
Chapter 1

The case for promoting universal basic skills

The key to achieving inclusive and sustainable development lies in increasing the knowledge and skills of populations. This chapter discusses the link between economic growth and a population's skills. It argues that all countries, rich and poor, stand to gain enormously by ensuring that all of their citizens acquire at least basic skills in reading, mathematics and science.



There is broad interest in extending and amplifying the Millennium Development Goals, and specifically in focusing on inclusiveness and sustainability of development. Success over the next decades, however, will ultimately depend on economic growth, which will expand economic opportunities and permit societies to achieve improved levels of well-being. This report puts the development goals into the context of history, which has shown that growth is directly related to the knowledge capital, or skills, of a country's population.¹ It underlines the importance that all youth achieve at least basic skills and not merely gain access to schooling.² Framing the measurement of education progress directly in terms of knowledge capital – the underlying force behind economic growth – makes it more likely that other broad development goals will be met.

Inclusive development rightly seeks broader participation by countries in world economic well-

being and by individuals in their country's economic gains. Historically, the benefits of enhanced economic outcomes have not been equally shared across society. Even in the richest countries, a segment of the population has been left behind to deal with limited resources and limited opportunities. This segment has faced health insecurity, constrained job possibilities, and a myriad of other threats associated with poverty. The difficulties for this group are compounded when countries, as a whole, lag behind world improvement in economic outcomes.

Sustainable development calls for recognising the full cost of development. In the past, growth and development have come at the expense of the environment. These costs accumulate over time, leading to excessive pressures on the ecosystem that threaten the future. Sustainable development will depend on innovation that permits growth while preserving natural resources.

Economic growth and sustainable social development

This analysis concentrates on economic growth for the simple reason that growth expands the possibilities for both economic and social outcomes. It is often difficult to realise the importance of differences in growth rates, in particular because of the importance of compound interest when accrued over a long period of time. In fact, if per capita income grows at 4% for half a century, as in many East Asian countries, people are, on average, more than seven times as prosperous as less than two generations ago. If, instead, the growth rate is below 2%, as in Latin America, people are only about two-and-a-half times as prosperous as at the beginning of the period. And if the growth rate is 1%, as in many countries in sub-Saharan Africa, people are only one-and-a-half times as prosperous.

The key to achieving inclusive and sustainable development lies in increasing the knowledge and skills of populations. Knowledge-led growth, the hallmark of prosperity for the past half century, provides a path that converges on the overall goals of the broader world community.³ Inclusive development is best pursued through expanded economic opportunities. Simply put, it is much easier to ensure inclusion and alleviate the burdens of poverty when the whole

economic pie is larger. Expanded skills allow a broader segment of society to contribute to the economy; and this increased participation directly contributes to enhanced productivity and reduces the redistributive needs. (Within a fixed economy, even attempting to redistribute resources is generally politically difficult, and excessive redistribution may threaten the overall performance of the economy.) Expanded skills also facilitate sustainable development and growth because they lead to innovative capacity that allows economic advancement without simultaneously depleting environmental resources.

The issue of assuring basic skills for all is most acute in the development context, and this report therefore focuses attention there. To be sure, developing the skills of all members of society is a worthy objective and would lead to economic and social gains for both individuals and society. But, while the report addresses issues of focusing on the most advanced skills (see Chapter 6), it is most concerned with ensuring that all of society participates in the gains of development. This inclusiveness is more direct and feasible when all have the necessary skills for productive participation in the labour market.

A new definition of literacy

Without the necessary cognitive skills to compete and thrive in the modern world economy, many people are unable to contribute to and participate in development gains. Literacy was once defined in terms of the ability to read simple words. But in today's interconnected societies, it is far more. It is the capacity to understand, use and reflect critically on written information, the capacity to reason mathematically and use mathematical concepts, procedures and tools to explain and predict situations, and the capacity to think scientifically and to draw evidence-based conclusions.

Today, much of the world's population is functionally illiterate. The functional illiterates do not have the skills that employers seek and that the formal labour market rewards. If development occurs, citizens around the world will need the basic skills currently required in developed countries.

Because “functional literacy” has been given many meanings, the term is not used in this report. Instead, in exploring how countries could increase their knowledge capital and the implications of that increase, the analysis relies on a quantitative definition of “basic skills”. In today's interconnected world, the required basic skills are not just being able to identify information and carry out routine procedures according to direct instructions. They also include such skills as locating needed information and making basic inferences of various types.⁴

In its policy paper on post-2015 education goals, UNESCO focuses directly on how the demand for skills has evolved:

- The changing requirements in the type and level of knowledge, skills and competencies for today's knowledge-based economies and the insufficient opportunities to access higher levels of learning, including for the acquisition of knowledge and

skills on ICT (“e-literacy”), especially in developing/low-income countries, are resulting in a knowledge divide, with major economic and employment consequences in today's mainly technology-driven world. (UNESCO, 2014, p. 1).

While these basic skills are important for individual participation in modern economies, the discussion here focuses mostly on the aggregate implications of the cognitive skills of a nation's workforce. Where significant proportions of the population have limited skills, economies are generally bound to employ production technologies that lag the best in both emerging and advanced economies. They also have more limited ability to innovate or even to imitate the possibilities that are found near the economic production frontier.

In simplest terms, countries with less-skilled populations – with less knowledge capital – will find it difficult to introduce productivity improvements. As a result, they will find economic growth and development to be slower. Finally, what growth there is will be less inclusive, because those without basic skills will be unable to keep pace with their more-skilled peers.

Cognitive skills are of fundamental importance for developing and advanced economies. Thus development goals built around basic skills have meaning to all societies around the world. They correct the distorted picture of the challenges facing the world suggested by the original Millennium Development Goals and the Education for All initiative, which framed the issue of education and skills as relevant to developing countries only. The challenges have clearly been more severe for less-developed economies, but they were and are real for more developed economies as well.

Structure of the report

This analysis begins with a short overview of the importance of knowledge capital for economic growth (Chapter 2).⁵ Existing research shows that there has historically been a strong and direct relationship between the cognitive skills of national populations, measured by international tests of mathematics and science achievement, and countries' long-run growth. Moreover, this evidence provides strong reason to believe that the relationship is causal, i.e. if a nation improves the skills of its population, it can expect to grow faster. The analysis builds upon these historical findings in order to describe the potential economic improvements that would result from achieving a set of development goals that is based on expanding the knowledge capital of individual countries.

The somewhat abstract idea of knowledge capital is then put into the context of individual countries. After defining basic skills in terms of scores on the most recent installments of the major international student achievement tests – the OECD Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS) (Chapter 3) – it is possible to provide a comprehensive picture of knowledge capital for each of the 76 countries that have relevant data (Chapter 4).⁶

Of course, these tests do not provide a complete view of every country's youth. Some countries have not participated in international tests, so they cannot be directly compared with others, although participation in regional tests in Latin America and Africa provides information for a larger set of countries. Even in countries that do participate, the proportion of students who have already left school – and who are therefore out of the view of international testing – varies. Acknowledging those limitations, the report provides a country-by-country picture of the knowledge capital for as many countries as possible, and with as much completeness and accuracy as possible.

The heart of the analysis offers a concise economic perspective on a development goal – bringing all youth up to basic skills – defined in terms of the knowledge capital of nations (Chapter 5). This can be considered a fundamental development goal – the

goal that makes it also possible to address the broader development goals. This fundamental goal emphasises the importance of skills over mere school attendance.

But of course young people are unlikely to develop appropriate skills without attending school, and this analysis builds upon the prior development goals related to access to schools. The analysis extends the simple cognitive skills goal to include schooling for all along with basic skills for all.

The past record on the interplay between cognitive skills and economic growth provides a means of estimating the economic gains from meeting the development goal set out in this report.⁷ The economic benefit from reaching the development goal is calculated as the difference in future GDP with universal basic skills versus GDP with the country's current knowledge capital. Indeed, it is possible to provide these estimates on a country-by-country basis, at least for the 76 countries with current information on their knowledge capital and on the state of their aggregate economy.

Different scenarios are considered for policy outcomes and the impact of each one on economic outcomes is then estimated. In magnitude, the returns to universal basic skills are multiples of the current GDP in all countries in the world, including the countries with the highest income levels. The analysis shows that even for those developing countries that are far from achieving full enrolment in secondary schools, there are greater gains from improving school quality than from expanding enrolment in schools as they are.

Finally, in a somewhat more speculative analysis, the development goals are translated into a partial picture of how improvements in knowledge capital promote inclusiveness (Chapter 6). Bringing youth up to basic modern skills implies improved economic futures in particular for the affected youth. Existing information on the returns to skills in the labour market allows for some estimates, albeit partial, of how an improvement in skills achieves the complementary goal of bringing the rewards of economic development to a broader segment of society.

NOTES

1. The term “knowledge capital” is used to connote the aggregate cognitive skills of a country’s population. The relevant skills for economic development, as discussed in this report, can be measured by international assessments, such as the Programme for International Student Assessment (PISA). See the broader discussion in Hanushek and Woessmann (2015).
2. Others have previously considered development goals that emphasise skills. Filmer, Hasan and Pritchett (2006) propose Millennium Learning Goals that are closely related to the goals described in this report. This argument is expanded with an in-depth analysis of learning profiles in developing countries by Pritchett (2013). The emphasis differs, however, by focusing on the economic benefits that accrue to a broad array of countries that meet alternative goals.
3. Other factors also enter into long-term growth. Importantly, as discussed in Chapter 5, the quality of economic institutions, such as having an open economy and having secure property rights, both influence growth and interact with the use of a country’s knowledge capital. The skills of the population nonetheless remain strong and central to growth, even in the face of different economic institutions.
4. The operationalisation of this skill level relates directly to concepts and definitions in PISA, the OECD’s international testing in mathematics, science and reading. In terms of PISA scores in mathematics, this means mastering at least Level 1, as is discussed in the next section. See also the descriptions in OECD (2013).
5. This discussion relies heavily on the analysis presented in Hanushek and Woessmann (2015).
6. PISA and TIMSS data are used. While there are test data for 81 countries or regions, sufficient economic data are missing for five.
7. This analysis elaborates on and extends the prior analysis of gains for OECD countries in OECD, Hanushek and Woessmann (2010).

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