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*In the last 200 years, the number of children attending primary school globally has grown from 2.3 million to 700 million today, covering nearly 90 percent of the world's school-age children. But the gulf in average levels of education between rich and poor countries remains huge. Without a fundamental rethinking of current approaches to education, it's going to take another 100 years for children in developing countries to reach the education levels achieved in developed countries. Something needs to change.*

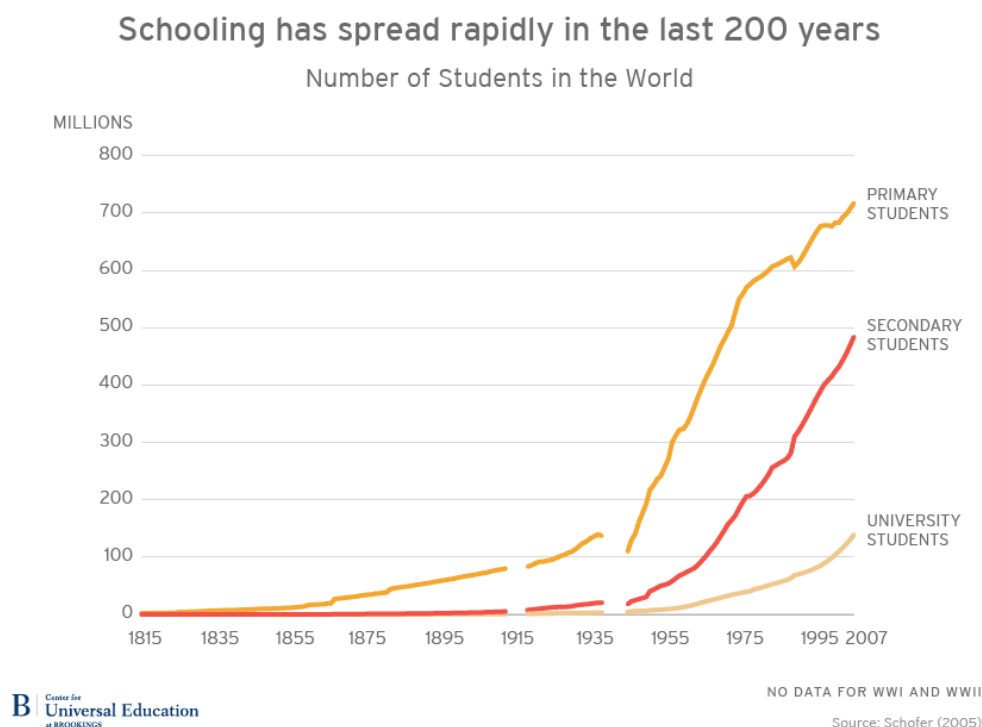
## **Global education enrollment and attainment: Unequal access, unequal outcomes**

Who would have guessed in 1763 that the Prussian government's decision to provide broad access to schooling would be the first step in a mass schooling movement that would spread across the globe?[1] In the beginning of the 19th

century, a sum total of 2.3 million children were enrolled in primary school around the world.[2] Today, more than 700 million children are now enrolled in primary school, nearly 90 percent of the world's school-age children (see Figure 1).

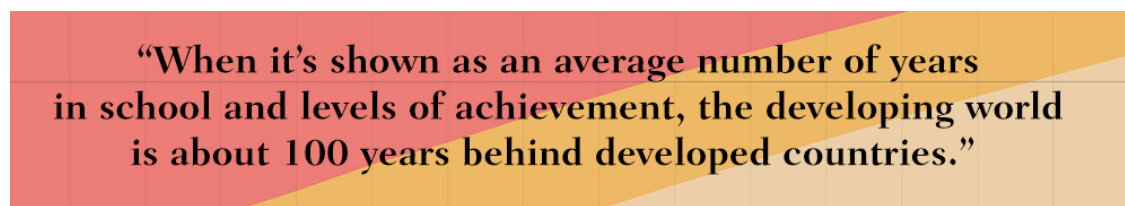
The spread of schooling around the globe remains one of the most widely successful "going to scale" stories to date. Two hundred years ago, it would have been inconceivable in any country or cultural context that a central feature in a child's upbringing and preparation for adulthood would be his or her regular participation in classroom lessons and school life. Of course, education existed long before—and indeed for millennia has been the primary way in which humans have passed down knowledge across generations—but for the vast majority of young people it took very different forms, such as through the family, songs and the arts, cultural and religious institutions, community work, and apprenticeships in arts and trades. Today, not a single country in the world is without a schooling system, and for most of the world's youth the education they receive in school—or lack thereof—has a major bearing on their prospects in adult life.

**Figure 1**



While there has been global convergence around enrolling children in primary school, stark education inequality remains between developed and developing countries. When it's shown as an average number of years in school and levels of achievement, the developing world is about 100 years behind developed countries. These poorer countries still have average levels of education in the 21st century that were achieved in many western countries by the early decades of the 20th century. If we continue with the current approaches to education, this century-wide gap will continue into the future.

This 100-year gap, while variable across regions and education levels, is sufficiently large and persistent to demand a response. To better understand what we can do to address such deep levels of global education inequality we first have to understand how we got here in the first place. How did mass schooling develop? What is the nature of the 100-year-gap today? What are the possible future trajectories for global education? These are crucial questions to answer before we can land on a solution to the problem.



**“When it’s shown as an average number of years in school and levels of achievement, the developing world is about 100 years behind developed countries.”**

## **The four forces behind the emergence of mass schooling**

It may come as a surprise to learn that over the last 200 years, both flourishing democracies and autocratic regimes have consistently placed a great deal of importance on schooling, just as countries with robust and expanding economies invested in schooling as eagerly as countries with stagnating GDP figures.[3] In fact, the gains in schooling from 1950 to 2010 were nearly equal between the most and least corrupt countries, the most and least democratic, and those with the largest and smallest levels of economic growth.[4]

In other words, the spread of mass schooling cannot be dismissed as merely ancillary to global economic growth or to the increasing prevalence of more representative forms of government. Instead, mass schooling has been a global movement spurred on by multiple forces, often interrelated and mutually reinforcing. Initially, the movement was kick-started by threats of military conflict in places like Prussia and Japan, and the desire among states to have a better-tooled, and hence better educated, military.[5] The Protestant church in northern Europe was also an early proponent, recognizing that the more literate a population the more members of its flock would be able to read the Bible.[1] But underlying the development of mass schooling over time, four fundamental forces stand out as having been especially influential in driving the movement: the university, the industrial revolution, nationalism, and human rights.

### **The university as knowledge holder**

The role of the university in the mass schooling movement is often underappreciated. But as David Baker eloquently argues in his latest book, "The Schooled Society," it has been fundamental in laying the groundwork for the spread of schooling.[6] The Western university, in particular, has had a profound influence on the way in which societies around the world have come to understand knowledge itself. Eight hundred years ago, when the first Western universities were established in Europe, from Paris to Bologna to Oxford, schools were not seen to be the arbiters of knowledge that they are considered to be today. However, over the centuries the idea inherent in university scholarship that knowledge and truth is open to discovery by anyone has taken hold so firmly in most places around the globe that we hardly question it anymore. Even in parts of the world where strong alternatives to this understanding exist, such as cultural or religious doctrines, they usually exist alongside each other ("traditional" sources of knowledge versus "modern" sources of knowledge, for example).

Today, the university's role in organizing, validating, and legitimating knowledge has wide influence, including on schooling as the main pathway to reaching university. We see it when the university degree signals to employers a level of competence, despite the fact that many young people forgo actual work experience to attain the degree. We see it in the massive effort parents expend to ensure their children succeed in school, including the nearly \$100 billion parents are spending

worldwide on tutoring.[7] We see it in the media when the act of leaving school early—"dropping out"—is described interchangeably with failure and social dysfunction.

This widely accepted understanding that accessing knowledge and truth is open to anyone and that the university is the main arbiter of knowledge in society has proved to be powerfully rich soil in which the seeds of mass schooling have flourished.

### **The Industrial Revolution, technology and the workplace**

Within this larger social phenomenon of universities sanctioning the type of knowledge deemed worthy, there developed a pressing economic need for schooling. As technology improved throughout the Industrial Revolution in the 18th and 19th centuries, societies and economies shifted from agricultural and skilled-craft trades into manufacturing societies. Claudia Goldin and Lawrence Katz describe the changes to skills supply and demand in America in "The Race Between Education and Technology." Their analysis finds that with the advent of new technologies that shifted work from highly skilled trades to manufacturing, there was initially a decrease in the demand for skills. Take automobiles, for example. Early automobiles were built in large artisan shops by highly-skilled craftsmen. However, with advances in technology, the industry demanded assembly-line workers who were largely unskilled, putting the trained and skilled craftsmen out of business. As technology continued to evolve, though, manufacturing again required highly skilled workers who could work in the increasingly automated plants.[8]

This pattern captures an important dynamic in the economy that promoted the spread of mass schooling not just in the United States, but everywhere. While education had largely been provided through apprenticeships and passing down skills through families, this system began to break down as many of those trades were automated. Instead, general schooling more akin to the schools we see today became the norm and apprenticeships fell out of favor. In turn, those skills allowed workers to better work with technology and be even more productive. This was

true for blue-collar workers who used heavy machinery as much as it was for the growth in white-collar jobs that required literacy, numeracy, and the ability to work with new office technologies.

Schooling came to be seen as the primary institution through which young people could gain the proper training for these higher-skilled positions, and so a rapid increase in schooling came on the heels of rapid technological change.[9] Goldin and Katz write extensively about the high school revolution, and that shifting from a specialized to a general curriculum—one that focused on arts and sciences rather than vocations—well into adolescence gave American youth the skills they needed to be mobile and adaptable to new jobs. This was quite opposite, and much more expensive, than the apprenticeship model that trained workers to do one job in one location for their entire working lives.

At the same time, the egalitarian nature of mass schooling coupled with more labor market opportunity outside the home spurred a whole new set of workers. Women took on jobs in manual labor and also white-collar jobs as they gained higher levels of education and the need for office workers increased. Schooling and work for women changed the structure of families and households, so that schools have become increasingly relied upon as childrearing services, further increasing the demand for mass schooling.[10]

### **Fostering nationalism in the classroom**

In addition to the drive for higher-order skills in the labor market, mass schooling was also seen as an important political tool in cultivating citizens' identification with the nation-state in which they happened to find themselves. The philosopher Benedict Anderson described this kind of connection to the nation as an "imagined community," a community in which the members will never meet each other but nevertheless have a "deep, horizontal comradeship" based on shared values and their nation.[11] Schooling has long been used to build these communities to strengthen a nation's power. It's no coincidence that surges in the spread of mass schooling often followed significant military defeats, when governments most needed citizens to be united.[12]

Particularly for newly independent countries in the post-World War II era, this was a very strong driving factor in the global expansion of mass education along with a desire to appear more modern.[13] In one study, an analysis of enrollment data before and after 1940 found that the enrollment spike in the post-war period came primarily from former colonies driven to establish a national identity and be seen as part of the modern world. This was a much more significant predictor of increased enrollment than any country's economic conditions, urbanization, race, or religion. [14]

### **The universal right to an education**

One of the most important forces driving mass schooling remains the social movement around universal human rights. The notion of rights dates back centuries, but the concept of rights universally enjoyed by all people—regardless of sex, color, ability, or caste—was both profound and catalytic and only really took root in the mid-1900s. In 1948, following the devastation and atrocities of two world wars, all the countries in the world came together under the auspices of the newly minted United Nations and articulated in the Universal Declaration of Human Rights a set of rights and duties for all people. This included the right to education, an education that is to be free and compulsory at the elementary levels and “directed to the full development of the human personality.” This right to education was further elaborated in the second half of the 20th century in subsequent human rights treaties, such as the Convention on the Rights of the Child in 1989, and globally agreed upon goals for education, most notably the Education for All and Millennium Development goals in 1990 and 2000, respectively.

The right to education movement helped to profoundly change expectations around schooling in societies around the world. No longer would young people, parents, and community leaders be satisfied with policies that specifically aimed to educate a small section of society. It was now expected that all children, no matter who or where they lived, should have the chance to go to school.[15] This new set of social norms was a crucial driver of the surge of enrollments after the mid-1900s, particularly in the developing world.

**“The 100-year gap persists today, and is not projected to close in the future if we continue with the same education policies and approaches that we are using today.”**

## **The 100-year gap: A tale of schooling inequality**

Hidden within the data on the rise of schooling as the pervasive global form of education for young people is a story of deep inequality. Throughout history there has been an approximately 100-year gap between schooling opportunities and outcomes for young people in the developed and the developing world. In some ways, this is understandable as mass schooling historically emerged first in Europe and North America and then spread across the globe. However, given the technological social advancements of the 21st century, it is simply not morally acceptable that this gap continues to exist today.

Examining a range of global data sources, it is clear that the 100-year gap persists today, particularly for children in the world's poorest countries. And perhaps most worrisome, it is not projected to close in the future if we continue with the same education policies and approaches that we are using today. We trace this gap over time using data on children's enrollment in school, the number of years of school adults have completed, and children's learning outcomes on literacy, numeracy, and science.

While these indicators are important, we also acknowledge that they might not be the most important indicators of how successful education systems are. We know that the goals of education systems are much broader than simply increasing the volume of those attending school, and we know that there are skills and competencies like problem-solving and perseverance that may be just as important as literacy and numeracy. Unfortunately, we don't have very good measures to be able to assess how well schools are serving their students in these regards, so we have chosen the best indicators that are available.

### **Developed versus developing countries**



Throughout this essay we refer broadly to developed versus developing countries. While there are many other possible classifications to use, we chose this ultimately for simplicity. To compare schooling data over time, we chose to use the broad definition of “developed” and “developing” regions classified by the United Nations. By this definition, developed regions include Europe, North America, Japan, Australia, and New Zealand, which in historical studies are often termed “Europe and its offshoots,”[16][17] while “developing regions” are essentially the remainder of the world—Latin America, Asia, and Africa. We also break down the data when possible into smaller regions to show how widely varied educational progress has been, and how the gap may actually be more than 100 years when we look at countries in sub-Saharan Africa and South and West Asia.

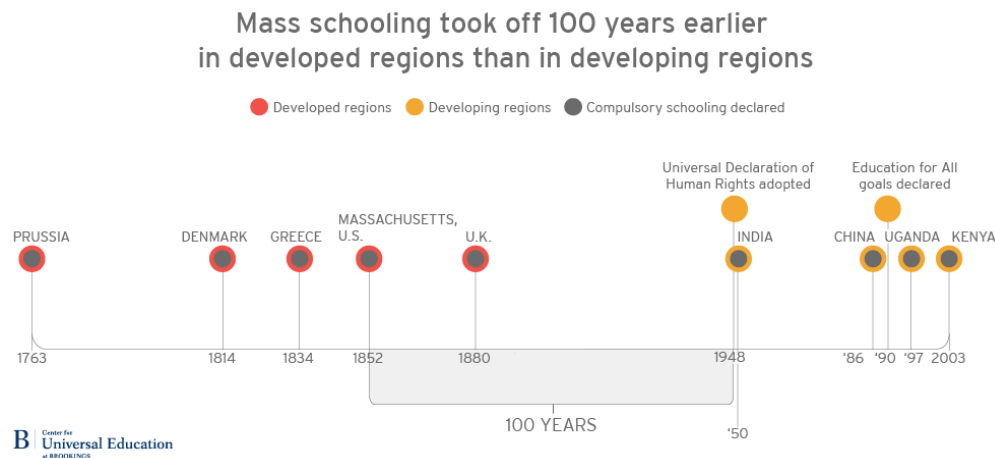
The U.N. developing regions classification is not perfect, but comparing countries over long stretches of time provides a number of complications. Presently, researchers and policymakers are more likely to use World Bank classifications of high-, middle-, or low-income countries that use per-capita income to determine the development level of a country. This classification would significantly complicate calculations over time because a country’s income level can change and shift it into a new category, and the income level definitions can also change over time. This means that in the U.N. classifications many of the countries in developing regions are actually no longer developing and have reached high-income status, but historically were less developed than Europe and North America. For example, Chile today is considered a high-income country according to its current income level, but falls in the developing regions category. In any case, this means some of the comparisons here may be conservative and actually underestimate the 100-year gap, given that “developing regions” does not comprise only the poorest countries today.

### **The gap in enrolling children in school: The historic lag of mass education**

In many ways it is not surprising that there is a 100-year gap between developing and developed regions’ education systems, because historically the mass education movement blossomed in Europe and North America in the mid-1800s but it was not until the mid-1900s that it began to spread widely across most of the developing world. In Europe, “many schooling systems ... were solidly in place by

1870,”[1] while in developing regions mass schooling was largely a post-World War II phenomenon. This can be shown by looking at some key dates in the establishment of mass schooling.

**Figure 2**

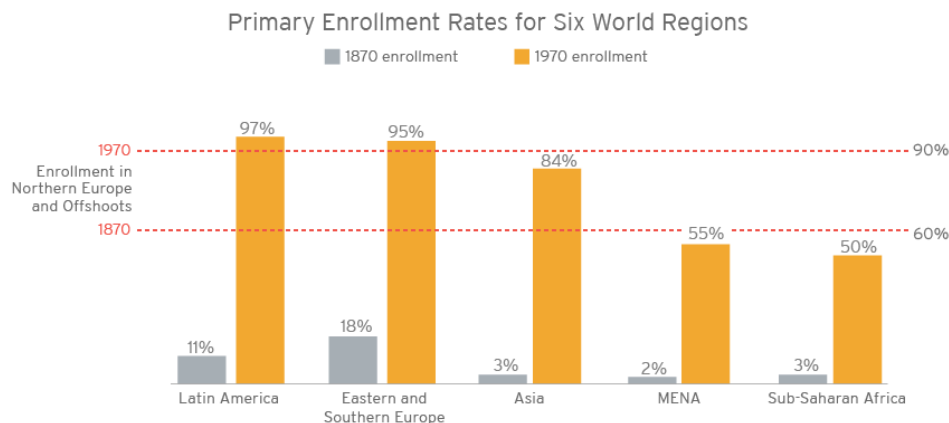


The same historic lag we see in compulsory schooling legislation can be expressed in terms of primary school enrollment rates. Looking at historic data on gross enrollment, Figure 3 shows that children in developed regions were beginning to enroll in school in large numbers as early as 1870. Enrollment was just over 60 percent in northern Europe and its offshoots, including the United States, Canada, and Australia, while in Asia, sub-Saharan Africa, and the Middle East and North Africa (MENA) enrollment was just 3 percent.[16] Taking 60 percent as the threshold from developed region enrollments in 1870, a century later some developing countries in Latin America and Asia had surpassed this level, but sub-Saharan Africa and the MENA region had not yet caught up, with rates of 50 and 55 percent respectively.

The data also suggest that developing regions have since caught up in terms of gross enrollment rates, although this figure doesn't tell the full story as it looks at total enrollment rather than enrollment of the school-age population. For that, we can look at today's net enrollment ratios and see that less than 80 percent of school-aged children are in school in sub-Saharan Africa. We know that North America and Western Europe were well past this level at least 40 years ago, even though we don't have historic data on net enrollment.

**Figure 3**

**In 1970, enrollment levels in Africa and the Middle East were still lower than in Europe 100 years earlier**



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Source: Dorius (2013)

### **Average number of years of school in the adult population**

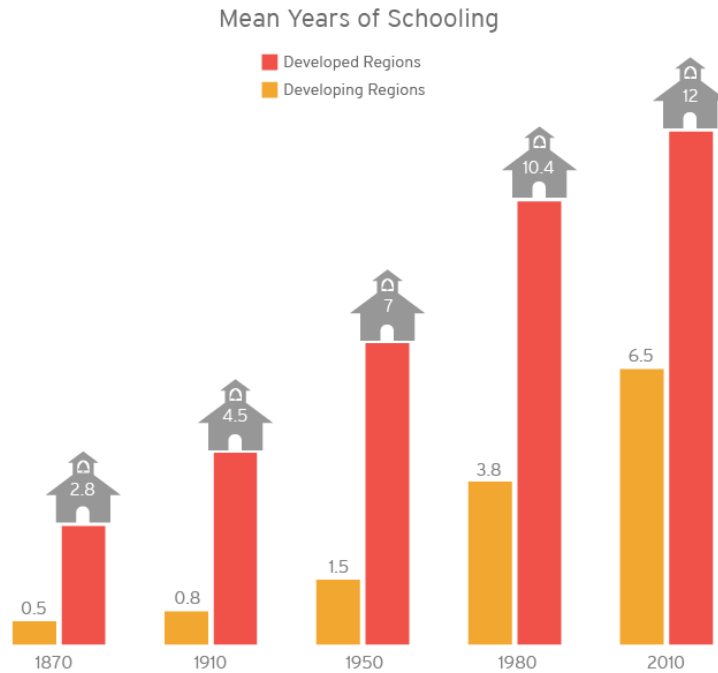
In addition to children's enrollment in school, the 100-year gap can be seen in how many years of school adults complete on average. Often described as educational attainment, this measure can be thought of as the educational stock in a population, something businesses and economists in particular care about when thinking of the labor force in a country because it can signal how skilled the workforce is overall.

As shown in Figure 4, in 1870 the average adult in developed regions completed 2.8 years of education while the average adult in the developing regions finished half a year. As mass schooling expanded, it's not surprising that the average adult increasingly attained more and more years of schooling. However, a significant gap still exists today —adults in the developed world have on average completed 12 years of schooling and those in the developing world about half of that, 6.5 years.

[17]

**Figure 4**

## Even after 100 years, developing countries lag significantly behind in educational attainment



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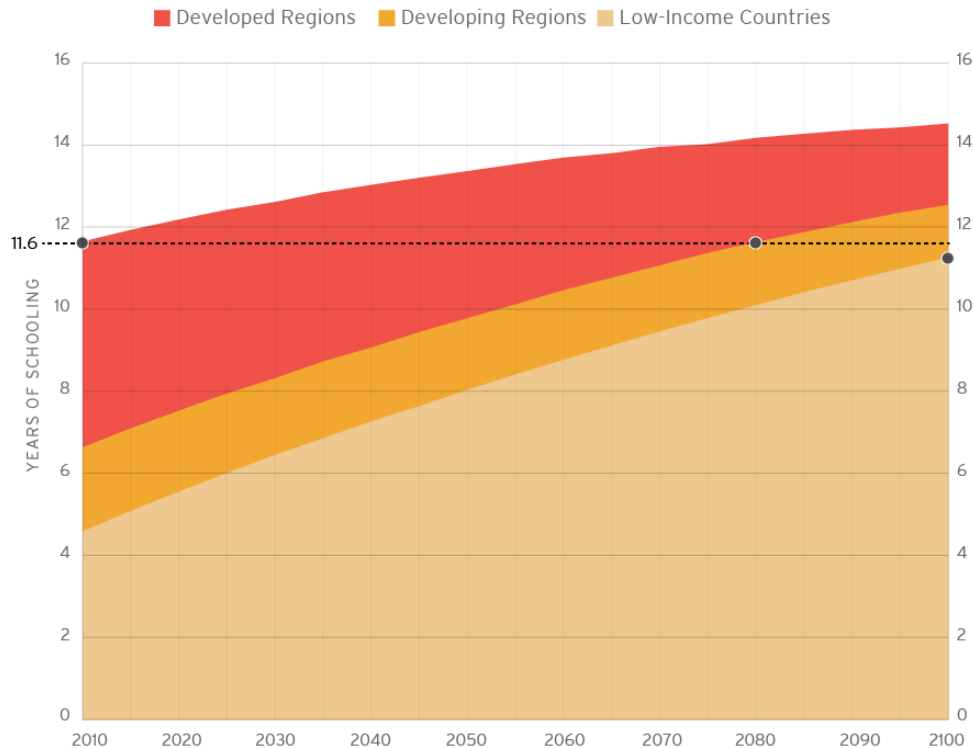
Source: Morisson and Murtin (2013)

Notably, even with the major convergence of primary school enrollment across regions we have not seen convergence in educational attainment. This means that while large numbers of children are enrolling in school they are not completing school. What is even more disturbing is that if we stick to business as usual, it will take another 65 years before developing regions reach the levels of education seen in developed countries today. Today's poorest countries will not reach that level until 2100, meaning 1.6 billion people will have to wait 85 years before attaining 12 years of school on average. In the meantime, schooling levels are expected to continue increasing in the developed world, albeit at a slower rate, meaning true convergence is far in the future.

**Figure 5**

## It will take 85 years for low-income countries to come close to closing the education attainment gap

Mean Years of Schooling, Projections 2010-2100



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Source: Wittgenstein Centre for Demography and Global Human Capital (2014)

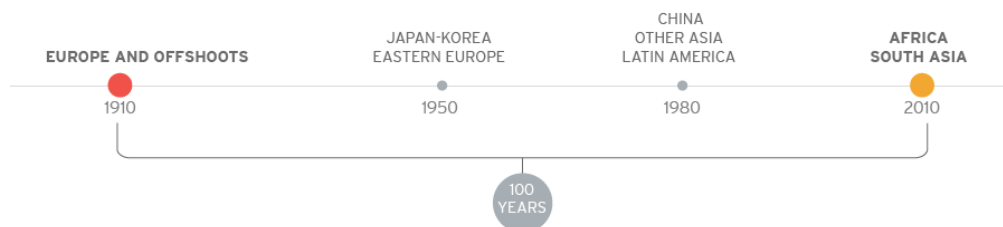
The gap is even larger if you break it down by region. In the above calculations, “developing regions” includes Latin America, China, and Korea, whose progress has been much faster than the poorest regions.

As seen in Figure 6 below, sub-Saharan Africa and South Asia are the two regions with the lowest education levels; in 2010, the average number of completed years of schooling was just under five. Looking back, we can see that Europe and its offshoots were already above this level 100 years before. Eastern Europe, Japan, and South Korea hit this level by 1950, and Latin America and China by 1980. The progress in Africa and South Asia has been far slower, and thus the gap between these regions and the most developed countries today is almost eight years.

**Figure 6**

## Africa and South Asia are just reaching educational attainment levels achieved in the developed world 100 years ago

Decade When Each Region Attained Approximately 5 Mean Years of Schooling



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Source: Morrisson and Murtin (2013)

It would be logical to think that these gaps will close themselves as time goes on. With sharp increases in primary school enrollment should come increased attainment, and as adults become more educated future generations will benefit. But the major issues holding back the least developed regions from catching up in school attainment are related to completion, not enrollment. For example, the Education for All Global Monitoring Report estimates that at current rates, it won't be until 2111 when we can expect that all children in sub-Saharan Africa will complete lower-secondary education—96 years from today (Figure 7). Low levels of secondary school enrollment will continue to keep the poorest countries from improving average levels of education. In the United States, over a third of youth were enrolled in secondary school by the 1920s,[8] while in sub-Saharan Africa that figure is just 41 percent today.

**Figure 7**



## **The gap in children's learning outcomes**

The 100-year gap is visible not only in the pace at which children and youth are accessing and completing schooling but also in the skills they are learning while there. Historical data on learning levels is hard to come by, but we can see from recent efforts to compare different types of student assessments in reading, math, and science that today significant gaps in student proficiency exist.

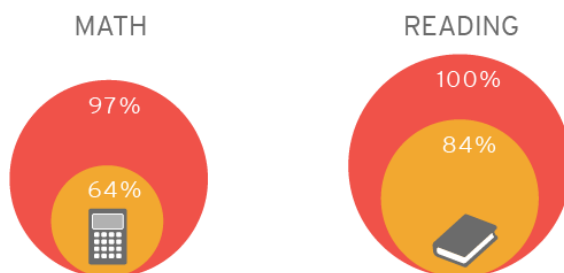
Using data from the WIDE database from UNESCO, we can compare the numbers of students who meet international benchmarks for minimum proficiency levels in math and reading. The data take regional and global student assessments of 4th, 5th, and 6th graders for almost 100 countries and aligns them to an international proficiency level. Using the same regional classifications from the U.N. for developed and developing regions, it is clear there is a wide gap. In developed regions, nearly every student achieves basic math and reading levels in middle school, meaning he or she can perform simple math functions like adding and subtracting whole numbers and recognizing parallel or perpendicular lines, [18] and in reading such students can locate and reproduce a specific piece of information that appears at the beginning of a text.[19] However, the data for students in developing regions is much more troubling. In math, less than two-thirds of developing country students are meeting basic learning levels. And while the results for reading are more promising, a marked gap remains.

**Figure 8**

**Significantly fewer children meet basic levels of proficiency in math and reading in developing regions**

Students Meeting Basic Proficiency in Over 90 Countries

■ Developed Regions ■ Developing Regions



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Source: UNESCO, World Inequality Database on Education

Source: Authors' calculations using data from UNESCO's World Inequality Database on Education with indicators "learned basics in reading" and "learned basics in math" and enrollment figures from UNESCO Institute of Statistics Data Centre.\*

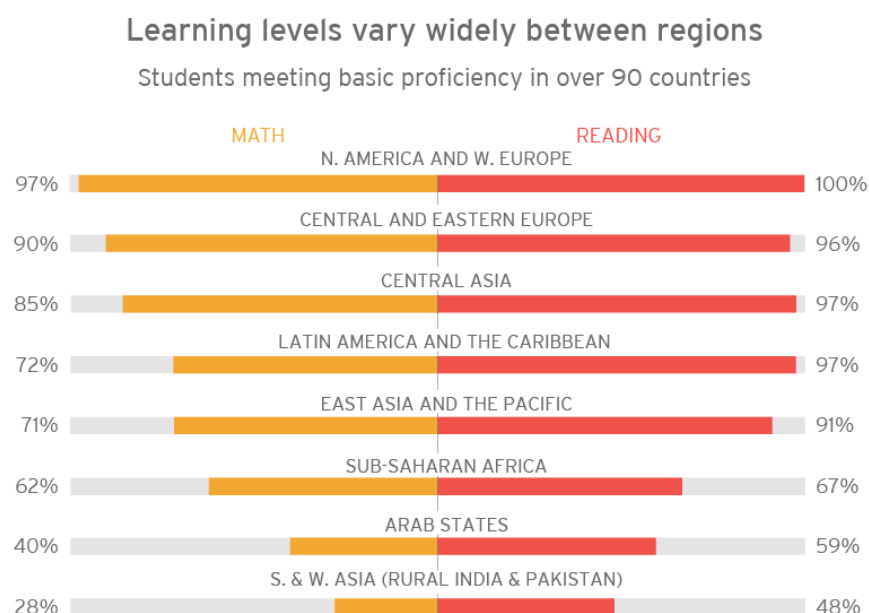
*\*Note: These calculations exclude India and Pakistan, whose data is only for children in rural areas and thus isn't sufficiently comparable to average together with all the other countries. The dataset defines the basics as meeting the lowest benchmark on the TIMSS and PIRLS exams, and aligns regional examinations to that standard. To read the detailed methodology, see Altinok, N. (2012) A New International Database on the Distribution of Student Achievement. Background paper for the Education for All Global Monitoring Report 2012. UNESCO. Assessments in the database are TIMSS, PIRLS, ASER, PASEC, SACMEQ, and SERCE ranging in date from 2001-2013. Math assessments cover 98 countries and reading 96 countries.*

Among regions, though, these figures mask significant variation. Latin America, Central and East Asia, and the Pacific have succeeded in having virtually all children reading proficiently after four to six years of school. However, in sub-Saharan Africa, Arab states, and South and West Asia significantly fewer students are learning the basics in reading, from about one-half to two-thirds (see Figure 9). Math is a different story. In many regions where children master reading, they



continue to struggle with math. Only in North America and Western Europe do virtually all children have basic numeracy skills. In Latin America, fewer than three-quarters of students meet basic math standards despite the fact that nearly all are proficient in reading. In the regions struggling the most in reading—Arab states and South and West Asia—the picture is even bleaker, with just 40 percent and 28 percent of students learning basic math skills, respectively.

**Figure 9**



Source: Authors' calculations using data from UNESCO's World Inequality Database on Education with indicators "learned basics in reading" and "learned basics in math" and enrollment figures from UNESCO Institute of Statistics Data Centre. Education for All regional classifications.\*\*

*\*\*Note: South and West Asia regional estimates include results from the ASER assessment in India and Pakistan which only represents fifth graders living in rural areas. As more than two-thirds of these countries' people live in rural areas, we thought it was useful to include it here in order to portray a fuller picture of the region.*

The learning gap is clear from these figures: Students in developing countries fall behind students in developed regions. However, these calculations only account for those who are attending school. The Education for All Global Monitoring Report 2013/14 used the same test results but also accounted for the full population of children—including those not in school. The report estimates that 250 million children across the globe, both in and out of school, lack basic math and reading skills.

What is even more worrisome than this snapshot of current learning achievement is the lack of progress that will be made going forward if we stick to business as usual. For example, Lant Pritchett has calculated how long it will take for developing countries to close the gap in learning outcomes not based on the minimum learning levels we showed above, but based on today's average levels in developed countries. Using a handful of middle income countries that have taken internationally comparable exams multiple times over the last 15 to 20 years, Pritchett estimates it will take at least 100 years, if not more, for children studying in developing country schools to reach the learning levels of today's students in developed country schools.[4]

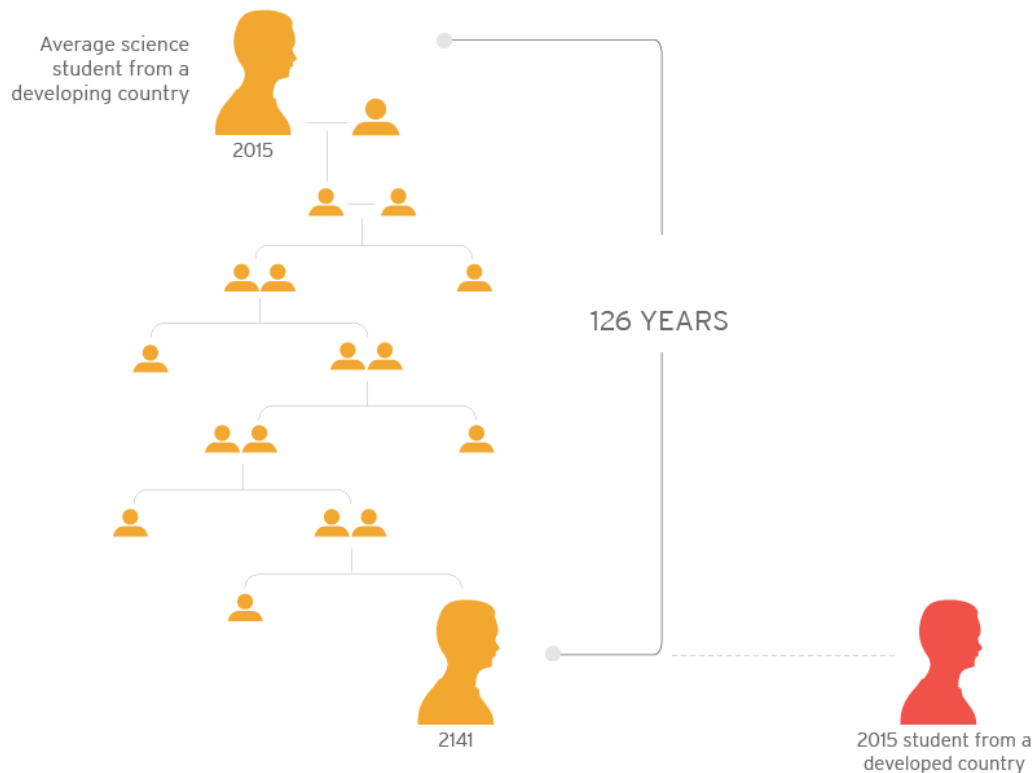
He calculates this looking at the year-to-year change in countries like Indonesia, Turkey, and Malaysia, which according to our calculations are in fairly successful regions, and sees how long it would take to reach a score of 500 on the Trends in International Mathematics and Science Study (TIMSS)—the average for developed countries. The quickest catch-up would be in science, and even that Pritchett estimates to take at least six generations, approximately 126 years.\*\*\* He calculates that if I happened to be born in the developing world it is my great-great-great-great-grandchild's generation that will have achieved the average skill level that young people in the developed world have achieved today.[20]

*\*\*\*Note: These calculations were made using eight developing countries (middle- and low-income) that took the TIMSS for 8th grade in either 1995 or 1999 and in 2007. Comparing the change in average score over that time period and taking the median rate, 126 years refers to the amount of time it would take to improve score by 100 points- from the low benchmark of 400 to the international average of 500.*

## Figure 10

## Quality Learning

**6 Generations:** Time it will take for average-scoring students in **developing countries** to catch up to those in **developed countries** today



In math, Pritchett concludes that students in developing countries will never catch up at current rates because the median change over time is actually negative. These are just predictions based on an admittedly small amount of data, but if anything they may underestimate the gap because it does not include any low-income countries. Other studies also find that learning is not improving over time in many developing countries. For example, ASER in India describes the learning curve as flat, and that reading achievement is not only low but “stuck”—meaning it is stubbornly not improving from year to year. Some countries fare better than others, but most of the evidence shows that levels of learning are low in the world’s poorest countries, and it is not improving at a sufficient rate to close the gap between what students know and can do in developed and developing countries.

In summary, across enrollment, attainment, and learning data a massive gap exists between developed and developing countries. Ultimately, it is not important if the gap is 65 years for some measures or 126 years for others. What is important is that it is real, it is big, and it is inexcusable. At the broadest level, if we continue doing what we are doing, the gap between the developed and developing worlds in enrollment, attainment, and learning of core subjects like literacy, numeracy, and science will not close. Whether it is three generations or five generations or eight generations for young people in different parts of the developing world to gain the same level of opportunities and outcomes that young people in the developed world have today is not the point. The point is that addressing this gap is both urgent and important.

### **Different measures, different story?**

One consideration that arises when examining the 100-year gap is how different it might look if only we used alternative metrics. Inequality between countries—across different time periods and on different learning outcomes—is an important factor to consider. For example, over the last decade, the evidence has been increasing on the large scale of educational inequalities within countries broadly corresponding to how wealthy a child's parents are, but also if children are girls or boys, or live in urban or rural areas. We mentioned earlier that all children in sub-Saharan Africa aren't expected to complete secondary education until 2111, but the richest boys are projected to reach that milestone in 2041, a full 70 years before the poorest girls.[21] Indeed, it is largely this in-country level of inequality that contributes to the 100-year gap. However, only looking at in-country inequality misses the pronounced disparities between countries. In international exams the median student in poorer countries places in the bottom 8th percentile of scores of high-income countries, something that is equally as unacceptable as poor girls completing school decades behind their rich male peers.[22]

Selecting a different time frame may also show a different story. If we adjusted the time-frame and looked instead at Europe's middle ages, when mathematicians in India were laying the foundations for calculus more than 200 years before Newton and other Europeans were credited with the same discoveries, the 100-year gap might look very different.[23] However, this of course traces differences between the small groups of people in those societies who were educated. The purpose of

our analysis is not to compare the intellectual accomplishments of various societies over the ages but rather to examine closely the fairly recent phenomena of mass education, one that has promised to serve as a passport to a better life for all people.

Examining a broader set of learning outcomes—beyond literacy, numeracy, and science—may also tell a different story. Certainly, a wide range of skills, competencies, and experiences are important for young people around the world to have, such as respect for the natural environment, or grit (i.e., not giving up easily), or a sense of well-being. It is quite plausible that some of the very young people in the world who have the least opportunity to access and learn well in school—namely children living in rural areas in the developing world—could by virtue of their engagement with agriculture and animals be the ones with the best understanding of their natural environment and how to protect it. It is also plausible that children with little access to schooling, such as those spending hours doing child work in the house or the farm or child labor in rug-weaving factories or gold mines—the majority of whom live in the developing world—have much higher levels of grit and ability to persevere in the face of adversity than the average North American or European students who spends their days at school. Similarly, it is also plausible that some of the best performing students in the world are the least happy. In South Korea, for example, students perform very well on international tests, but partly due to the extreme pressure to succeed at school the country has the highest suicide rate in the OECD.

Including a broader picture on these types of skills and competencies would indeed be useful and we certainly would have provided it if comparable data were available. The best data we have for a broad section of developed and developing world countries are around core subjects such as literacy, numeracy, and science. Ultimately, while far from perfect, looking at what young people are able to read and understand, how they manipulate numbers, and how they draw conclusions from experiments and the world around them does tell us a lot about a student's preparedness for the future. While by no means the only skills young people need to succeed in life, they are crucial and foundational if young people are to survive and thrive in the modern world.

**“It is not important if the gap is 65 years for some measures or 126 for others, what is important is that it is real, it is big, and it is inexcusable.”**

## **Why wait 100 years?**

If we start with the premise that natural ability is evenly distributed across the globe—namely that children are on average equally smart and talented no matter where they happen to be born—the inequality we document here has everything to do with the education systems in which children find themselves learning, or not learning, as the case may be. And while communities, countries, and international bodies have agreed that high-quality education is a human right, we are failing to deliver on a promise to millions of children in the world.

There are at least three main arguments for why all of us, no matter where we live, should care about the 100-year gap. The first argument is moral, one that centers on the idea that all children in the world deserve to develop the core skills and competencies needed to thrive in the 21st century, including skills like reading and math. And like it or not, schooling is the main way in which young people today cultivate these skills. This line of reasoning has at its center a commitment to human rights, a fundamental assumption that all people no matter where or to whom they are born equally deserve opportunities to develop to their full potential.

A second argument is a numbers argument, numbers tied to demographics and economics. In a globalized world, much depends on where people are and, especially in the future, the people will be in the developing world. Between 2010 and 2030, 60 percent of the increase in global labor force growth will come from India, other South Asian nations, and Africa, while there will also be an additional 360 million adults over age 55 who are not in the labor force—many college educated, living in high-income countries, and expected to live 20-30 years longer than past generations.[24] Filling the skills gap left by these well-educated retirees and making the most of improvements in technology will require a significant effort to improve the skills of the many youth in less developed countries.

A third argument is centered around the possibility that ideas for addressing the 100-year gap could end up being helpful for education reform in both the developed and developing world. There is much discussion, particularly in the developed world, about education reform and how to best prepare young people for a changing future. Could it be that new ways of thinking about education in the developing world might reveal different models and approaches that could be useful in transforming schooling both in Europe and Africa, in North America and Asia? The space to try new ideas and models is in many ways much greater in many parts of the developing world and the potential seeds of innovation, if given a chance to grow, could bear fruit for all young people. This argument ultimately rests on the recognition that schooling, the education model that has been central to the spread of mass education, may no longer be fit for this purpose. Designed originally in a different era and for a different purpose, many question whether the model of the school still holds value, or if other educational models should be examined. This is a crucial piece of the debate that we will be examining and sharing more with you in the future.

Ultimately, if we start with the premise that as a human species our fates are interconnected around the world, we will need to find a way to close (or leapfrog over) this 100-year gap. Surely, a world where education can help all children develop the capabilities to positively chart their own lives and to contribute to their families and communities is a shared global interest.

**“The space to try new ideas and models is in many ways much greater in many parts of the developing world, and the seeds of innovation can bear fruit for all young people.”**

## **About the authors**

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