all primary school teachers met the comparatively higher standard of post-secondary, non-tertiary level of experience, which includes one to two years of study, following an upper secondary education (UIS, 2006).

In addition to the initial training, continuing development opportunities are critical for teachers to pursue a lifelong professional process with up-to-date subject knowledge and teaching techniques. Across the region, a range of different types of in-service training is provided so that teachers can expand their knowledge and skills to be strong educators. Types, frequency and duration of training offered vary across and within countries, particularly in low- and middle-income countries where there appears to be a less standardized approach to in-service training compared with pre-service training. Participation in one to two weeks of training conducted over summer holidays or, in some cases, during the school year, is typical for most teachers in many low-income countries. This is in contrast to such countries as Singapore and Sweden, where teachers are required to undertake upwards of 100 hours of professional development training per year (Barber and Mourshed, 2007).

- In the Republic of Korea, after three years of teaching, teachers are eligible to enrol in their choice of a five-week (approximately 180 hours) professional development programme, which leads to an advanced certificate tied to an increase in salary and eligibility for promotion. Teachers are also required to undertake 90 hours of professional development every three years, once they have completed their initial three years of teaching (Kang and Hong, 2008).

A rare insight into the types of in-service training offered was provided by a UIS publication, *A View Inside Primary Schools,* for several countries (UIS, 2008). For example, as shown in figure 13, courses on subject matter or methodology were by far the most common type of training for primary school teachers, with 40–50 per cent of pupils taught by teachers with such training. Other training of relatively high coverage varied heavily by country, with qualification programmes, conferences, observation visits to Philippines (over 25 per cent) and ICT in Malaysia (20 per cent).

Figure 13: Percentage of pupils by type of in-service training courses followed by their teachers, in Malaysia and Philippines
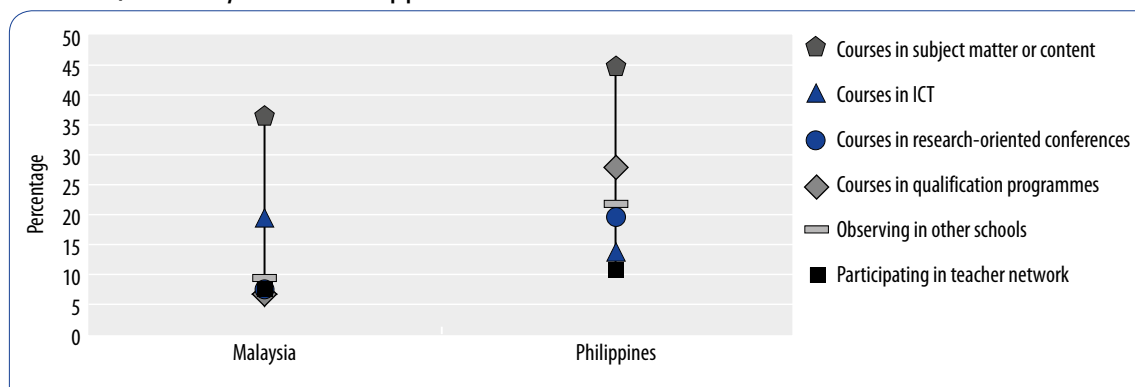
The emphasis on subject-matter knowledge is also likely to remain high in other countries in the region, particularly in low-income countries where a large (although decreasing) proportion of teachers do not meet the necessary qualifications for teaching and need to satisfy requirements through in-service training. A 2010 review of teacher policies in the Asia-Pacific region notes that in many countries, in-service training tends to be remedial and compensatory in nature rather than introducing new ideas, pedagogical principles and other innovation-related skills (Thomas, 2010, pp. 17–19).

Improving the quality of continuing professional development programmes is critical for teachers, so that they have access to content and methodology training and to strengthen other essential skills needed to be successful in their profession, such as action-research skills, diagnostic pedagogy, classroom management and higher-order skills. In some countries, some small-scale yet innovative models of in-service training are being tried to improve the pedagogical practices of teachers. In other countries, however, available evidence points to the worrying trend in teaching pedagogical practices that is primarily through lecture, copying lessons on the blackboard and encouraging recitation and rote memory. Despite increasing emphasis by training programmes on promoting 'learner-centred' instructional practices to promote critical thinking and problem-solving skills, most teachers are unable to translate those principles into practice in their classroom. In fact, many teachers struggle even in the simple task of getting students' attention.

- In Lao PDR in 2009, nearly two thirds of grade 5 students were found to be "not engaged" when work was being assigned, thus providing evidence of a classroom lacking dynamic, interactive teaching and learning processes (Benveniste et al., 2010).

Teachers' knowledge of the subject matter they teach is another strong predictor of student performances (Darling-Hammond, 1999; Goldhaber and Brewer, 2000; Rivkin et al., 2005). Across the region, however, teacher-training courses designed to improve teachers' pedagogical skills are

more common than those that build their subject-matter knowledge, despite evidence pointing to the critical need for the latter (Thomas, 2010).

National assessments from selected countries that obtained information on teachers' knowledge of subject matter reveal the dire state among teachers.

- In Thailand, secondary school teachers were tested for their proficiency in subject tests taken by their students, with alarming results. According to the 2010 report by the Office of Basic Education Commission, 88 per cent of nearly 4,000 computer science teachers failed the exam. The proportion of teachers failing the exams – answering less than 59 per cent of questions correctly – was similarly low in biology (86 per cent), math (84 per cent), physics (71 per cent), chemistry (64 per cent) and Earth sciences (63 per cent) (Bunnag, 2010).

- Teacher aptitude tests administered in Indonesia to primary and secondary school teachers in 2008 found similarly dismal results. The proportion of correct answers made by primary school teachers was, on average, only 38 per cent. For secondary school teachers, the average for the 12 subjects tested was 45 per cent, with scores in math and language at 36 and 51 per cent, respectively (PMPTK, 2008).

- In Pakistan, grade 4 teachers were administered exams for students under the National Education Assessment System, and results revealed that approximately 3 per cent of them scored below the mean score of students (Tayyab, 2008, as cited in Kellaghan et al., 2009).

- Serious deficits in subject knowledge were also found in Viet Nam, where grade 5 national assessments in 2004 showed that the reading comprehension scores of the top 12 per cent of students outperformed the bottom 30 per cent of teachers (figure 14).

- The data from Viet Nam reveals the close association between teacher subject matter knowledge and student performance, as depicted in figure 14. With increases in teachers' mean achievement score in math, the mean score for students also increased. The finding prompted the Government to upgrade subject mastery of teachers through in-service training and support.

Figure 14: Correlation between teacher and pupil provincial mean scores in grade 5 math in Viet Nam, 2004
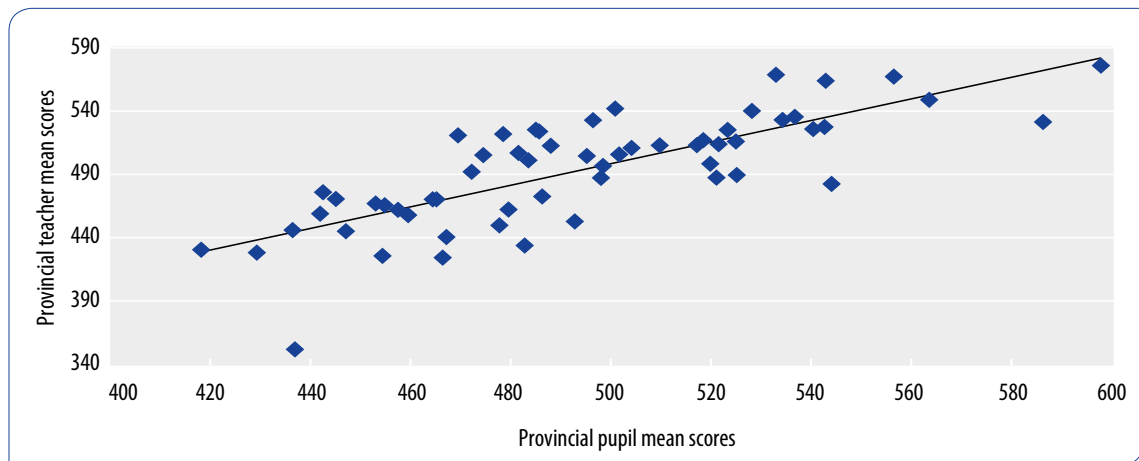
Source: World Bank, 2004b.

2.3.2 Teacher experience and motivation

Studies suggest that teachers' experiences help raise their efficacy in the classroom and, by extension, are positively correlated with student achievement levels, although the marginal impact staves off after the first four to five years of teaching (Hanushek et al., 2005). Thus, an important teacher policy objective is to properly support new teachers' entry into the profession and retain them to become committed professionals for the long term. It is in the first years of teaching, however, that teacher

attrition rate is the highest, due to discouragement, inability to cope with stress and lack of adequate induction programmes that help them develop their skills in working with children.

There is a dearth of reliable data on teacher attrition rates across the region, but there is impressive progress made towards the institutionalizing of the induction process, and this can be expected to have a positive impact on keeping teachers in the profession. Whether it is part of the certified pre-service training programme or part of an in-school induction process with mentor teachers, an induction process is an opportunity for inexperienced teachers to develop a clear professional identity and explore the responsibilities of a classroom teacher, with the supervision and mentorship from an experienced educator.

- In Malaysia, Republic of Korea, Singapore and Thailand, a satisfactory completion of the induction phase by student teachers is required for teacher certification.

- In New Zealand, a project supported by the New Zealand Teachers' Council to promote smoother transition for teachers in the Maori language was a great success, institutionalizing 'provisionally registered teachers' who would be provided with valuable social awareness and cultural adaptation skills during the induction phase to cope with different cultural contexts (Piggot-Irvine et al., 2009).

Finally, the motivation of teachers to perform to their best potential is critical because even the most skilled and competent teachers cannot deliver unless motivated to teach well. Teachers often join the profession with intrinsic motivations (such as the desire to work with children) but extrinsic motivation factors, such as salary, working conditions, job stability and success in the job, are also crucial for them to perform and stay in the profession (OECD, 2009b). Measuring the level of teacher motivation is complex, but in many low-income countries, teachers are often poorly motivated due to a combination of job satisfaction, poor incentives and inadequate professional autonomy (Benelle, 2004).

In many South Asian countries, including Bangladesh, India and Pakistan, low teacher motivation is often cited as a major challenge in raising the quality of education and is considered the reason for deteriorating standards of performance, including heavy reliance on teacher-centred practices and the high rates of teacher absenteeism. In many countries, various forms of performance-related pay have been introduced in an effort to motivate improved performance – but not without criticism; while some initiatives have resulted in higher teacher-attendance rates and student learning achievement scores, there have been concerns that such reforms are costly to implement, promote 'teaching to the test' and, in the absence of transparent performance review systems, become ineffective as a reliable measure of teacher performance.

In the absence of empirical evidence, it is unclear whether low teacher performance can be attributed to low motivation or to broader challenges in the school and the system, such as poor working conditions, work overload, weak accountability measures and low professional status. In OECD countries, research has consistently shown that 'working with children' is a main determinant of teacher job satisfaction and that the value of self-satisfaction, as opposed to pecuniary gain, is the motivation for teaching (OECD, 2009b). Overall, in the context of a poor enabling environment of education systems in most developing countries in the region, improving teacher performance requires strategies that address the varied dimensions of schools and education systems that affect teachers' daily practices. Findings from the latest PISA studies found, for example, that schools with good discipline and healthy student-teacher relations produce stronger results in reading (OECD, 2010b).

2.3.3. Issues and challenges

A diverse and complex array of teacher attributes are generally associated with *quality* teachers, each of which is determined by a range of policies and practices in schools and education systems as well as by the broader socio-economic and cultural context of education. Across the region, the

issues and challenges affecting teacher quality and their teaching practices are similarly diverse and inter-related, but nonetheless, there are areas of commonalities. Some of the most common issues are discussed further on, including the challenge of quality versus quantity of teachers; fragmented teacher training and development systems; weak school leadership; poor working conditions, limited professional autonomy and performance assessment; and the inequitable distribution of effective teachers.

Quality versus quantity

There was a significant expansion of primary education enrolment over the past decade that required a tremendous number of additional teachers. Since 2000, the number of primary teachers grew by 90 per cent in Bhutan, 73 per cent in Nepal and 40 per cent in Indonesia and Kiribati. In Timor-Leste, the proportion almost doubled. Similarly, increased demand for secondary education resulted in the extensive expansion of the teaching force, with the number of teachers in Bhutan having almost tripled since 2000, and increasing by more than 40 per cent between 2000 and 2009 in Indonesia, Lao PDR and Malaysia (see the statistical annex).

Decline in the pupil-teacher ratio in primary education has occurred in many countries over the past decade, even as expansion of enrolments exerted greater demand for the supply of new teachers. Although pupil-teacher ratio provides a good headcount benchmark as an enabling condition of quality education, there is inconclusive evidence of its impact on learning achievement. Class size, which is a measure that is distinctly different from but related to the pupil-teacher ratio, has been a frequent subject of debate in policy and research concerning quality teaching and learning; the inconclusive nature of its effect has raised questions on the efficiency of a lower ratio regarding other policies aimed at improving quality education.[13]

The size of a class that is appropriate for ensuring quality is contingent on various factors, including critical characteristics, skills and the working conditions of teachers as well as the school context and the students. Research has shown that a smaller class size can have important impact on learning for students in disadvantaged schools, while the effect is comparatively negligible in other schools, suggesting that uniform approaches to a set pupil-teacher ratio has limited value.[14] For those countries that participated in the latest PISA surveys, the findings suggest that high-performing school systems prioritize teacher pay over smaller class sizes (OECD, 2010b).

With an average of 80 per cent of an education budget allocated to teachers, combined with a low-quality teaching force, governments need to explore policy options to improve teaching and learning in a cost-effective manner. Experiences from countries with a high-performing education system in the region provide important lessons. In the Republic of Korea, Singapore and Taiwan Province of China, policies that require investment in a fewer number of teachers who are better trained and paid higher salaries have yielded better overall performance in the system than a larger pool of less-qualified teachers who are paid less. Such policies have also made teaching attractive to top-level candidates, allowing a more competitive selection process and helping to raise the status of the profession.

In the region's developing countries, however, teachers' starting salaries are typically too low to be competitive with alternative professions in the private and public sectors (figure 15), and limited pay raises mean there is limited monetary incentive for teachers to remain in the profession. Indonesia with the lowest starting salary in relation to gross domestic product per capita also has the lowest progression rate of pay increase per year of experience. While teacher pay is only one of several factors that attract and retain teachers in teaching, relative pay levels that are far lower than similar professions can push teachers out, particularly in countries where opportunities in the private sector are rising.

---

13 Pupil-teacher ratio (PTR) is the total number of pupils divided by teachers, while class size is the number of pupils allocated to one or several teachers per teaching slot. While class size is generally larger than PTR, the difference between the two tend to be smaller for schools in low-income regions where teachers share administrative duties.

14 For a review of research on class size effect, see Glewwe and Kremer, 2006.

• In Papua New Guinea, teachers were recently offered a 16 per cent increase in salary and allowances over a three-year period – after years of poor pay and working conditions that forced many teachers to leave teaching to take up employment in a major private sector project (Nanol, 2011).

Figure 15: Lower secondary teachers' annual salaries as a percentage of GDP per capita, 2008
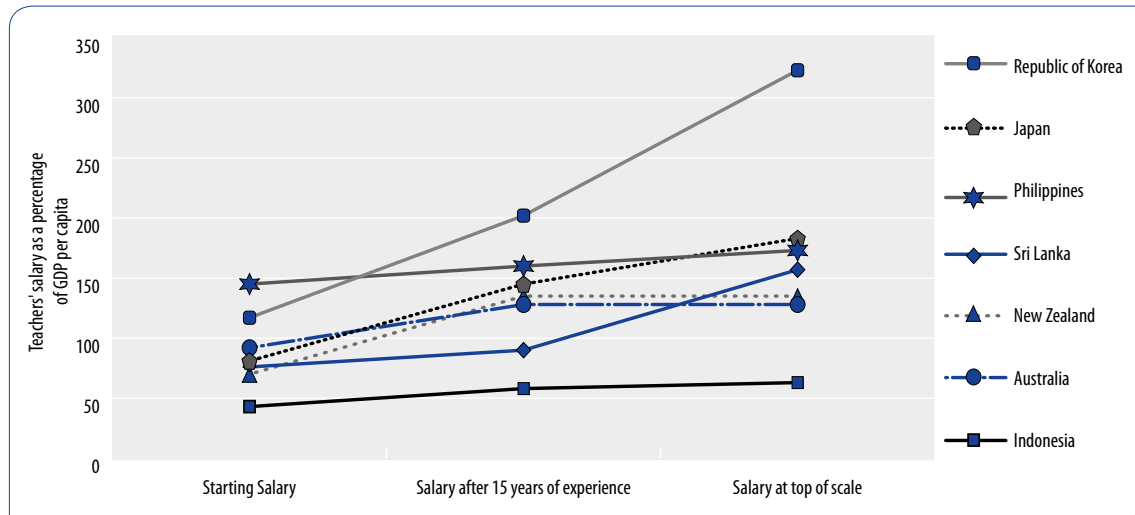
Source: Statistical Table 24, UIS, 2010.

Fragmented teacher training and development systems

In most developing countries in the region, the quality of the teacher education systems is generally weak and struggles to provide teachers with the requisite skills to teach, mentor and guide students. Teachers also need to serve in managerial and, in secondary levels, career advisory capacities, areas that are not adequately covered by current teacher-training systems.

In many countries, minimum standards for teacher-training programmes, ranging from universities and teacher training colleges to in-service providers, are articulated in government policies in terms of the number of years of training. A UNESCO review of teacher-training systems in the Asia-Pacific region in 2008 concluded that there is a general lack of rigorous accreditation procedures to control the quality of training programmes, and the qualifications of faculty members, the curriculum and various inputs to the programmes largely operate without proper monitoring. Teacher certification processes for new graduates are lax, resulting in great variability in the quality of the teaching force (UNESCO Bangkok, 2008a).

Once teachers are deployed, professional development opportunities are critical for them to build on their knowledge and adapt to the advances and innovations in education that technology and new research introduce beyond their training days and thus to expand their teaching skills. Unfortunately, there is considerable fragmentation in the teacher-training continuum, with a range of trainers from curriculum departments, higher education institutions, ministries or donor and non-government agencies involved. Limited contact between in-service training providers and higher education institutions limits room for joining forces to develop a training curriculum that is both practical and theoretically sound. Most training opportunities offer structured, uniform curriculum and programmes, despite the different demands for teachers created by the diversity of student characteristics and learning styles (UNESCO Bangkok, 2008a). The result is a teacher-training system that fails to build a teaching force that matches the diverse needs of learners, whether it is related to language, gender or other learning characteristics.

Weak school leadership

School leaders are instrumental in determining the quality of the school, articulating the school's vision for teaching and learning, influencing the attitudes and behaviours of staff and shaping the overall atmosphere of the school. A strong school leader can greatly expand the performance of a school, while schools under poor leadership cannot help but deteriorate. Despite the significant role of school leaders, however, there is generally insufficient attention paid to developing qualified and trained school leaders in many countries.

In particular, the strength of pedagogical leadership of school heads is inadequate in some countries. There is a process of change taking place in the selection of school leaders, from those based on years of service to those based on merit or qualification level. In most developing countries, school leaders are still largely selected on a basis of service years, with older teachers promoted to leadership positions regardless of other merits. With increasing demands for improving the quality of the teaching force, some countries have started to amend the qualification level of school leaders, in effect requiring additional levels of training for many long-term teachers aspiring to become school leaders.

- In Bangladesh, such policy changes have caused significant distress in the education system, leaving nearly a quarter of government primary schools operating without a school leader, to the detriment of the operations. Tensions between younger and older teachers have worsened, with the older teachers discontented with the rise of young teachers with less experience but better qualifications beginning to supersede them into the leadership positions (One World South Asia, 2009).

Low levels of management capacity of school leaders are a critical cause for concern, with a significant proportion of school leaders receiving little or no training in management.

- The survey *A View Inside Primary Schools* found in 2008 that in India, Malaysia, Philippines and Sri Lanka, the management training that school leaders had received were rather short, ranging from 28 to 68 days. In India, 22 per cent of school leaders had never even heard of such a management course. In the context of decentralization and increased shifting of responsibilities to school levels that is occurring in many countries, the limited attention paid to the management capacities of school leaders is worrying (UIS, 2008).

Poor working conditions, limited professional autonomy and weak performance assessments

Teachers and their lack of motivation are frequently blamed for poor results in student learning. But teachers do not work in isolation. To deliver quality teaching, teachers need to be supported with an essential set of tools and enabling conditions to teach with success, which then sustains their intrinsic motivation to teach. In the absence of other essential building blocks of quality education, even the most skilled and motivated teachers struggle to perform at their best potential and to truly promote student learning. The experiences from developed countries have shown that poor performance can trigger a bad cycle of low sense of self-efficacy, job satisfaction and poor performance among teachers (OECD, 2009b).

Poor working conditions: In many of the region's developing countries, scarcity of basic resources is a reality, and overall working conditions are poor. Teachers are required to spend precious classroom time copying lessons on blackboards because of limited textbooks and to teach multiple shifts due to limited classrooms. In the absence of a positive and nurturing school climate, they may be distracted by necessary disciplinary action and controls on a small number of students. Teachers in such countries as Japan, Republic of Korea and Singapore spend only about 35 per cent of their time teaching students, with the remaining time spent on lesson planning and collaborative learning with other teachers. Such job-embedded time for development is rarely available for teachers in developing countries, who spend the majority of their time teaching students (Wei et al., 2009).

Altogether, such challenging conditions stifle the capacity of teachers to effectively use classroom time for interactive, learner-centred practices and leave them with little option but to rush through the curriculum with didactic, lecture-based teaching.

In some cases, the unintended effects from quality reforms have compromised teacher practices when not accompanied by measures to support teachers. For instance, teachers in many countries have cited curricular reforms as a source of additional burden when they were unaccompanied by teacher guidelines and manuals to support the transition in the classroom (Department of International Development, 2010).

Limited professional autonomy: Compared with other high-performing education systems, professional autonomy of teachers is low in many countries in the region, potentially de-motivating teachers and affecting their performance. Studies have proven that by increasing the autonomy of teachers by involving them in a school's decision-making process, engaging them in self-motivated professional learning and allowing flexibility in classroom instruction processes ultimately improves their practices, development and professionalism. Teachers in such countries as Finland, Sweden and Switzerland have some of the highest levels of autonomy; that, combined with their high professional status, is credited for the high quality of the teaching force and the high levels of student-learning outcomes. Professional autonomy needs to be applied with the local context in mind because the capacity of teachers and school leaders as well as the context of schools does influence the overall impact of policies. Continued teacher development encourages top-grade classroom performance; improved accountability for student learning otherwise can be hampered if teachers lack a sense of autonomy in their practices.

Performance assessment: Teacher performance assessments are common features in most education strategies and national action plans across the region. But the frequency of monitoring and the involved personnel are widely varying. Vague standards and subjective assessments are widespread challenges. In countries in which teacher performance is measured by school inspectors, such systems are rarely fully functional because they are often underresourced.

• In Lao PDR, many primary schools have less than three teachers. Their 'school principal' is based in another village, with insufficient resources to cover the expense of the principal's visits to the school. Thus supervision and monitoring are typically difficult to carry out (Ministry of Education, 2011). Even when they are conducted, results seldom link to specific consequences in terms of rewards or sanctions and are not communicated to teachers in ways that contribute to improving their teaching practices. The absence of a systematic, transparent performance-assessment system that is based on standards and connected to tangible consequences is an obstacle to enhancing overall teacher performances.

Inequitable distribution of effective teachers

As with other areas of education, concerns around teacher effectiveness are greatest in schools serving the most disadvantaged students in poor, remote and ethnic minority communities. Even in countries in which the nationwide teacher supply is sufficient, difficulties persist in filling marginalized schools with qualified teachers and leaders, particularly in the secondary level. While the overall qualification levels of teachers are rising, a disproportionately high concentration of less-qualified, temporary teachers are found in rural and remote schools (see box 3 for discussion on contract teachers). In ethnic minority schools, few teachers speak and understand the language used by students, further adding to the challenges to learning created by the limited supply of teachers, other resources and poor facilities.

Almost all countries have attempted to address this issue by offering incentives in the form of allowances, salary increases, subsidies, advanced promotion or preferential posting after a remote assignment, or in some cases, through the compulsory posting for a few years for new teachers. Such policies have had limited success attracting and retaining sufficient numbers of qualified

teachers in rural schools. Challenges to teaching in these schools are so great and the limited professional success so de-motivating that even additional monetary benefits are not sufficient to make a long-term impact.

Box 3: Contract teachers and quality

In many countries, the demand for teachers is overwhelmingly high relative to national capacity, particularly in rural and remote areas. Countries may not have either a sufficient pool of teachers or enough financial capacity to expand the teaching force. Thus, many governments are trying to meet the increased demand by hiring contract teachers, or para-teachers, who receive comparatively lower salaries than civil servant teachers without the benefits of tenure. Across the region there is considerable variation in the types of contract teachers, levels of training and their impact in the classroom. Although there is limited research on the practice, such teachers generally have lower skills and professional status, and there are concerns that the overall quality of teaching and learning is likely to be sacrificed.

There is some evidence indicating a positive impact of contract teachers in producing equal or better learning among students because the short-term nature of the contracts encourages those teachers to improve their performance as they vie for a permanent position. Cost-effective contract teachers can be particularly useful in primary schools where skill levels required are likely to be lower than those of secondary teachers.

Issues surrounding the practice of contracting teachers are complex, both from labour rights and quality education perspectives. The extent to which contract teacher policies can be cost-effective and a sustainable alternative to traditional tenure will depend on the grade level they're teaching and the broader context of a country's teaching supply versus demand. With many countries facing significant supply-demand gaps as well as quality gaps in their teaching force, policy alternatives to raise the overall quality of teachers should be carefully studied.

For more discussion on contract teachers, see Fyfe, 2007.

In summary, improving teacher quality requires addressing the complex set of issues and challenges related to attracting and retaining strong candidates and ensuring they maintain motivation to perform to their best ability. This then requires that governments not only strengthen the teacher development policies but also improve conditions in schools and the systems that affect teachers and their performance, from school leadership to working conditions to performance assessments. In particular, governments need to implement a range of policies aimed at improving school management, accountability for performance and support to teachers. Again, addressing the disparities in teacher quality across schools in different socio-economic contexts should be prioritized to close the quality gaps across and within countries.

2.4 Assessment systems

A learning assessment system[15] provides a critical measure of what and how much students are learning. It helps point to effective design and implementation of education policies and practices by identifying the students lagging behind and the potential areas or conditions for further improving the quality of education. With governments striving to improve students' learning outcomes, there is growing attention to the strengthening of student assessment systems, as manifested in policies, practices and instruments to derive and use information on learning and achievement.

Overall, progress in this dimension has varied among countries in the Asia-Pacific region, with distinct division between industrialized and developing countries in terms of three types of activities: large-scale assessments, classroom assessments and examinations.

---

15 'Assessment system' is used in this EDN to refer to a group of policies, practices and tools for generating and using information on student learning and achievement, including examinations.

Large-scale assessments at the system level look at the overall performance of education, providing information on the achievement of learning goals and related, contributing factors.[16] Well-designed large-scale assessments generate rich data and information with which to diagnose areas of strengths and weaknesses in an education system in terms of teachers, school inputs, management and other factors.

Primary large-scale assessments include international assessments, such as PISA, TIMSS and PIRLS, which are administered in three- to five-year cycles for specific domains in reading, math and science (table 4). By employing standardized tests that were developed according to internationally defined expectations of learning levels, these assessments help to compare achievement levels across countries and to monitor variations over time in policies and practices. Most developed countries in East Asia and, increasingly, a few middle-income countries, such as Indonesia and Thailand, participate in the international assessments, using the results as the basis for educational reform (Postlewaite, 2004). However, most developing countries, particularly in South Asia, Central Asia and the Pacific subregions, do not participate. Unlike other regions, the Asia-Pacific region does not have a regional assessment study that could potentially be a useful alterative to international assessments that have limited relevance in the developing country context.[17]

Table 4: Participation in international assessments in the Asia–Pacific region, since 2000

	PISA				TIMSS				PIRLS	
	2000	2003	2006	2009	1995	1999	2003	2007	2001	2006
Australia	x	x	x	x	x	x	x	x		
China					x					
Taiwan Province of China			x	x		x	x	x		x
Hong Kong (China)	x	x	x	x	x	x	x	x	x	x
Indonesia	x		x	x	x	x	x	x		x
Islamic Republic of Iran					x	x	x	x	x	
Japan	x	x	x	x	x	x	x	x		
Kazakhstan								x		
Macao (China)		x		x						
Malaysia						x	x	x		
New Zealand	x		x	x	x	x			x	x
Republic of Korea	x	x	x	x	x	x	x	x		
Philippines					x	x	x			
Singapore				x	x	x	x	x	x	x
Shanghai (China)				x						
Thailand	x	x	x	x	x	x		x		

Sources: OECD, 2009a. Available at: http://www.oecd.org/pages/0,3417,en_32252351_32236225_1_1_1_1_1,00.html; National Center for Education Statistics, TIMSS, 2007 and PIRLS, 2006. Available at: http://nces.ed.gov/timss and http://nces.ed.gov/surveys/pirls/released.asp

Large-scale assessments are also conducted at the national level, and although the results generated from their varying instruments and design are not comparable across countries, they provide useful country-wide and school-specific information about learning outcomes according to nationally defined standards. The frequency in the use of national assessments has increased dramatically in all subregions of Asia and the Pacific (figure 16). There is considerable variation in the rigour of the design, implementation, analysis and use of the findings, but the increasing effort to conduct such assessments is an encouraging sign of their growing importance for improving the quality of education and learning outcomes.

16 *Ibid*.
17 Examples of regional learning assessment studies include Latin American Laboratory for the Assessment of Quality in Education, the Southern and Eastern African Consortium for Monitoring Educational Quality and the Programme d'analyse des systèmes éducatifs de la CONFEMEN.

National assessments can be useful for collecting information that affects learning outcomes, including school resources and non-school factors like student, family and community characteristics.

- The 2004 national assessment conducted in Viet Nam, sheds light on the importance of a private corner at home for students to study, even when other factors in the home environment were taken into account. The assessment also highlighted other critical areas for policy consideration to improve student learning, such as the regularity of meals and the number of days absent from school (World Bank, 2004b).

- In Bhutan, questionnaires for teachers were used to assess the levels of participation in in-service training and areas for policy improvement (Powdyel, 2005).

Figure 16: Proportion of countries with at least one national assessment between 1995–1999 and 2000–2006, by subregion
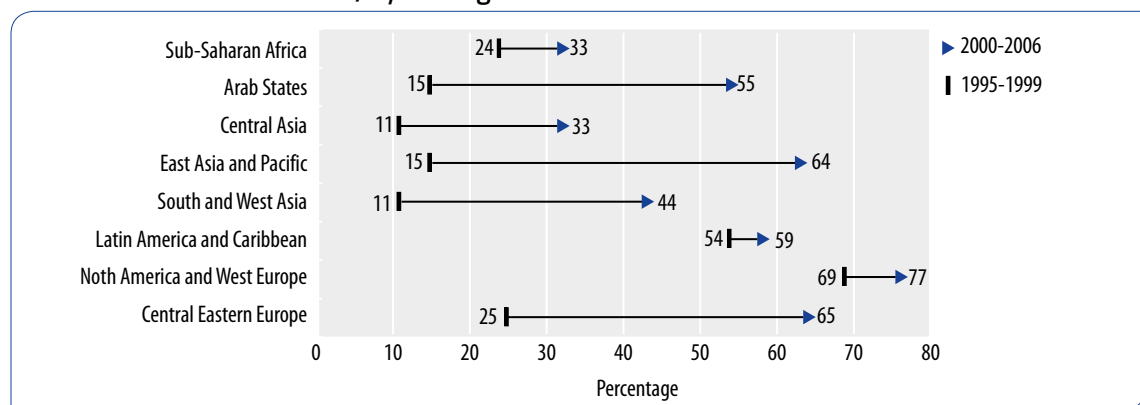
Source: Benavot and Tanner, 2007.

Classroom assessments carried out in the course of regular classroom activities can provide immediate, real-time information on student learning achievement to help inform teaching and learning practices. There are a variety of instruments and procedures used, and there is strong evidence linking quality classroom assessments to improved learning outcomes, with large gains apparent among low-achieving students (Black and William, 1998).

Classroom assessments are useful for picking up insight on learning levels in the early grades, especially in lower-income countries in which national assessments are infrequent and largely devoted to middle and upper primary grade achievements. Assessing the learning outcomes in the early grades remains a major challenge in many developing countries due to the poor ability of teachers to design, implement and use assessments in a way that improves their instructional practices. Nonetheless, in recent years, the central role of learning in the foundational years – particularly in reading – has gained increased recognition. Correspondingly, efforts to assess reading levels have been escalating. Various forms of early grade reading assessments (EGRA) have been piloted in several East Asian and Pacific countries, with interesting tools and instruments to assess early grade reading.[18]

Examinations are used as a means to identify the progression of individual students through the education system. For instance, results are used to decide whether to promote a student to the next grade level, assign a student to a particular type of school or programme, graduate or gain admission to university. Examination results complement assessment studies by indicating a system's effectiveness (Hill, 2010).

In the Asia-Pacific region, many countries, including Brunei Darussalam, Fiji, Indonesia, Islamic Republic of Iran, Mongolia, Singapore and Sri Lanka, conduct examinations at the end of primary, lower secondary and upper secondary levels to certify the completion of the programme and for

18 See section 1 for a list of the Asian and Pacific countries that have piloted early grade reading assessments and related findings.

selection into the next level and type of school or workplace. In other countries, including Australia, Bangladesh, India and Pakistan, examinations at the end of the primary years for the purpose of controlling secondary enrolment have been abolished, with lower secondary education becoming compulsory, although a combination of exams and assessments may still be used to identify school placement.

Another common examination pattern is for application to a university. While in some countries examinations assess specific curricular-based achievement at the end of the upper secondary period, (such as in China, Japan and Kazakhstan), in others they assess a standardized aptitude for general cognitive abilities (such as in Kyrgyzstan and Republic of Korea).

Generally, examinations are widely used and occupy great importance across the region as a gateway for students to good schools, to prestigious universities, to good jobs and to greater opportunities (Hill, 2010). The high-stakes nature of exams, however, can result in a range of commonly associated concerns, requiring close scrutiny to ensure the robust quality and appropriate use of the results.

2.4.1 Issues and challenges

Despite the steady progress in developing quality assessment systems, there are issues and challenges that can't be ignored. These lie with both the assessments and the systems necessary for ensuring that good assessments are in place to strengthen the quality of education. The following touches on those issues and challenges: limited domains of assessment, technical gaps, weak enabling environment, weak examination policies and limited accountability and use of the information.

Assessment level

Limited domains of assessment: International assessments are largely limited to a few easily measured domains, such as language and math. These results have become much more frequently measured subjects than other important social dimensions of learning that impact the development of individuals and societies. The ranking of education systems, which has become a feature of most international systems, also creates the risk of 'commodifying' education in a way that limits its role to a production site. If not carefully interpreted, rankings can be perceived as opportunities for countries to adopt models or practices that may not be appropriate in the given context.

Although there is scope to gauge subject matter achievement levels through national assessments, those applied in most developing countries remain largely limited to assessing language and math due to cost constraints and expertise. Similarly, assessments for critical, non-cognitive skills, such as values and attitudes, are weak, presenting difficulties in monitoring and improving outcomes on those measures.

Technical limitations: Due to limited technical expertise, the reliability and validity of assessments needs improving, especially the exams and the national and classroom-based assessments. International assessments generally have a more sophisticated design, but the value of information can be limited in countries where the range of achievement levels is significantly below the benchmark, making it difficult to identify variations in the achievements. In particular, the diversity of learner characteristics and needs means any uniform assessing or testing method or approach can be problematic in providing a useful analysis of the learning. If results are used as a gatekeeper for future learning opportunities of students, the potential for marginalizing certain students – based on language, ability or other characteristics – is quite high. For example, teachers who conduct a classroom-based assessment may have their own subjective perceptions of the students, which may sometimes limit a fair analysis of the knowledge and skills acquired by those students. In the case of examinations, if it is offered only in a printed format, in one language or to be responded only in writing or only in selected locations, it may set predefined disadvantages to certain students in demonstrating the learning they acquired.

At the systems level

Weak enabling environment: A productive assessment system requires a policy framework that mandates regular, systematic assessing activities, the allocation of appropriate budgeting and teachers equipped with requisite skills and techniques (Clarke, 2011). In the East Asian region, recent findings from the System Assessment and Benchmarking for Education Results (SABER) pilot suggest that most countries have an adequate policy framework and budget for an assessment system (Vegas, 2011). However, anecdotal evidence suggests that teachers frequently lack sufficient skills to conduct assessments, and there are insufficient teacher trainings on assessment issues.

Weak examination policies: Examination policies require particular attention in the Asia-Pacific region because there are tendencies for over-competition, which leads to such adverse effects as teaching to the test, narrowing the curriculum, student overload and commercial tutoring (Hill, 2010). Dynamic shifts in educational and labour-market demand and supply also make it challenging to ensure relevant examination policies that maximize the learning potential of individual learners. This can be particularly important for low-achieving students from disadvantaged backgrounds, for whom sufficient time for learning should be provided to allow the opportunity to catch up on any learning deficit.

Limited accountability and information use: The value of an assessment system hinges not only on the quality of the information that is generated but also in the ways the information is communicated to different parties. Whether it is to parents, to the broader public, to schools, to policy-makers or to the media, the information needs to be conveyed instructively through the appropriate channels to promote increased motivation for learning, accountability for results and continuous quality improvement (Kellaghan et al., 2009).

In summary, improving assessment systems is critical for improving the quality of education. This requires monitoring a system's performance and identifying the areas in need of improving. To affect progress, a range of issues and challenges related to technical issues of assessments and exams as well as the enabling environment of assessments and the use of the information needs to be taken on and adjusted. Ultimately, the quality of education is measured by the quality of its outcomes, and governments should strengthen investments for monitoring and measuring outcomes to know how to continually improve the quality of that education.

3 Priority areas and potential strategies

In many ways, the issues and challenges associated with the quality of education are unique and sensitive to social, economic and cultural contexts that never stop evolving. Nonetheless, symptoms of poor quality education have manifested throughout all countries in the Asia-Pacific region, albeit to varying degrees, and there is tremendous scope for improving the extent to which each education system fulfils the objectives of ensuring every child's right to a quality education and learning among all children. At this point, each education system requires a different set of strategies and sequencing of reforms relevant to its needs and priorities. Through the analysis for this EDN, four common themes emerged and the following proposals respond to them as issues to concentrate on to reach the 2015 goal.

3.1 Strengthen the emphasis on learning outcomes

Ultimately, quality education not only ensures every child's right to access education but also improves cognitive skills as well as promotes attitudes, values and other non-cognitive traits that are considered essential for the well-being of individuals, societies and nations. Revitalizing the emphasis on those ultimate aims has never been more crucial than now. From policy development to monitoring and evaluation, the diverse range of efforts by schools and communities in providing quality education needs specific and measurable objectives as well as evidence-based knowledge in all facets of educational practices. Reliable, timely information on the extent to which education's objectives are being met is critically important to ensure continued progress.

Specifically, the following four areas need to be prioritized:

1. **Defining the features of quality education:** A process of dialogue – formal or informal – among a broad range of parties, including families, civil society organizations and the private sector, is recommended to first agree on what constitutes quality in education. Objectives and strategies can be best defined by what is most relevant to the socio-economic and cultural context of each country.

2. **Improving education information and management systems:** The extent to which various 'building blocks' of education are contributing to the objectives needs to be measured with robust performance indicators and monitoring and evaluation frameworks. This includes systems building and the proper allocation of financial and human resources for monitoring and evaluation as well as capacity development. Data should be disaggregated at the student level to identify important variables affecting their learning. Beyond, Education Management Information Systems (EMIS), the education sector should harness the opportunities to gather data through the Demographic and Household Survey (see the recommendation on the use of information).

3. **Developing appropriate assessment systems:** Assessment systems that measure the desired set of age-appropriate levels of knowledge, skills and competencies need to be developed where they don't exist. Fundamental reading skills in the early years and non-cognitive outcomes, such as values, attitudes and social and emotional learning, currently represent a critical information

gap and require attention. In addition to national assessments, regular classroom assessments could be strengthened by equipping teachers with the requisite skills as well as by promoting a culture of monitoring and an understanding of the levels of learning – academic and beyond.

At the regional level, a regional assessment test would be a valuable complement to any national assessment if it set benchmarks for relevant goals of education systems in the Asian and Pacific context and against which to assess the performance levels.

4. **Investing in research and development:** Expanded knowledge and understanding of what works in promoting better learning is needed to inform policies and practices at all levels. Improved research and innovations need to respond to what constitutes a quality textbook and effective teacher training curriculum, programmes, school management, learner-centred teaching and learning practices. People's capacity to address the critical issues and challenges that are diminishing the quality of education need to be strengthened; this could start with an improved understanding of the benefits and risks of various innovations and strategies, such as the use of emerging Information Communication Technology (ICT) in education, partnerships with private and non-state providers and innovative financing for education.

3.2 Promote effective teaching and learning in the classrooms

The quality of education is ultimately determined by what happens in the classroom. All relevant resources and processes should contribute towards making the teaching and learning processes as optimal as possible. Teachers need to be supported with whatever resources and processes will help them to acquire the skills and motivation that are essential to being a good teacher and developing as professionals.

Specifically, the following three areas need to be prioritized:

1. **Building effective teacher training and development:** Teacher-training systems need to be improved to provide competencies that match the practical demands in the classroom, including teaching reading (in appropriate languages) and enhancing subject-matter knowledge and learner-centred teaching practices. Improved coherence between pre-service and in-service training is needed, with better collaboration and communication among all providers to heighten the cost-effectiveness and rigor of programmes. A sufficient induction phase that supports teachers in the critical first years as well as built-in time for collaboration among teachers need to be institutionalized. For school leaders, adequate opportunities to strengthen their leadership skills, particularly in pedagogy, need to be provided, along with quality management training opportunities.

2. **Providing quality textbooks:** Greater efforts are needed to ensure that the most basic resources needed in the classroom are provided in sufficient quantity and in a timely manner. In particular, the supply and quality of textbooks and teacher guidebooks should be prioritized through improved research and planning and improved procurement and distribution processes. Textbooks should be developed in local languages that are spoken by teachers and students of all linguistic backgrounds.

3. **Improving the working conditions of teachers:** Poor working conditions of teachers render teaching a profession of last resort in some countries. Overall, the working conditions need vast improvement to attract and keep the best teachers. Teacher compensation that is competitive with other comparable professions may help, but pay is only one of numerous factors that motivate teachers. Adequate levels of workload with sufficient time for lesson planning, appropriate administrative support, a school environment free of violence and abuse and school leaders who provide astute pedagogical leadership all encourage teachers to succeed in their job as well as shape their job satisfaction and the attractiveness of the teaching profession.

3.3 Improve school management

Many of the problems with quality are obvious indications of poor school management. The complexities of education and challenges to efficient management under a centralized system are recognized in many countries, and there has been a visible trend (to varying degrees) towards fiscal decentralization, devolution of responsibilities and greater local autonomy and accountability for results. While such efforts aim to encourage responsiveness to local needs, there is a great need to ensure that the variations in local capacity to deliver on their responsibilities are taken into account to ensure equitable results.

Whether in a centralized or a decentralized system, schools need to be managed efficiently and supported by a range of fundamental mechanisms that ultimately lead to the improved accountability of schools and teachers.

Specifically, the following six areas need to be prioritized:

1. **Establishing performance standards and measuring performance:** Performance standards for both schools and teachers need to be better established, making sure that the criteria is based on capacities and behaviours that are clearly correlated with effectiveness in teaching rather than ambiguous criteria that have no relationship to classroom effectiveness. The performance of teachers and schools need to be measured regularly and objectively, and to make it matter, it should be linked to tangible rewards and sanctions (monetary or non-monetary).

2. **Improving professional autonomy:** Teachers and school leaders need adequate levels of autonomy to develop a sense of professionalism and accountability for their work. Involving teachers in the decision-making processes in schools, increasing opportunities for peer collaborations, encouraging flexibility and choice in their classroom practices are some important ways to improve teacher autonomy. Autonomy of school leaders with budgetary and human resource management responsibilities (including recruitment, promotions and dismissals) are essential at the school level and are correlated with higher educational performance in PISA among other assessments (OECD, 2010b).

3. **Investing in school leaders:** School leaders who set the vision and aims of a school and provide the necessary support and guidance for teachers and students are vital. Strong school leadership should be fostered by providing appropriate management and technical training opportunities, and adequate levels of professional autonomy should be given to ensure that leaders are accountable and recognized for their school's performance.

4. **Improving collection and use of data and information:** Information regarding student performance and system performance (including schools' and teachers') can be a useful means to promoting accountability. Whether information is shared publicly, within the school or individually, it should be made available in a timely, comprehensible manner. Most importantly, teachers should use it to assess and improve their teaching practices. There are many potential risks with information use – if unaccompanied by requisite support measures: test and performance scores may not be valid and accurate measures of achievement; emphasis on achievement scores may invite adverse effects, such as students cheating on exams and teachers teaching to the test; and teachers and school leaders who have limited capacity and tools needed to improve behaviours may be discouraged by continued pressure to improve performance. Thus, the capacity at the local level to address these challenges should be taken into account through appropriate strategies that leverage the power of information for improving the quality of education.

5. **Target comprehensive policies on equity**
    The context of schools does not determine what needs to be done, but it does influence how it needs to be done. Blanket, one-size-fits-all policies will not be equally effective, considering how the socio-economic, cultural and geographical contexts of families and schools affect both the

range of educational needs and the quality of educational services. The most disadvantaged students typically face multiple levels of disparities; to ensure genuine learning opportunities, coherent and comprehensive strategies are needed to improve the quality of the education they receive.

6. **Demand-side difficulties to effective learning need to be addressed** by education systems and schools. The capacity to learn and the ability to develop to full potential are affected by both student and family characteristics and the deficits they experience outside of schools – some with irreversible impact. Lack of quality early childhood care and development, inadequate access to quality health services, severe malnutrition, limited reading materials at home and a general lack of a supportive and nurturing environment are common to students from poor, disadvantaged families. Learning or physical disabilities also hamper students' ability to access learning opportunities. To ensure quality learning for marginalized groups, education systems need to identify those marginalizing factors at all levels and implement strategies that really address them. A range of education policies, such as requiring mother tongue-based bilingual education and equivalency programmes, as well as broader social policies, such as those requiring deworming, school feeding, clean water and sanitation facilities and child protection, could be leveraged to ensure that the disadvantaged students and families are provided with the opportunity for an equal start.

4 Conclusion

The quality of education across the Asia-Pacific region has made varied but steady gains. Over the past decade, an increasing number of policies and strategies to strengthen the various dimensions of a quality education have been put in place to help steer systems and schools. In some education systems in the region, this has resulted in strong gains in terms of student performance in international testing. However, much remains to be done to tackle the diverse and persistent set of issues and challenges that diminish the quality of education as a holistic concept – covering cognitive and non-cognitive outcomes – particularly for the most marginalized students. The factors of disparities commonly associated with access to education, such as poverty, location and gender bias, also affect disparities in the quality of education children receive. Closing the gaps in both access to and the quality of learning remain a major imperative in realizing education for all in the region.

What emerges most clearly from the review for this EDN on quality of education is not new – there are no 'silver bullets' to address the complex array of issues and challenges confronting schools and education systems. Solutions need to be based on the local context and match the realities of the needs of children and families. For disadvantaged schools in many developing countries in the region, any movement to improve the quality of education must first ensure that the most basic needs of teaching and learning processes are met. For instance, children taught in a language they cannot understand are unlikely to learn well, no matter how innovative the teaching practice or how sophisticated are the educational tools available in the classroom. Also, carefully planned and sequenced policies with feasible, specific and time-bound targets are critical to fully implement and sustain quality improvements.

Prevailing inequities to quality education compound the challenges that most disadvantaged children face. Deficits in the early years, such as limited access to early childhood development, have lasting and critical impact on the quality of learning, as do factors of marginalization outside of school, such as malnutrition and any form of abuse or neglect. These in turn affect the retention and attainment rates of these students, which can influence their later life outcomes as well as those of their children. Addressing the deprivations of the basic rights of children is not only a moral imperative but also often the most cost-effective means to long-term improvement of learning outcomes.

These divergent results also point to the potential for countries in the Asia-Pacific region to learn from the efforts and experiences of regional partners. Many of the challenges facing developing countries are neither new nor unique, and much can be gained through attempts to share knowledge and expertise within the region.

The importance of families and communities in determining children's learning should not be underestimated. Quality learning cannot be expected only from good schools and education systems. It needs parents who set fair expectations and nurture, support and guide children in their daily lives. Communities free from violence and environments in which children can engage in safe and enriching out-of-school activities are also essential to promote their physical and social-emotional well-being. Ultimately, successful education systems and schools are those that engage with all partners and parties and harness their potential to make positive contributions to providing quality education for all children.

References

Abadzi, H. *Efficient Learning for the Poor: Insights from the frontier of cognitive neuroscience.* Washington, D.C.: World Bank, 2006.

Amadio, M. and N. Truong. *Worldwide Tendencies in the Use of the Term 'Basic Education' in K-12 Educational Programmes at the Start of the Twenty-First Century,* Background paper for the EFA Global Monitoring Report 2008. Paris: UNESCO-IBE, 2007. Available at: http://unesdoc.unesco.org/images/0015/001555/155541e.pdf

Acharya, D. and B. Aryal. *A Study of Impact on Education after Koshi Flood.* Kathmandu: Co-Action Nepal, 2008.

Asian Development Bank (ADB). *Lao PDR: Sector-wide approach in education sector development; Technical assistance consultant's report.* Manila: ADB, 2008.

Asia-Pacific Economic Cooperation Study Center Network (APEC). Anti-Corruption and Governance: The Philippine Experience. Philippines: Philippine Institute for Development Studies, 2006. Available at: http://www.apec.org.au/docs/06ASCC_HCMC/06_9_1_Balboa.pdf

Baker, D. P., B. Goesling and G. K. Letendre. "Socioeconomic status, school quality and national economic development: A cross-national analysis of the 'Heyneman-Loxley effect' on mathematics and science achievement." *Comparative Education Review* 46, no. 3. 2002. pp. 291–312. Available at: http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?_nfpb=true&%20%20_&ERICExtSearch_SearchValue_0=EJ658065&ERICExtSearch_SearchType_0=%20%20no&accno=EJ658065

Barber, M. and M. Mourshed. *How the World's Best-Performing School Systems Come Out on Top.* London: McKinsey and Company, 2007.

Barrett, A. M. and L. Tikly. "Education quality: Research priorities and approaches in the global era", *Changing Educational Landscapes 4*, edited by Dimitris Mattheou, pp. 185-206. Netherlands: Springer, 2010.

Benavot, A. and E. Tanner. *The Growth of National Learning Assessments in the World, 1995-2006.* Paris: UNESCO, 2007.

Bennelle, P. *Teacher Motivation and Incentives in Sub-Saharan Africa and South Asia.* Brighton: Knowledge and Skills for Development, 2004. Available at: http://www.mendeley.com/research/teacher-motivation-incentives-subsaharan-africa-asia-knowledge-skills-development-brighton/#page-1

Benveniste, L., J. Marshall and L. Santibanez. *Teaching in Lao PDR.* Lao PDR: Human Development Sector of East Asia and Pacific Program, World Bank and Ministry of Education, 2010.

Black, P. and D. William. "Assessment and classroom learning," *Assessment in Education: Principles, Policy and Practice* 5, no. 1. 1998. pp. 7-73.

Bunnag, S. "Teachers fail their own exam: Nationwide OBEC tests ring alarm bells," *Bangkok Post,* 8 June, 2010. Available at: http://www.bangkokpost.com/news/local/38353/teachers-fail-exams-on-own-subjects

Cao, Y. *Literacy Boost 2009 Assessment: Philippines.* Philippines: Prepared for Philippines Country Office, Save the Children, 2010.

Chaudhury, N., J. Hammer, M. Kremer, K. Muralidharan and F. H. Rogers. *Missing in Action: Teacher and health worker absence in developing countries* (draft). Washington, D.C.: World Bank, 2005. Available at: http://siteresources.worldbank.org/INTPUBSERV/Resources/Rogers_Absence_Global_JEP_may 2005.pdf

---. *Roll Call: Teacher absence in India*. Washington, D.C.: Development Economics Department, World Bank, 2004.

Clarke, M. *Framework for Building an Effective Assessment System,* Discussion paper. Washington, D.C.: The World Bank, 2011.

Cunningham, A. E. and K. E. Stanovich. "Early reading acquisition and its relation to reading experience and ability 10 years later". *Developmental Psychology* 33, no. 6. 1997. pp. 934-945. Available at: http://www-gse.berkeley.edu/faculty/aecunningham/Earlyreadingacquisitionanditsrelationtoreading experienceandabilitytenyearslater.pdf

Darling-Hammond, L. *Teacher quality and student achievement: A review of state policy evidence*. Seattle: Center for the Study of Teaching and Policy, December, 1999.

Darling-Hammond, L., B. Berry and A. Thoreson. "Does teacher certification matter? Evaluating the evidence". *Educational Evaluation and Policy Analysis* 23, no. 1. 2001. pp. 57-77.

Delors, J., I. Al Mufti, I. Amagi, R. Carneiro, F. Chung, B. Geremek, W. Gorham, A. Kornhauser, M. Manley, M. Padrón Quero, M. A. Savané, K. Singh, R. Stavenhagen, M. W. Suhr, and Z. Nanzhao. *Learning: The treasure within: Report to UNESCO of the International Commission on Education for the Twenty-first century*. Paris: UNESCO, 1996.

Department of Education, Australia. *Employment and Workplace Relations*. Australia: Department of Education, 2010. Available at: http://www.deewr.gov.au/schooling/pages/overview.aspx

Department of Education, Philippines. *Factsheet - Basic education statistics* (as of November 11, 2011). Philippines: Department of Education, 2011. Available at: http://www.deped.gov.ph

Department for International Development. *Bilateral support to primary education*, Report by the Comptroller and Auditor General. London: National Audit Office, 2010.

Dowd, A. J. *A Day in School: Are students getting an opportunity to learn?* Paper presented at the Comparative and International Education Society Conference. Charleston, SC: 24 March, 2009.

Dowd, A. J., C. Ochoa, I. Alam, J. Pari, and J. Afsar Babar. *Literacy Boost Pakistan Baseline Report*. Prepared for Save the Children, 2010.

Duflo, E. and R. Hanna. *Monitoring Works: Getting teachers to come to school*. Boston: Massachusetts Institute of Technology, 2007.

Durlak, J. A. and R. P. Weissberg. *The Impact of After-School Programs that Promote Personal and Social Skills*. Chicago: Collaborative for Academic, Social and Emotional Learning, 2007. Available at: http://casel.org/wp-content/uploads/2011/04/ASP-Full.pdf

Esplanada, J. E. "Lapus: DepEd procurement program cited by World Bank." *Philippine Daily Inquirer,* March 18, 2008. Available at: http://newsinfo.inquirer.net/inquirerheadlines/nation/view/20080318-125389/Lapus-DepEd-procurement-program-cited-by-World-Bank

Financial Management Reform Programme (FMRP). *Primary Education in Bangladesh: Assessing service delivery*. Dhaka/Oxford: FMRP/Oxford Policy Management (Social Sector Performance Surveys), 2006.

Flores-Crespo, P. "Ethnicity, identity and educational achievement in Mexico". *International Journal of Education and Development* 27, no. 3. 2007. pp. 331-339.

Fuller, B. and P. Clark. "Raising school effects while ignoring culture? Local conditions and the influence of classroom tools, rules, and pedagogy". *Review of Educational Research* 64, no. 1. 1994. pp. 119-157.

Fyfe, A. *The use of contract teachers in developing countries: Trends and impact*, Working Paper. Geneva: International Labour Office, 2007.

Goldhaber, D. D. "The mystery of good teaching: Surveying the evidence on student achievement and teachers' characteristics". *Education Next* 2, no. 1. 2002. pp. 50-55.

Goldhaber, D. D. and D. J. Brewer. "Does teacher certification matter? High school teacher certification status and student achievement". *Educational Evaluation and Policy Analysis* 22, no. 2. 2000. pp. 129-145.

Glewwe, P. and M. Kremer. "Schools, teachers and education outcomes in developing countries". *Handbook of the Economics of Education 2*, E.A. Hanushek and Finis Welsh (eds.), pp. 945-1017. Amsterdam: Elsevier, 2006.

Hanushek, E. A. and S. G. Rivkin. "Teacher Quality". *Handbook of the Economics of Education 2*, E. A. Hanushek and Finis Welsh (eds.), pp. 1051-1078. Amsterdam: Elsevier, 2005.

Hanushek, E. A., J. F. Kain, D. M. O'Brien and S. G. Rivkin. *The market for teacher quality*, NBER Working Paper 11154, National Bureau of Economic Research, Cambridge, Massachusetts, 2005. Available at: http://www.nber.org/papers/w11154.pdf

Hill, P. *Asia-Pacific secondary education system review series No. 1: Examination systems*. Bangkok: UNESCO, 2010.

Independent Evaluation Group. *Timor-Leste country program evaluation, 2000-2010: Evaluation of the World Bank Group program*. Washington, D.C.: The World Bank, 2011.

International Association for the Evaluation of Educational Achievement (IEA). *TIMSS 2007 International Mathematics Report*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Lynch School of Education, Boston College, 2008.

Kang, N. and M. Hong. "Achieving excellence in teacher workforce and equity in learning opportunities in Republic of Korea". *Educational Researcher* 37, no. 4. 2008. pp. 200-207.

Kellaghan, T., V. Greany and T. Murray. *Using Results of a National Assessment of Educational Achievement*, National Assessments of Educational Achievement Vol. 5. Washington, D.C.: The World Bank, 2009.

Kremer, M., E. Miguel and R. Thornton. "Incentives to Learn". *Review of Economics and Statistics* 91, no.3. 2009. pp. 437-456.

Kremer, M., N. Chaudhury, F. H. Rogers, K. Muralidharan and J. Hammer. "Teacher absence in India: A snapshot". *Journal of the European Economic Association* 3, no. 2-3. 2005. pp. 658–667. Available at: http://onlinelibrary.wiley.com/doi/10.1162/jeea.2005.3.2-3.658/abstract

Lewis, M. P., ed. *Ethnologue: Languages of the world*, 16th edition. Dallas, Texas: SIL International, 2009.

Lewis, M., and M. Lockheed. *Inexcusable Absence: Why 60 million girls still aren't in school and what do to about it*. Washington D.C.: Center for Global Development, 2006.

Lontoc, J. F. B. "Straightening out the kinks: a look into Dep of Ed's textbook policy." *The UP Forum* 8, No. 4, Jul-Aug. 2007: University of the Philippines. Available at http://www.up.edu.ph/upforum. php?issue=20&i=155 (Accessed on 10 August 2011).

McEwan, P. J. and M. Trowbridge. "The achievement of indigenous students in Guatemalan primary schools". *International Journal of Educational Development* 27, no. 1. 2007. pp. 61-76.

Ministry of Education, Bhutan. *National Education for All Mid-Decade Assessment report.* Bhutan: MOE, 2007.

Ministry of Education, China. *Social and Emotional Learning Survey*, Presentation by UNICEF China Country Office at UNICEF EAP Education Officers Meeting. China: MOE, 2010.

Ministry of Education, Lao PDR. *Country Paper*, Prepared for the Regional Policy Seminar on Towards Quality Learning for All in the Asia and the Pacific Region. Lao PDR: MOE, Government of Lao PDR, 2011.

Ministry of Education, Nepal. *School sector reform plan 2009–2015*. Kathmandu: MOE, 2009.

Ministry of Education, Papua New Guinea. *The Inaugural National Universal Basic Education Conference*. Port Moresby: National Research Institute, 11 July 2011. Available at: http://www.nri.org.pg/news/ Presentations%202011/080711_%20Edn%20Minister%20Keynote%20Address.pdf

Ministry of Education, Timor-Leste. *Presentation to EAP EGRA Conference,* Sydney, Australia, April 12-14, 2011.

Ministry of Education, Thailand. *Education in Thailand 2005/2006*. Bangkok: MOE, 2006.

Ministry of Education, Tonga. *Presentation to EAP EGRA Conference,* Sydney, Australia, April 12-14, 2011.

Ministry of Education, Vanuatu. *Presentation to EAP EGRA Conference,* Sydney, Australia, April 12-14, 2011.

Ministry of Education, Sports and Culture, Samoa. *Education for All: Mid-term assessment report 2007*, Samoa: MESC, 2007. Available at: http://www.mesc.gov.ws/pdf/efa_web.pdf

Ministry of Education and Training, Viet Nam. *Education Law*. Hanoi: MOET, 2005. Available at: http:// en.moet.gov.vn/?page=8.8&view=5101

Ministry of Education and Training, Viet Nam and UNICEF Viet Nam. *Programme Brief – Action research on mother tongue-based bilingual education: Achieving quality, equitable education*. Ha Noi: MOET, 2011.

Ministry of Education, Youth and Sport, Cambodia. *Presentation to EAP EGRA Conference,* Sydney, Australia, April 12-14, 2011.

Ministry of Health and Family Welfare, India. *National Family Health Survey (NFHS-3) 2005–06 – Volume 1*. Deonar, Mumbai: International Institute for Population Sciences, 2007.

Nanol, F. "Pay rises to keep PNG teachers in classes". *Asia Pacific News,* 13 June 2011. Available at: http://abcasiapacificnews.com/stories/201106/3242166.htm?desktop

National Center for Education Statistics. "Trends in international mathematics and science study (TIMSS) participating countries in 1995, 1999, 2003 and 2007. IEA, 2007. Available at: http://nces. ed.gov/timss/countries.asp

---. "Progress in international reading literacy study (PIRLS), Participating countries in 2001 and 2006". IES, 2006. Available at: http://nces.ed.gov/surveys/pirls/countries.asp

National Council for Economic and Development Research, Nepal. *A study on the effectiveness of government support to community school*. Kathmandu: Department of Education, Ministry of Education and Sport, Government of Nepal, 2008.

National Economic and Social Development Board (NESDB). *NESDB Report*, *Thailand*. Bangkok: NESBD, 2008.

Nye, B., S. Konstantopoulos and L. V. Hedges. "How large are teacher effects?" in *Educational Evaluation and Policy Analysis* 26, no. 3. 2004. pp. 237-257.

Organisation for Economic Co-operation and Development (OECD). *Education: Korea and Finland top OECD's latest PISA survey of education performance*. OECD, December 7, 2010a. Available at: http://www.namsmat.is/vefur/rannsoknir/PISA_2009/PISAnewsrelease.pdf

---. *PISA 2009 Results: What students know and can do: Student performance in reading, mathematics and science (Volume I)*. Paris: OECD, 2010b.

---. PISA Participating countries/economies in 2000, 2003, 2006 and 2009. OECD, 2009a. Available at: http://www.oecd.org/pages/0,3417,en_32252351_32236225_1_1_1_1_1,00.html

---. *Creating Effective Teaching and Learning Environments: First results from TALIS*. Paris: OECD, 2009. Available at: http://www.oecd.org/dataoecd/17/51/43023606.pdf

One World South Asia. "Shortage of teachers in Bangladesh jeopardizes primary   education". *One World South Asia,* March 18, 2009. Available at: http://southasia.oneworld.net/todaysheadlines/shortage-of-teachers-in-bangladesh-jeopardises-primary-education, (Accessed on 15 August 2011).

Orazem, P. and E. M. King. "Schooling in developing countries: The roles and supply, demand and government policy". *Handbook of Development Economics,* Vol. 4, edited by T. Schultz and John Strauss, 3475-3553. Amsterdam: Elsevier, 2008.

Piggot-Irvine, E., H. Aitken, J. Ritchie, P. B. Ferguson and F. McGrath. "Induction of newly qualified teachers in New Zealand". *Asia Pacific Journal of Teacher Education* 37, no. 2. 2009. pp. 175-198.

PMPTK (Directorate General for Improvement of Teachers and Education Professionals). *Presentation on costs associated with the Teacher Law of 2005*. Yogyakarta, Indonesia: August, 2008.

Postlewaite, T. N. *Monitoring Educational Achievement*. Paris: UNESCO International Institute of Educational Planning, Fundamentals of Educational Planning, 2004.

Powdyel, T. S. "The Bhutanese education assessment experience: Some reflections". *Prospects* 35, no. 1. 2005. pp. 45-57.

Pratham Resource Center. *Annual Status of Education Report (Rural), 2010 – Provisional*. New Delhi: ASER, Pratham Resource Center, January 2011. Available at: http://images2.asercentre.org/aserreports/ASER_2010_Report.pdf

Raghavendra, S. "India's unchecked textbook racket". *India Together*, February 2005. Available at: http://www.indiatogether.org/2005/feb/edu-textbook.htm

Rivkin, S. G., E. A. Hanushek and J. F. Kain. "Teachers, schools, and academic achievement". *Econometrica* 73, no. 2. March, 2005. pp. 417-458.

Room to Read. *Khmer Language Grade 1 Textbook Review*, draft. Cambodia: Room to Read, 2010.

Roy, G., S. Akbar and J. Gomes. *Reflection of Classwise Attainable Competencies at Primary Level: An analysis of NCTB Bangla textbooks*. Dhaka: BRAC, 2008.

Sanders, W., A. Saxton and B. Horn. "The Tennessee Value-Added Assessment System: A quantitative outcomes-based approach to educational assessment". *Grading Teachers, Grading Schools: Is achievement a valid measure?* Edited by J. Millman, pp. 163-168. Thousand Oaks, California: Corwin Press, 2007.

Santika, M. and J. Cahyanto. "Indonesia's innovative teacher training program for investing in the future", Presentation made at the 2009 APEID conference, 2009. Available at: http://www.unescobkk.org/fileadmin/user_upload/apeid/Conference/12thConference/ppt/4A2.pdf

Sathar Z. A., C. B. Lloyd, M. ul Haque, M. J. Grant and M. Khan. *Fewer and better children: Expanding choices and school fertility in rural Pakistan*. New York: Population Council, Policy Research Division, 2005.

Schuh Moore, A., J. DeStefano and E. Adelman. *Opportunity to Learn and Early Grade Reading Fluency to Measure School Effectiveness in Ethiopia, Guatemala, Honduras, and Nepal,* prepared for USAID/EQUIP2 Project, 2010. Available at: http://www.equip123.net/docs/e2-School_Effectiveness-Synthesis.pdf (Accessed 20 August 2010).

South Asian Forum for Education Development (SAFED). *Annual Status of Education Report Pakistan 2010 - National findings report*. Lahore: SAFED, 2010.

Stannard, H. *Results from a Rapid Reading and Numeracy Test: Assessing reading and numeracy achievement of community-based primary students in Afghanistan.* Prepared for USAID, 2008.

Tayyab, A. Personal communication. Oxford, United Kingdom: July 24, 2008.

Textbook Development Institute. *Quality Education: The textbook factor*, Submission to Parliamentary Portfolio Committee on Basic Education. Cape Town, South Africa: Portfolio Committee – Basic Education, National Assembly, 2009.

Thomas, E. *Teacher Policies in the Asia-Pacific and Other Regions: A review,* written for UNESCO Bangkok, Asia-Pacific Regional Seminar on Teacher Policies, 17-19 November 2010. Bangkok: UNESCO Bangkok, 2010.

UNESCAP. *Protecting Development Gains: Reducing Disaster Vulnerability and Building Resilience in Asia and the Pacific*, The Asia Pacific Disaster Report 2010. Bangkok: UNESCAP, 2010.

UNESCO. *Education for All Global Monitoring Report 2010: Reaching the marginalized*. Paris: UNESCO, 2010.

---. *Education for All Global Monitoring Report 2005: The quality imperative*. Paris: UNESCO, 2004.

---. *The Dakar Framework for Action: Education for all: Meeting our collective commitments*. Paris: UNESCO, 2000. Available at: http://unesdoc.unesco.org/images/0012/001211/121147e.pdf

---. *World Declaration on Education for All and Framework for Action to Meet Basic Learning Needs*. Paris: UNESCO, 1990.

UNESCO Bangkok. *South Asia Education for All Mid-Decade Assessment: Subregional synthesis report*. Bangkok: UNESCO, 2009.

---. *Status of Teacher Education in the Asia-Pacific Region*, International Reading Association Report. Bangkok: UNESCO, 2008a.

---. *Improving the Quality of Mother Tongue-Based Literacy and Learning: Case studies from Asia, Africa and South America*. Bangkok: UNESCO, 2008b. Available at: http://www.unescobkk.org/index.php?id=9050

 ---. *Central Asia Education for All Mid-Decade Assessment Subregional Synthesis Report*. Bangkok: UNESCO, 2008c.

---. *Insular Southeast Asia Education for All Mid-Decade Assessment Subregional Synthesis Report*. Bangkok: UNESCO, 2008d.

UNESCO Institute for Statistics (UIS). *Global Education Digest 2010: Comparing education statistics across the world*. Montreal: UNESCO Institute for Statistics, 2010.

---. *A View Inside Primary Schools*. Montreal: UNESCO Institute for Statistics, 2008.

---. *Teachers and Education Quality: Monitoring global needs for 2015*. Montreal: UNESCO Institute for Statistics, 2006. Available at: www.uis.unesco.org/publications/teachers2006

UN General Assembly. *Convention on the Rights of the Child*. New York: United Nations, 1989.

United Nations Children's Fund (UNICEF). *Child Protection in Education Settings: Findings from six countries in East Asia and the Pacific*. Bangkok: UNICEF EAPRO, 2011.

---. *Technical Assistance to Strengthen Social and Emotional Learning in Child Friendly Schools in UNICEF's East Asia and the Pacific region* (Draft report). Bangkok: UNICEF EAPRO, March 2009a.

---. *The State of the World's Children 2009*. New York: UNICEF, 2009b.

---. *Assessing Child-Friendly Schools*. Thailand: UNICEF EAPRO, 2006. Available at: http://www.unicef.org/eapro/Assessing_CFS.pdf

---. *Defining Quality in Education*. New York: UNICEF, 2000. Available at: http://www.unicef.org/education/files/QualityEducation.PDF

United Nations Human Settlements Programme (UN-HABITAT). *State of the world's cities*. Nairobi: UN-HABITAT, 2008.

Vegas, E. *Teacher policies in East Asia*, Background paper for the East Asia Regional Conference on System Assessment and Benchmarking for Education Results (SABER). Bali, Indonesia: June 6-8, 2011.

Wei, R.C., A. Andree and L. Darling-Hammond. "How nations invest in teachers". *Educational Leadership* 66, no. 5. 2009. pp. 28-33.

Willms, J. D. *Learning Divides: Ten policy questions about the performance and equity of schools and schooling systems*, UIS Working Paper No. 5. Montreal: UNESCO Institute for Statistics, 2006. Available at: http://unesdoc.unesco.org/images/0014/001470/147066e.pdf

World Bank. *Learning for All: World Bank education strategy 2020*. Washington, D.C.: The World Bank, 2011.

---. *Books, Buildings and Learning Outcomes: An impact evaluation of World Bank support to basic education in Ghana*. Washington, D.C.: The World Bank, 2004a.

---. *Vietnam Reading and Mathematics Assessment Study*, Vol. 1. Washington, D.C.: The World Bank, 2004b.

Zins, J. E., R. P. Weissberg, M. C. Wang, and H. J. Walberg, eds. *Building Academic Success on Social and Emotional Learning: What does the research say?* New York and London: Teachers College Press, 2004.

Statistical annex

Annex 1: Subregions and countries covered by the End of Decade Notes on Education for All

- **Central Asia (6 countries):**
  Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan, Uzbekistan

- **East Asia (17 countries/territories):**
  Brunei Darussalam, Cambodia, China, Democratic People's Republic of Korea, Hong Kong (China), Indonesia, Japan, Lao PDR, Macao (China), Malaysia, Myanmar, Philippines, Republic of Korea, Singapore, Thailand, Timor-Leste, Viet Nam

- **Pacific (17 countries/territories):**
  Australia, Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru Papua New Guinea, New Zealand, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu

- **South and West Asia (9 countries):**
  Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan, Sri Lanka

Region / Country or territory	Reference year	Pre-primary education (ISCED 0)						Primary education (ISCED 1)						Secondary education (ISCED 2-3)					
		Teaching staff		Trained teachers (%)			Pupil/ teacher ratio	Teaching staff		Trained teachers (%)			Pupil/ teacher ratio	Teaching staff		Trained teachers (%)			Pupil/ teacher ratio
		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Central Asia																			
Kazakhstan	2009	37	98	…	…	…	10	59+1	98+1	…	…	…	16+1	183+1	86+1	…	…	…	9+1
	2005	27	99	…	…	…	11	59	98	…	…	…	17	186	85	…	…	…	11
	2000	20+1	98**,+1	…	…	…	13+1	64+1	97+1	…	…	…	19+1	176+1	84+1	…	…	…	12+1
	1990	89	…	…	…	…	12	54	94	…	…	…	22	…	…	…	…	…	…
Kyrgyzstan	2009	2.7	99	44	44	44	27	16	97	66	66	66	24	51	76	81	79	82	13*
	2005	2.3	99	38	39	38	23	18	96	58	58	58	24	54	72	76	74	77	13
	2000	2.5	100	32	.	32	18	19	94	46	46	46	24	49	69	…	…	…	13
	1990	…	…	…	…	…	…	22	81	…	…	…	16	…	…	…	…	…	…
Mongolia	2009	4.2	98	100	100	100	24	8.3	95	100	100	100	30	…	…	…	…	…	…
	2005	3.4	95	100	100	100	24	7.3	94	100	100	100	34	15	72	100	100	100	22
	2000	3.0	99	100	100	100	26	7.8	94	100	100	100	33	11	69	100	100	100	20
	1990	3.7+1	…	…	…	…	26+1	5.9+1	90+1	…	…	…	28+1	17+1	62+1	…	…	…	18+1
Tajikistan	2009	4.7-1	100-1	83-1	.-1	83-1	13-1	…	…	…	…	…	…	62-1	49-1	…	…	…	17-1
	2005	4.7+1	100+1	82+1	.+1	82+1	13+1	31+1	65+1	93+1	…	…	22+1	61+1	47+1	…	…	…	16+1
	2000	4.8+1	100+1	91+1	…	…	11+1	31+1	60+1	82+1	…	…	22+1	50+1	44+1	…	…	…	17+1
	1990	11+1	…	…	…	…	10+1	24+1	49+1	…	…	…	21+1	…	…	…	…	…	…
Turkmenistan	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2000	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Uzbekistan	2009	59	95	100	100	100	9	117	89	100	100	100	17	367	63	100	100	100	12
	2005	61+1	95+1	100+1	100+1	100+1	9+1	117+1	86+1	100+1	100+1	100+1	19+1	348+1	61+1	100+1	100+1	100+1	13+1
	2000	64	96	…	…	…	10	121	83	…	…	…	21	310	57	…	…	…	12
	1990	85	…	…	…	…	16	71	78	…	…	…	24	293	…	…	…	…	11
East Asia																			
Brunei Darussalam	2009	0.60	97	71	90	70	22	3.7	76	84	92	81	12	4.6	63	88	89	88	10
	2005	0.62	96	64	96	63	19	4.5	71	84	90	82	10	4.4	58	85	84	86	10
	2000	0.49*	82*	…	…	…	21*	3.3*	67*	…	…	…	14*	3.2	50	…	…	…	11
	1990	0.45+1	90+1	…	…	…	21+1	2.5+1	57+1	…	…	…	15+1	2.2+1	45+1	…	…	…	12+1
Cambodia	2009	5.2-1	94-1	…	…	…	23-1	47	45	99	…	…	49	…	…	…	…	…	…
	2005	4.3+1	94+1	88+1	…	…	24+1	51+1	42+1	98+1	…	…	50+1	27+1	32+1	99+1	…	…	30+1
	2000	3.3+1	98+1	98+1	…	…	24+1	46+1	39+1	96+1	…	…	53+1	20+1	29+1	100+1	…	…	20+1
	1990	3.0+1	82+1	…	…	…	17+1	41+1	31+1	…	…	…	33+1	…	…	…	…	…	…
China	2009	1,090	97	…	…	…	23	6,019	57	…	…	…	17	6,388	47	…	…	…	16
	2005	952+1	98+1	…	…	…	23+1	5,968+1	55+1	…	…	…	18+1	5,766**,+1	45**,+1	…	…	…	18**,+1
	2000	856+1	94+1	…	…	…	26+1	6,693**,+1	53**,+1	…	…	…	19**,+1	4,572+1	43+1	…	…	…	19+1
	1990	709	95	…	…	…	26	5,544	43	…	…	…	22	3,546	30	…	…	…	15
Democratic People's Republic of Korea	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2000	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…

Region / Country or territory	Reference year	Pre-primary education (ISCED 0) Teaching staff MF(000)	% F	Trained teachers (%) MF	M	F	Pupil/teacher ratio	Primary education (ISCED 1) Teaching staff MF(000)	% F	Trained teachers (%) MF	M	F	Pupil/teacher ratio	Secondary education (ISCED 2-3) Teaching staff MF(000)	% F	Trained teachers (%) MF	M	F	Pupil/teacher ratio
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Hong Kong SAR of China	2009	9.9	99	96	71	96	14	23	78	95	94	96	16	…	…	…	…	…	…
	2005	8.3	99	92	57	93	16	25	78	93	93	93	18	…	…	…	…	…	…
	2000	9.1	99	74	54	74	19	23	78	87	88	87	21	…	…	…	…	…	…
	1990	7.6[+1]	…	…	…	…	26[+1]	20[+1]	…	…	…	…	27[+1]	…	…	…	…	…	…
Indonesia	2009	340	97	…	…	…	12	1,800	60	…	…	…	17	1,550	48	…	…	…	13
	2005	182	98**	…	…	…	16	1,428	61**	…	…	…	20	1,282	43**	…	…	…	12
	2000	133**,[+1]	98**,[+1]	…	…	…	16**,[+1]	1,290[+1]	52**	94**,[+1]	…	…	22[+1]	1,040[+1]	40[+1]	53**,[+1]	…	…	14[+1]
	1990	92	…	…	…	…	17	1,286	50	…	…	…	23	870	33	…	…	…	13
Japan	2009	108	…	…	…	…	28	396	…	…	…	…	18	610	…	…	…	…	12
	2005	105	98	…	…	…	29	383	65	…	…	…	19	610	…	…	…	…	13
	2000	99[+1]	…	…	…	…	30[+1]	363[+1]	65**,[+1]	…	…	…	20[+1]	622[+1]	…	…	…	…	14[+1]
	1990	109	89	…	…	…	19	454	58	…	…	…	21	652	29	…	…	…	17
Lao People's Democratic Republic	2009	3.7[-1]	97[-1]	…	…	…	19[-1]	30[-1]	49[-1]	97[-1]	97[-1]	97[-1]	30[-1]	18[-1]	44[-1]	87[-1]	87[-1]	88[-1]	23[-1]
	2005	2.8	99	82	61	82	16	28	45	83	78	89	31	16	42	91	89	92	25
	2000	2.2	100	83	83	83	17	28	43	77	70	86	30	12	40	98	97	98	21
	1990	1.5	100	…	…	…	19	20	37	…	…	…	28	12	39	…	…	…	12
Macao, China	2009	0.52	99	96	100	96	18	1.6	88	86	73	88	17	2.3	59	71	59	80	17
	2005	0.45	99	98	75	98	24	1.6	89	91	75	93	23	2.1	58	67	53	76	22
	2000	0.53	100	94	100	94	30	1.6	88	84	63	86	30	1.5	57	60	52	67	24
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Malaysia	2009	34[-1]	95[-1]	…	…	…	23[-1]	210[-1]	68[-1]	…	…	…	15[-1]	178[-1]	66[-1]	…	…	…	14[-1]
	2005	30	96	…	…	…	23	190	66	…	…	…	17	153	63	…	…	…	16
	2000	20	100	…	…	…	27	155	66**	…	…	…	20	120**	62**	…	…	…	18**
	1990	11	…	…	…	…	31	121	57	…	…	…	20	75	51	…	…	…	19
Myanmar	2009	6.6	99	51	19	52	18	179	84	99	99	99	28	82	84	96	91	97	34
	2005	5.7[+1]	99[+1]	50[+1]	29[+1]	51[+1]	16[+1]	166[+1]	82[+1]	98[+1]	98[+1]	98[+1]	30[+1]	80[+1]	82[+1]	95[+1]	96[+1]	95[+1]	34[+1]
	2000	1.9**	…	…	…	…	22**	148	75	63	63	63	33	71	76	70	73	69	32
	1990	…	…	…	…	…	…	108	61	…	…	…	45	91	71	…	…	…	12
Philippines	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	24	97	…	…	…	34	373	87	…	…	…	35	168	76	…	…	…	38
	2000	18[-1]	92**,[-1]	100**,[-1]	…	…	33[-1]	360[-1]	87[-1]	100**,[-1]	…	…	35[-1]	150[-1]	76[-1]	100**,[-1]	…	…	34[-1]
	1990	9.6[+1]	…	…	…	…	41[+1]	317[+1]	…	…	…	…	33[+1]	122[+1]	…	…	…	…	33[+1]
Republic of Korea	2009	31	99	…	…	…	17	156	78	…	…	…	22	222	54	…	…	…	18
	2005	27	99	…	…	…	20	144	75	…	…	…	28	210	51	…	…	…	18
	2000	24	100	…	…	…	23	125	70	…	…	…	32	188	44	…	…	…	21
	1990	15	86	…	…	…	28	135	49	…	…	…	36	170	32	…	…	…	28
Singapore	2009	…	…	…	…	…	…	17	81	94	93	95	17	16	66	92	90	93	15
	2005	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2000	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	1990	…	…	…	…	…	…	10	…	…	…	…	26	…	…	…	…	…	…
Thailand	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	99[+1]	78[+1]	…	…	…	25[+1]	320[+1]	60[+1]	…	…	…	18[+1]	209[+1]	55[+1]	…	…	…	22[+1]
	2000	111	79	…	…	…	25	293	64	…	…	…	21	…	…	…	…	…	…
	1990	65	…	…	…	…	22	345	…	…	…	…	20	131	…	…	…	…	16

Region / Country or territory	Reference year	Pre-primary education (ISCED 0)						Primary education (ISCED 1)						Secondary education (ISCED 2-3)					
		Teaching staff		Trained teachers (%)			Pupil/ teacher ratio	Teaching staff		Trained teachers (%)			Pupil/ teacher ratio	Teaching staff		Trained teachers (%)			Pupil/ teacher ratio
		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Timor-Leste	2009	…	…	…	…	…	…	7.4	39	…	…	…	29	…	…	…	…	…	…
	2005	0.24	97	…	…	…	29	5.2	31	…	…	…	34	3.2	19**	…	…	…	24
	2000	…	…	…	…	…	…	3.7**,+1	30**,+1	…	…	…	51**	1.4**,+1	…	…	…	…	28**,+1
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Viet Nam	2009	183	98	91	89	91	18	346	78	100	99	100	20	…	…	…	…	…	…
	2005	160+1	98+1	76+1	…	…	18+1	354+1	78+1	96+1	93+1	96+1	21+1	439+1	64+1	98**,+1	…	…	23+1
	2000	96	100	51	.	51	22	341	78	80	74	82	30	284	65	88	87	89	28
	1990	75	…	…	…	…	22	251	…	…	…	…	34	203	…	…	…	…	18
Pacific																			
Australia	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2000	…	…	…	…	…	…	105**,-1	…	…	…	…	18**,-1	…	…	…	…	…	…
	1990	…	…	…	…	…	…	97+1	74+1	…	…	…	17+1	103+1	50+1	…	…	…	…
Cook Islands	2009	0.03+1	100+1	…	…	…	15+1	0.12+1	86+1	…	…	…	15+1	0.12+1	56+1	…	…	…	16+1
	2005	0.02	91	61	-	67	21	0.14	77	…	…	…	16	0.12	61	97	100	95	16
	2000	0.03	100	…	…	…	17	0.13	86**	…	…	…	18	0.12	…	…	…	…	14
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Fiji	2009	…	…	…	…	…	…	3.9-1	55-1	98-1	98-1	98-1	26-1	5.3-1	71-1	…	…	…	19-1
	2005	0.41-1	99-1	…	…	…	21-1	4.0-1	57-1	…	…	…	28-1	4.6**,-1	50**,-1	…	…	…	22**,-1
	2000	0.31	99	…	…	…	21	4.1	56	…	…	…	28	4.8**	51**	…	…	…	20**
	1990	0.38	…	…	…	…	20	…	…	…	…	…	…	…	…	…	…	…	…
Kiribati	2009	…	…	…	…	…	…	0.65-1	82-1	85-1	83-1	86-1	25-1	0.66-1	48-1	62-1	60-1	65-1	17-1
	2005	…	…	…	…	…	…	0.61+1	79+1	84+1	83+1	85+1	27+1	0.64+1	48+1	51+1	51+1	51+1	18+1
	2000	…	…	…	…	…	…	0.46	67	…	…	…	32	0.66	49	…	…	…	18
	1990	…	…	…	…	…	…	0.51	57	…	…	…	29	0.25	32	…	…	…	12
Marshall Islands	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2000	0.15-1	…	…	…	…	11-1	0.55-1	…	…	…	…	15-1	0.28-1	…	…	…	…	22-1
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Micronesia (Federated States of)	2009	…	…	…	…	…	…	1.1**,-2	…	…	…	…	17**,-2	…	…	…	…	…	…
	2005	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2000	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Nauru	2009	0.04-1	98-1	…	…	…	16-1	0.06-1	93-1	…	…	…	22-1	0.03-2	79-2	36-2	43-2	35-2	21-2
	2005	0.04+1	100+1	78+1	.	78+1	16+1	0.05+1	92+1	…	…	…	27+1	0.02+1	88+1	…	…	…	34+1
	2000	0.05	98	…	…	…	13	0.07	92	…	…	…	21	0.04	39	…	…	…	17
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
New Zealand	2009	8.8	98	…	…	…	12	24	84	…	…	…	15	38	61	…	…	…	14
	2005	7.1	99	…	…	…	15	22	83	…	…	…	16	36	61	…	…	…	15
	2000	7.5	99	…	…	…	14	19	84	…	…	…	18	29	59	…	…	…	16
	1990	…	…	…	…	…	…	18	79	…	…	…	18	…	…	…	…	…	…
Niue	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	0.02**	100**	…	…	…	12**	0.03	68	…	…	…	8
	2000	0.01+1	100+1	…	…	…	6+1	0.01+1	100+1	…	…	…	18+1	0.02+1	48+1	…	…	…	12+1
	1990	…	…	…	…	…	…	0.02+1	…	…	…	…	20+1	0.03+1	…	…	…	…	11+1

Region / Country or territory	Reference year	Pre-primary education (ISCED 0)						Primary education (ISCED 1)						Secondary education (ISCED 2-3)					
		Teaching staff		Trained teachers (%)			Pupil/ teacher ratio	Teaching staff		Trained teachers (%)			Pupil/ teacher ratio	Teaching staff		Trained teachers (%)			Pupil/ teacher ratio
		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Palau	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	0.15**	…	…	…	…	13**	…	…	…	…	…	…
	2000	0.06	98	…	…	…	10	0.12	79	…	…	…	16	0.13	59	…	…	…	15
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Papua New Guinea	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	15**	42**	…	…	…	35**	…	…	…	…	…	…
	2000	…	…	…	…	…	…	16**	39**	…	…	…	35**	…	…	…	…	…	…
	1990	…	…	…	…	…	…	13	32	…	…	…	32	3.0**	33**	…	…	…	22**
Samoa	2009	0.30	98	…	…	…	14	0.94	…	…	…	…	32	1.2	…	…	…	…	21
	2005	0.13**,-1	94**,-1	…	…	…	42**,-1	1.2**,-1	73**,-1	…	…	…	25**,-1	1.1**,-1	60**,-1	…	…	…	21**,-1
	2000	0.13**	94**	…	…	…	42**	1.2	71	…	…	…	24	1.0	59	…	…	…	21
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Solomon Islands	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2000	…	…	…	…	…	…	3.0-1	41-1	…	…	…	19-1	1.3-1	33-1	…	…	…	13-1
	1990	…	…	…	…	…	…	2.4+1	…	…	…	…	21+1	0.36+1	…	…	…	…	17+1
Tokelau	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2000	0.01	100	…	…	…	11	0.03	76	…	…	…	10	0.01	64	…	…	…	16
	1990	0.01+1	100+1	…	…	…	27+1	…	…	…	…	…	…	…	…	…	…	…	…
Tonga	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	0.84-1	63-1	…	…	…	20-1	…	…	…	…	…	…
	2000	0.10	99	…	…	…	15**	0.75	69	…	…	…	22	0.99	50	…	…	…	15
	1990	…	…	…	…	…	…	0.69	69	…	…	…	24	0.83	49	…	…	…	18
Tuvalu	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	0.07-1	…	…	…	…	19-1	…	…	…	…	…	…
	2000	0.04+1	100+1	…	…	…	18+1	0.08+1	81+1	…	…	…	18+1	…	…	…	…	…	…
	1990	…	…	…			…	…	…	…	…	…	…	…	…	…	…	…	…
Vanuatu	2009	0.81	91	…	…	…	14	…	…	…	…	…	…	…	…	…	…	…	…
	2005	…	…	…	…	…	…	1.9-1	54-1	…	…	…	20-1	…	…	…	…	…	…
	2000	0.83+1	99+1	…	…	…	10+1	1.5+1	51+1	…	…	…	24+1	0.72+1	47+1	…	…	…	15+1
	1990	…	…	…	…	…	…	0.87+1	40+1	…	…	…	29+1	…	…	…	…	…	…
South and West Asia																			
Afghanistan	2009	…	…	…	…	…	…	115	29	…	…	…	43	…	…	…	…	…	…
	2005	…	…	…	…	…	…	110+1	…	…	…	…	42+1	…	…	…	…	…	…
	2000	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	1990	…	…	…	…	…	…	15	59	…	…	…	41	7.4	44	…	…	…	25
Bangladesh	2009	…	…	…	…	…	…	361	43	58	55	63	46*	…	…	…	…	…	…
	2005	…	…	…	…	…	…	345	37	53	53	54	47	423	17	…	…	…	24
	2000	69	34	…	…	…	24	…	…	…	…	…	…	269	14	30	28	42	38
	1990	…	…	…	…	…	…	190	19	…	…	…	63	131	10	…	…	…	27
Bhutan	2009	…	…	…	…	…	…	3.9	35	…	…	…	28	2.7	49	…	…	…	21
	2005	0.02**,+1		…	…	…	23**,+1	3.5+1	50+1	92+1	92+1	92+1	29+1	2.0+1	41+1	92+1	92+1	92+1	23+1
	2000	0.02	50	94	100	88	22	2.1	34	95	95	95	41	0.72	34	95	95	95	32
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…

Region / Country or territory	Reference year	Pre-primary education (ISCED 0)						Primary education (ISCED 1)						Secondary education (ISCED 2-3)					
		Teaching staff		Trained teachers (%)			Pupil/teacher ratio	Teaching staff		Trained teachers (%)			Pupil/teacher ratio	Teaching staff		Trained teachers (%)			Pupil/teacher ratio
		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
India	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	630⁻¹	…	…	…	…	41⁻¹	3,388**,⁻¹	44**,⁻¹	…	…	…	40**,⁻¹	2,586⁻¹	34⁻¹	…	…	…	33⁻¹
	2000	504	…	…	…	…	35	2,840*	36*	…	…	…	40*	2,113	34	…	…	…	34
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Iran (Islamic Republic of)	2009	…	…	…	…	…	…	278	57	…	…	…	20	…	…	…	…	…	…
	2005	19	89	…	…	…	27	285	…	…	…	…	22	…	…	…	…	…	…
	2000	12⁺¹	97⁺¹	…	…	…	23⁺¹	315⁺¹	54⁺¹	98⁺¹	99⁺¹	98⁺¹	25⁺¹	…	…	…	…	…	…
	1990	8.5⁺¹	100⁺¹	…	…	…	27⁺¹	299⁺¹	53⁺¹	…	…	…	31⁺¹	216⁺¹	41⁺¹	…	…	…	24⁺¹
Maldives	2009	0.85	97	38	21	38	19	3.5	74	74	77	73	13	…	…	…	…	…	…
	2005	0.52	95	41	42	41	26	2.9	66	64	60	66	20	…	…	…	…	…	…
	2000	0.41	94	47	24	49	31	3.2	60	66	68	66	23	1.3	29	…	…	…	15
	1990	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
Nepal	2009	…	…	…	…	…	…	154⁺¹	40⁺¹	74⁺¹	74⁺¹	72⁺¹	32⁺¹	…	…	…	…	…	…
	2005	12	41	…	…	…	42	101	30	31	32	27	40	…	…	…	…	…	…
	2000	11**	32**	-**	-**	-**	24**	89**	23**	50**	52**	41**	43**	45	11	…	…	…	30
	1990	…	…	…	…	…	…	74⁺¹	14⁺¹	…	…	…	39⁺¹	25⁺¹	10⁺¹	…	…	…	31⁺¹
Pakistan	2009	…	…	…	…	…	…	465	46	85	93	77	40	…	…	…	…	…	…
	2005	86**,⁻¹	45**,⁻¹	…	…	…	41**,⁻¹	432⁻¹	45⁻¹	78⁻¹	90⁻¹	63⁻¹	37⁻¹	197*,⁻¹	51*,⁻¹	…	…	…	42**,⁻¹
	2000	…	…	…	…	…	…	424**	45**	…	…	…	33**	…	…	…	…	…	…
	1990	…	…	…	…	…	…	…	…	…	…	…	…	188	32	…	…	…	19
Sri Lanka	2009	…	…	…	…	…	…	70	85	…	…	…	23	…	…	…	…	…	…
	2005	…	…	…	…	…	…	72**,⁻¹	79**,⁻¹	…	…	…	22**,⁻¹	119**,⁻¹	63**,⁻¹	…	…	…	20**,⁻¹
	2000	…	…	…	…	…	…	67⁺¹	…	…	…	…	26⁺¹	…	…	…	…	…	…
	1990	…	…	…	…	…	…	…	…	…	…	…	…	109	…	…	…	…	19
REGIONAL AVERAGES																			
World	2009	7,536**	94**	…	…	…	21**	28,332**	62**	…	…	…	25**	30,430**	52**	…	…	…	17**
	2005	6,343	94	…	…	…	21	26,923**	62**	…	…	…	25**	28,237**	52**	…	…	…	18**
	2000	5,625	92	…	…	…	21	25,714	60	…	…	…	25	24,831	51	…	…	…	18
	1990	4,506	93**	…	…	…	20	22,243**	56**	…	…	…	26**	20,288**	48**	…	…	…	16**
Arab States	2009	173	91	…	…	…	20	1,981	55	…	…	…	21	1,938**	47**	…	…	…	15**
	2005	153	87	…	…	…	19	1,857	55	…	…	…	21	1,664**	46**	…	…	…	17**
	2000	129	78	…	…	…	19	1,597	52	…	…	…	22	1,413	43	…	…	…	17
	1990	81	54	…	…	…	23**	1,156	50	…	…	…	24	916**	38**	…	…	…	17**
Central and Eastern Europe	2009	1,104**	99**	…	…	…	10**	1,137**	82**	…	…	…	17**	2,763**	73**	…	…	…	11**
	2005	1,030	100	…	…	…	9	1,187	83	…	…	…	18	3,085	73**	…	…	…	12
	2000	1,077	100	…	…	…	8	1,325**	83**	…	…	…	18**	3,460**	73**	…	…	…	12**
	1990	1,374	…	…	…	…	10	1,445**	83**	…	…	…	20**	…	…	…	…	…	…
Central Asia	2009	141	97	…	…	…	11	327	89	…	…	…	17	956	71	…	…	…	11
	2005	131	97	…	…	…	11	327	87	…	…	…	19	909	68	…	…	…	12
	2000	123	97	…	…	…	11	325	86	…	…	…	21	873	66	…	…	…	11
	1990	275	…	…	…	…	12	248	81	…	…	…	21	874**	…	…	…	…	11**
East Asia and the Pacific	2009	1,981	96	…	…	…	21	10,203	61	…	…	…	18	10,238	49	…	…	…	16
	2005	1,548**	96**	…	…	…	23**	9,599**	60**	…	…	…	21**	9,102**	46**	…	…	…	18**
	2000	1,429	94	…	…	…	25	10,126**	56**	…	…	…	21**	7,611	43	…	…	…	18
	1990	1,127	94	…	…	…	24	8,842	48	…	…	…	24	6,124	35	…	…	…	16

Region / Country or territory	Reference year	Pre-primary education (ISCED 0)						Primary education (ISCED 1)						Secondary education (ISCED 2-3)					
		Teaching staff		Trained teachers (%)			Pupil/ teacher ratio	Teaching staff		Trained teachers (%)			Pupil/ teacher ratio	Teaching staff		Trained teachers (%)			Pupil/ teacher ratio
		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F		MF(000)	% F	MF	M	F	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Latin America and the Caribbean	2009	1,003**	95**	…	…	…	21**	2,981**	78**	…	…	…	23**	3,544**	60**	…	…	…	17**
	2005	933	96	…	…	…	21	2,947	78	…	…	…	23	3,543	66	…	…	…	16
	2000	814	96	…	…	…	21	2,761	78	…	…	…	25	2,938	64	…	…	…	19
	1990	497**	98**	…	…	…	23**	2,388**	79**	…	…	…	27**	2,106**	58**	…	…	…	17**
North America and Western Europe	2009	1,493	94	…	…	…	14	3,711	83	…	…	…	14	4,956	61	…	…	…	12
	2005	1,317	92	…	…	…	15	3,634	84	…	…	…	14	4,859	60	…	…	…	13
	2000	1,101	93	…	…	…	17	3,501	82	…	…	…	15	4,579	56	…	…	…	13
	1990	823**	94**	…	…	…	22**	3,132**	81**	…	…	…	16**	4,242**	54**	…	…	…	13**
South and West Asia	2009	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
	2005	897	90	…	…	…	40	4,807**	44**	…	…	…	39**	3,924**	34**	…	…	…	31**
	2000	729	75**	…	…	…	35	4,042	38	…	…	…	39	3,061	35	…	…	…	34
	1990	199**	43**	…	…	…	41**	3,401**	32**	…	…	…	40**	2,412**	32**	…	…	…	27**
Sub-Saharan Africa	2009	455**	76**	…	…	…	26**	2,924	42	…	…	…	45	1,620	29	…	…	…	24
	2005	334**	78**	…	…	…	27**	2,565	44	…	…	…	44	1,152	29	…	…	…	27
	2000	224**	77**	…	…	…	27**	2,037	42	…	…	…	43	896**	30**	…	…	…	25**
	1990	129**	82**	…	…	…	29**	1,631	40**	…	…	…	36	631**	33**	…	…	…	24**

Notes: Data extracted from the UIS database on October 2011. Countries included in regional averages are based on UIS categorization of regions. Central Asia includes the following countries or territories: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan and Uzbekistan.

Symbol:

… No data available

** For country data: UIS estimation

   For regional averages: Partial imputation due to incomplete country coverage (between 25% to 75% of the population)

* National estimation

\- Magnitude nil

. Not applicable

x+n Data refer to the school or financial year n years after the reference year

x-n Data refer to the school or financial year n years prior the reference year