Endnotes

There are complications and caveats to this simple picture. Many countries in the South are on a strong upward developmental path, like the BRICS countries; while some countries in the North are on a strong downward path, like Greece and possibly Italy and Spain. Others have become failed states or descended into war. Take a look at the table below. It is based on a fascinating attempt by the United Nations to rank all the countries of the world on a human development index (HDI). At http://hdr.undp.org/en/statistics/ you will find an excellent website that uses three basic dimensions (health, education and income) to rank countries from best to worst on a HDI. I selected seven countries, the five BRICS and the highest and lowest country. The bold figures are final scores based on a combination of key indicators in each component (for education it consists of indicators like public expenditure, expected years of schooling of children, adult literacy rate and mean years of schooling of adults). The bottom figure in brackets provides one key indicator inside each component.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Health (life expectancy)</th>
<th>Education (mean years of education)</th>
<th>Income (US dollars per year)</th>
<th>HDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Norway</td>
<td><strong>96.4</strong> (81.1 years)</td>
<td><strong>98.5</strong> (12.6 years)</td>
<td><strong>88.3</strong> ($47 557)</td>
<td>94.3</td>
</tr>
<tr>
<td>66</td>
<td>Russia</td>
<td><strong>77.0</strong> (68.8 years)</td>
<td><strong>78.4</strong> (9.8 years)</td>
<td><strong>71.3</strong> ($14 561)</td>
<td>75.5</td>
</tr>
<tr>
<td>84</td>
<td>Brazil</td>
<td><strong>84.4</strong> (73.5 years)</td>
<td><strong>66.3</strong> (7.2 years)</td>
<td><strong>66.2</strong> ($10 162)</td>
<td>71.8</td>
</tr>
</tbody>
</table>
Each country has a different education story to tell and we shall explore a country level focus later on in this chapter, but the key point is that there are other organising logics that run in complex parallels with education.

3 The Southern and Eastern Consortium for Monitoring Education Quality (SACMEQ) has conducted three projects across the region in the last few decades. The first (SACMEQ 1) ran from 1995 to 1998, the second from 1998 to 2004 and the third from 2005 to 2010, with the numbers of students, teachers and schools increasing each time. SACMEQ I involved seven countries, 20 000 learners and 1 000 primary schools; SACMEQ II had 40 000 learners, 5 300 teachers and 2 000 primary schools; and SACMEQ III studied 15 countries with 61 000 learners, 8 000 teachers and around 2 700 schools (Spaull, 2011, p. 40). There are problems with the validity of the tests as the South African versions were available only in English and Afrikaans, thus putting most students at a disadvantage to other countries testing in home languages.
6 http://huebler.blogspot.com/2012_07_01_archive.html.
7 This open-access work is published under the terms of the Creative Commons Attribution Non-Commercial License 2.0 Germany, which permits use, reproduction and distribution in any medium for non-commercial purposes, provided the original author(s) and source are given credit. See http://creativecommons.org/licenses/by-nc/2.0/de/.
8 This does not mean that mass education only began in the nineteenth century, but Tau would not have been able to see it clearly from above. After the Reformation there was a concerted attempt in Scandinavian countries to ensure literacy for Christian purposes, but this was done inside homes with tests in the parish (Miller, 2006, p. 131).
Feminisation of teaching varied by country (Miller, 2004). In Denmark and Germany, for example, it has been far slower than other European countries. 

The idea of a one-room schoolhouse has not disappeared, especially from the mind-sets of progressive educators who are attracted to the idea of everyone living together as one big happy family. The Discovery Charter School in Newark, New Jersey, has attempted just such a model. Here is a description by De Gregori:

Walking past the attended entrance room, the visitor is immediately introduced to a vast scenario. Here, students from different grades sit at small, individual, easily movable tables, forming groups around their teachers. Student tables and other elements are painted in various bright colours, and they become purposeful, cost-effective components of the larger classroom space, contributing to its vitality. A variety of plants are also installed in the room, providing a link between the man-made and natural environments. The room, occasionally divided with a few transferable low partitions, is full of activity. There are students sitting, reading and writing at workstations along the walls. Laptops are noticeable, but not as much as voices. Questions and answers fly across the room. It could be described as a choral humming interspersed with solos. However, the noise and movement of people appear not to distract from the various learning activities (De Gregori, 2011, p. 9).

It still took the Germans another 120 years to get to the point where over three quarters of their children were in school. Developing countries in Africa have been given far less time to attempt the same feat and without the benefits of colonial plunder to help them.

Robson was being a little unfair. There were specific technical and architectural discussions about the optimum size and shape of schoolrooms in England (see British and Foreign School Society, 1816, pp. 3–5).

Semantic knowledge is further divided into declarative and procedural knowledge: the difference being the ability to say what you know and do what you know. It’s a foundational distinction, especially in education, but at one level too fine for a book as introductory as this one. It has been hard for me as a writer to make decisions about where to cut off the level of focus.
This is not due to engaging in fields that lose their educational purchase, but because the level is too fine for a primer. The choice not to go into more detail about how cognitive science classifies knowledge is particularly tough as the full set of distinctions provides a powerful map of how we work with knowledge in education. But it’s simply too hard to carry both intricate detail and an introduction to the broad terrain at the same time. For example, here is a more complex figure of working memory:

Followed by a fuller set of distinctions than the ones I work with in this chapter.

20 Go to http://www.youtube.com/watch?v=vJG698U2Mvo.

21 He had a terrible relationship with his mother and blamed it partly on her lack of purchase on reality. As he noted, ‘I have always detested any departure from reality, an attitude which I relate to my mother’s poor mental health’.


23 This account is based on the research of Perry, who conducted in-depth interviews with undergraduate students at Harvard during the 1960s. Neither Harvard nor the 1960s are representative of what is happening to students across the world, nor does development stop with undergraduates: what of postgraduates and the much needed critique of relativism?

24 Biologists used the way we learn as an analogy for how we work at a
molecular level that strangely mimics what is now used in cognitive science. The reason why we speed up going through the stages is that each generation practises it and becomes more adept (Gould, 1977, p. 100).

25 Piaget, like Spencer, was a polymath interested in finding a theory of everything and, like Spencer, felt the answer revolves around how parts work with wholes: ‘I suddenly understood that at all levels (viz. that of living cells, organism, species, society, etc.) but also with reference to states of conscience, to concepts, to logical principles, etc. one finds the same problem of the relationship between the parts and the whole; hence I was convinced I had found the solution.’ Like Spencer, Piaget felt that the way parts and wholes interacted gave him the golden key to an understanding of all existence. But contrary to Spencer, Piaget sensed that the individual child could be used to understand the whole species, not in terms of biological recapitulation, but how the emergence of knowledge in the individual child would reveal the emergence of knowledge in the human species. Rather than use the part/whole relation as a metaphysical doctrine, he set out to understand how a child works with parts and wholes, and in so doing uncovered a whole new world we are still exploring.

26 https://www.khanacademy.org/about/the-team.


29 You are welcome to do my introductory online course on educational analysis. It’s around five hours long and has questions throughout that give you immediate feedback. It is called ‘Educational analysis for beginners’ and you can find it here: http://zapt.io/tegmues. I keep track of all participants and get feedback on all your responses.