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Education for people and planet: Creating sustainable futures for all

Education for Global Citizenship Education & Sustainable Development: Content in social science textbooks

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By Patricia Bromley, Julia Lerch and Jeremy Jimenez 2016

Abstract

In times of violence and egregious destruction of human lives and the natural world, our recognition of the need for education that promotes peace and justice becomes particularly pressing. This background report reviews the state of existing research and data on relevant sustainable development content in social science education in countries around the world. Specifically, it examines the extent to which textbook content could help learners acquire the knowledge, skills, and values needed to meet goal 4.7 of the United Nation’s Sustainable Development Goals: *“By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development.”* It reviews relevant literature and analyzes three cross-national, longitudinal databases containing information coded from textbook content to assess the current state of knowledge. The paper concludes by indicating where future research efforts are most needed, identifying geographic and substantive needs, and considering monitoring mechanisms that could encourage on-going evaluation and monitoring of textbook content.

I. Introduction

Schooling about global citizenship (GCED) and/or sustainable development (ESS) is increasingly recognized as a central tool in promoting peace and justice worldwide and as an important indicator of educational quality. For instance, as part of the new Sustainable Development Goals (SDGs), the United Nations in 2015 established a target of having “all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development” (United Nations 2015). Despite the role such an educational focus could play in building a more just and sustainable world, we lack basic knowledge on the development of these new trends. Specifically, there is little cross-national or longitudinal data to use as a baseline for assessing progress towards these goals and, as such, we currently have a poor grasp on why some countries might focus more or less on these topics.

In part, the dearth of knowledge about GCED and ESS stems from the difficulties associated with creating systematic and cross-nationally comparable metrics. Longitudinally, enrollment data are available, but these provide little detail about the content of schooling. Classroom observations and interviews offer excellent contemporary snapshots, but they require extensive resources to carry out in multiple countries and cannot give us a sense of historical trends. Fortunately, recent advancements in textbook analyses hold the promise of providing new and important insights. An evolving body of work, discussed in the next section, demonstrates that large samples of textbooks are available for many countries, and valid and reliable measures of GCED and ESS can be developed through content analysis. In addition, textbooks provide an unobtrusive way of examining features of education, while being closer to the classroom than higher level curricular policies or guidelines. In the textbook analysis component of the Trends in International Mathematics and Science Study (TIMSS), scholars conceptualize textbooks as the “potentially implementable” curricula (Valverde et al. 2002; Schmidt et al. 1997). Textbooks are intermediaries between higher order intentions in curricular guidelines and actual classroom activities, as well as one of the most-used classroom tools worldwide (Torney-Purta et al. 2001).

The purpose of this background paper is to begin to address gaps in our understanding of GCED and ESS by focusing on the growing body of related textbook research, and to propose ways this research method can support monitoring and assessment. We proceed in five sections: In Section II, we review and summarize key findings from current cross-national, historical and comparative research of textbooks on the following themes: a) the environment and sustainable development, b) human rights, c) gender equality, d) global citizenship e) multiculturalism and cultural diversity, g) peace and non-violence, and f) student skills and values. In Section III, we evaluate current textbook collections in terms of content areas relevant to GCED and ESS. In Section IV, we assess knowledge gaps in existing literature and data. In Section V, we discuss the challenges in developing an index or metric that could be utilized to measure and monitor the extent to which countries are making concerted efforts to prioritized SD related issues in school textbooks; and, finally, in Section VI we recommend design features of a regular monitoring mechanism, which would provide globally comparable information on textbook contents across countries, systems and over time.

II. Literature Review

Our review focuses specifically on cross-national, longitudinal analyses of textbooks, with the goal of evaluating what is known about the extent of GCED and ESS emphases in a comparative framework. This approach provides information about trends over time using standardized measures across many countries. To maintain this focus, we limit the review on several other dimensions that would merit additional background research. We do not provide detail on the specific histories of curricular subjects such as human rights education, peace education, environmental education, and multiculturalism whose prevalence often follows social movements, major historical events, and/or waves of curricular reforms both before and after World War II. Related, we do not discuss the substantial professional work that goes into defining each curricular area (e.g. the definition of human rights education, environmental education, or peace education). Each area has a complex history and several contested definitions that go beyond the scope of our report to discuss. We focus on describing empirical trends, rather than explaining the impact or influence of social movements and education reform waves, or other national or global influences, in creating the observed patterns. Histories about each particular dimension below are found in the literatures referenced.

a. Environment and Sustainable Development

One theme of growing importance in textbooks worldwide is the environment. Environmental themes in textbooks in general, and sustainable development in particular, become increasingly prevalent in the latter half of the 20th century. Bromley, Meyer, and Ramirez (2011a) found increased attention to the environment coincided with environmental crises and the global environmental movement. These discussions were much more likely to take place in books that can be characterized as generally having ‘post-national’ values; on the other hand, there was only a weak relationship between coverage of environmental issues and countries that either had strong environmental movements or had experienced greater environmental catastrophes. Thus, their findings support the notion that global environmental themes are more likely to influence textbook content than environmental factors unique to particular countries.

Benavot and Owens (2012) also analyzed content specifically addressing sustainable development in both textbooks and curriculum guides from 21 developing countries. Drawing upon resources from the International Curriculum and Textbook Archive at SUNY-Albany, their study investigated content relating to environmental elements (such as natural resources, water, and energy), economic elements (such as poverty and corporate social responsibility), socio-cultural elements (such as human rights and gender equality) as well as skills and values (such as acting responsibly both locally and globally). In their 50 coded documents, they encountered the area of environmental content notably more often than the economic, socio-cultural, and skills/values content areas. Environmental content was found in roughly two-thirds of their sources, while the other areas were generally discussed in only about a third of the sources.

Environmental themes sometimes intersect with other trends. For instance, when analyzing 484 textbooks primarily acquired from the Georg Eckert Institute, Bromley, Meyer, and Ramirez (2011a) have found that, over time, environmentalism is often linked to global human rights issues, such as the fundamental right to a clean world. Similarly, they found that environmental problems are increasingly presented as being issues that affect the entire world as opposed to primarily being local concerns. In short, they found strong evidence for a worldwide trend towards a greater global influence on environmental content in textbooks, suggesting that environmental education is presented as being embedded in a world in which individuals have a global responsibility to care for their environment.

b. Human Rights

Many scholars in international and comparative education argue that discussions of human rights in curricular materials are a key indicator of nation-states converging towards the promotion of the idea that individual rights take precedence over earlier emphases on national citizenship (Ramirez, Suarez, and Meyer 2007; Meyer, Bromley, and Ramirez 2010). In support of this view, many previous cross-national analyses of social science textbooks have demonstrated that support for human rights in contemporary social science textbooks have increased over time (Schissler and Soysal 2005; Ramirez, Bromley, and Russell 2009). As with the environment, most cross-national studies have targeted the period from 1970 to the present. Although the appearance of the specific phrase “human rights” has been occasionally found in textbooks from the early 20th century (Jimenez and Lerch, 2015; Bromley and Lerch, *forthcoming*), it becomes significantly more commonplace in textbooks from the 1950s onwards.

Another intersection of ideas that has been explored is how human rights coverage coincides with discussions of minority rights. To investigate this, Bromley (2014) analyzed 501 social science textbooks published from 1970 to 2008 from 67 countries. She found that some rights-oriented discourse diffused more often than others. For example, while she found that human rights discourse in textbooks increased across the world (particularly in countries lacking in cultural and political nation-state legitimacy), minority rights were much more likely to appear in textbooks published in wealthy countries with stable political systems (which usually refers to democratic forms of governance). Bromley suggests that less stable political systems may be wary to adopt the notion of minority rights because they threaten the viability of the nation-state; to compensate for this omission, such countries may focus even more so on human rights, which “can be defined so broadly as to render them meaningless” (Bromley 2014: 27). Therefore, nation-states that are insecure in their legitimacy may selectively incorporate ideas (such as human rights) that are perceived as less threatening to the development of a nation-based civic education. Thus, this study is an important reminder that human rights content may be differentially incorporated by nation-states and that such diffusion may not be as universal across nation-states as some earlier studies may have implied.

Focusing on conflict-affected countries, Russell and Tiplic (2013) investigated how these countries employ rights-based education in their textbooks from 1966 to 2008. Analyzing 528 social science textbooks from 71 countries, they examined rights discourses that include human rights, citizenship

rights, and rights for marginalized groups. They concluded that recent textbooks from countries scoring high on their democracy index were more likely to incorporate rights-based discussions, and that conflict-affected countries were much less likely to incorporate these discourses.

One historical event that is often tied to human rights discussions is the Holocaust. Bromley and Russell (2010) analyzed how often curricula worldwide discussed the Holocaust and to what extent it is tied to universal human rights frameworks in textbooks, as opposed to being a unique historical event in European history. They argue that the Holocaust is becoming an essential symbol of the value of human rights in school curriculum worldwide. In support of this hypothesis, they discovered that although discussions of the Holocaust do increase over time (doubling from 12% to 25% over time), most of the growth can be attributed to textbook revisions following the collapse of communism. However, there was a steep increase in textbooks tying the Holocaust to universal human rights, from very few examples in the 1970s to up to 70% of textbooks in the early 21st century linking these concepts together. A limited number of other atrocities (e.g. apartheid in South Africa) also seem to take the status of an international symbol of human rights, while others (e.g. genocide in Armenia) are hardly mentioned outside the immediate areas they occurred. More research is needed to understand which issues become globalized and why. Building on the earlier work of Bromley and Russell (2010), Bromley (2013) further confirmed that over half of textbooks today discuss the Holocaust in human rights terms or as a crime against humanity.

Gross (2010) also studied Holocaust narratives by examining Polish textbooks from 1977-2008. She found that although the Holocaust is increasingly mentioned as a violation of human rights, some authors of post-1989 textbooks used the Holocaust theme more to foster national pride (via the Polish resistance) rather than emphasize it as a global crime against humanity. In a similar vein emphasizing traditional nationalism, she also noted that textbook activities often encourage students to empathize with the experience of Polish prisoners, but not Jewish or Roma concentration camp victims. Further, although the textbooks that she examined follow similar global trends in reducing the pages devoted to military conflict whilst generally promoting a student-centric narrative, she found that human rights content is mostly a “decorative” addition to what are still primarily nation-centric texts.

c. Gender Equality

Content concerning gender equality is also becoming more prominent in textbooks worldwide. Blumberg (2007) surveyed textbook research on gender from various countries across the world. Although she found encouraging signs of textbook reform to advance gender parity taking place in many countries across the world, most notably the long-standing commitment of the Swedish government to this goal, she noted that women were quite still underrepresented. She also found that both men and women were routinely portrayed in a stereotypical manner. She discovered these images persist even when, as in the case of Syria, its government explicitly advocated for sex-role equality in its textbooks via proposals and campaigns (2007: 7). She also discussed how Indian textbooks tend to minimize the contributions of women from accounts of early hunter-gatherers to the present day. Her discussion of studies on Romanian textbooks led her to conclude that even texts that are gender neutral end up reinforcing stereotypically gendered roles in society, by virtue of not

directly challenging them. Further, she argued that the success of these policies in many developing countries, such as Costa Rica and Brazil, is quite contingent on the continued availability of resources and support of the policies from subsequent elected governments that may not prioritize these goals developed by previous administrations.

Even in a country like the United States, where some of the earliest critical textbook studies on gender appear, she found that although U.S. textbooks have shown marked improvement since the 1960's in terms of reducing the most egregious examples of sexism and portraying women in notably less stereotypical ways, there is still a long way to go in representing gender parity. For example, in their analysis of gender depictions during World War II in California textbook narratives from 1956 to 2007, Schrader and Wotipka (2011) found that there are greater mentions of women in more recent textbooks. However, they argued that these more recent texts still “associate the masculine experience with fighting and leadership, and the feminine experience as a positive foray into industry or soldiering to *support* men, male leaders, and the country as a whole”. Furthermore, the images of women were almost always white women, thus neglecting the experiences and contributions of women of color during the war.

Another recent study by Nakagawa and Wotipka (forthcoming) provides much needed cross-national research to the field. In this study, they examined the extent to which discussions of women and their rights have expanded and changed over time cross-nationally. They also investigated whether these changes can be explained more by national influences (such as economic and political development) or rather propelled by global and transnational factors. They examined over 500 secondary social science textbooks (published from 1970 to 2008) from 74 countries. They observed a steady increase in both mentions of women and women's rights in textbooks worldwide.

While cross-national textbook comparative studies concerning gender are relatively rare, there has been no shortage of country case studies documenting the portrayals of women over time in different countries. Bhog and Ghose (2014) analyzed how gender is portrayed in Indian textbooks and noted that, while women were increasingly discussed as being marginalized, they were often discussed as being helped by a male social reformer that contributed to national progress. In another study, Foulds (2013) examined how Kenyan students perceive gender in textbooks and noted that gender identities were identified along a complex continuum, especially when positively transformative depictions of women conflict with the experiences of women they see for themselves in Kenya.

d. Global Citizenship: 500 words

Scholars have long noted that schools originated in Europe primarily as a nation-building enterprise in order to create national citizens from the diverse people living within the national borders (Ramirez and Boli 1987). However, over time, more countries have begun to slowly shift away from the sectarian understanding of citizenship to more globally-oriented civics curriculum (Ramirez, Meyer, and Wotipka 2009). For instance, Bromley and Mäkinen (2012) examined Finnish textbooks and encountered that the promotion of the ideals of diversity in these civics textbooks reflected a changing global environment where civic instruction is increasingly focused towards global citizenship rather than more narrow nation-based ideals.

In another study specifically examining discussions of globalization and global citizenship, Buckner and Russell (2013) argued that textbook mentions of globalization and global citizenship indicate the prevalence of an interconnected, world culture. In analyzing over 500 textbooks, they found that a modest increase in specific textbook mentions of international events, from approximately 30% in the early 1970s to over 40% in 2005. Regarding mentions of global citizenship, however, they noted that by 2005, approximately 40% of all the sampled textbooks mention it. Unsurprisingly, discussions of global citizenship were found more often in civics and social studies books as opposed to history books. They also argued that the growing presence of networks of consultants in many developing countries, coupled with the growing international publishing industry, may be playing a pivotal role in disseminating ideas of global citizenship.

An additional interesting finding is that 89.1% of the contemporary books that they analyzed mention both national and global citizenship. This suggests the discourse of global citizenship doesn't necessarily replace notions of national citizenship; in other words, that the two concepts are compatible rather than adversarial. They share the following image from a 2008 Spanish textbook to demonstrate this integration of the national with the global:



Here an individual is represented as being at the center of co-existing citizenship rings, with the caption reading “The circles of citizenship: Local, State, and World”, implying that these identities are not mutually exclusive but rather are viewed as integrated.

e. Multiculturalism and Cultural Diversity

Terra and Bromley (2012) analyzed 548 secondary social science textbooks published from 1950-2010 to examine the extent to which multiculturalism-related content appears over time and around the world. They examined whether members of various groups – specifically, women, children,

immigrants and refugees, indigenous peoples, other minorities (ethnic, cultural, religious, and linguistic), workers/labor, and gays/lesbians – are discussed as having rights as well as whether they experience marginalization or exclusion in their respective countries. While Terra and Bromley found geographic differences (for example, both rights and victimization discussions first increase in North American and Western European textbooks over time), textbooks from all regions increasingly discuss all of the aforementioned groups as both having rights and being victims of discrimination.¹ They also find that, over time, economic or class-based groups are given less attention than cultural, ethnic, and gendered groups; this trend was most notable concerning the discussion of workers and their associated labor unions. However, coverage of LGBT persons and their experiences was quite minimal in comparison with the other groups examined. Bromley (2014) found that the rights of minority groups increased significantly over time only in liberal democracies, while human rights increases occurred worldwide.

f. Peace and Non-Violence

Existing cross-national, longitudinal textbook research has yet to turn to directly examine issues of peace and non-violence, although several studies (mentioned above) consider GCED and ESS content in post-conflict contexts. As an initial step we present some preliminary trends later in this report, but a great deal more data collection and research is needed.

g. Student Skills and Values

Bromley, Meyer, and Ramirez (2011b) hypothesized that along with the rising status of individuals and children in global human rights treaties and organizations one would find an increase in the presence of student-centered themes and design in textbooks. They analyzed 533 secondary school social science textbooks and found an increase in child-centered teaching in textbook content. They found that student-centered texts were more likely to be found in countries with greater individualism embodied in their political and socio-economic institutions and ideologies. However, Terra (2014) noted in his analysis of Northern Ireland textbooks that although these contemporary textbooks were more likely to encourage students to critically examine competing narrative claims, this inclusion often came at the expense of a cohesive narrative structure which can make learning history more difficult for students.

¹ Sometimes textbooks within a country can simultaneously promote both themes, as when Bhog and Ghose (2014) shared how sometimes Muslims have been portrayed as outsiders while at other times they are celebrated for adding to India's diversity.

III. Evaluation of Existing Textbook Collections


Overview of Empirical Textbook Databases

To assess our existing knowledge of textbook content related to SDG 4.7 and gaps therein, we draw on secondary school textbook data gathered in three waves, resulting in three cross-national longitudinal datasets (which we refer to as Datasets 1, 2, and 3). Dataset 1 consists of data coded from 456 secondary school textbooks in history, civics, and social studies, sampled from 68 countries between 1970 and 2008. Dataset 2 contains data on 703 secondary school textbooks in history, civics, social studies, and geography, drawn from 88 countries between 1950 and 2011. Finally, Dataset 3 holds data from 1,024 history, civics, social studies, and geography textbooks at the secondary level from 98 countries between 1890 and 2013 (as described in more detail below, 703 of these books come from Dataset 2).

Table 1 provides important information on each of these three datasets including the time period spanned by the analyzed books, the number of books included and from how many countries, and the breakdown by grade level (lower and upper secondary) as well as subject (social studies, civics, history, and – for Datasets 2 and 3, geography). In addition, Table 1 provides information to help the reader get a sense of how balanced these datasets are with respect to their distribution across decades, UNESCO regions, and countries. Finally, Table 1 also indicates where and how the books in the three datasets overlap. For further details, please consult Appendix 2.

The three datasets were compiled by a research team at Stanford University over the course of a multiyear textbook study. Given that systematic lists of textbooks used in different countries are rarely accessible, particularly in the first half of the 20th century, we sampled books from available textbook collections for maximum coverage of countries, decades, and types of books. In the absence of lists, it is simply not possible to sample textbooks randomly. The vast majority of the books were drawn from the Georg Eckert Institute for International Textbook Research in Germany, which holds the most extensive collection of textbooks from around the world (a total of 178,000 volumes from 173 countries). In addition, books were selected from university libraries, local (antique) bookstores and publishers, as well as private collections worldwide.

As Table 1 indicates, the majority of the textbooks are at the upper, rather than lower, secondary level and the most well represented subject tends to be history. No textbook data was gathered at the primary level. Table 1 also illustrates that we have more books in recent decades, with the earlier decades least represented (see Appendix 2 for more details). This is unavoidable, given that contemporary textbooks tend to be much more available and accessible than historical ones. However, it does mean that our analyses in the early decades are based on smaller sample sizes, reducing robustness. It is also clear from Table 1 that despite our efforts to sample as widely as possible, our datasets are skewed toward Europe and North America, and we have especially few books from the Arab States (see Appendix 2 for more details). Finally, the number of books analyzed per country differs, and, as shown in Table 1, for a number of countries it is relatively small (<5). These limitations are important to keep in mind as we present our analyses below. It is worth noting, however, that the trends we find are corroborated by the academic studies cited above that



have analyzed these datasets using multilevel, multivariate regression methods that account for differing sample sizes per country and a host of country-specific characteristics. This gives us confidence in the descriptive analyses shown below.

We coded the books using standardized coding protocols developed at Stanford University with much piloting and inter-rater reliability testing. As we improved and expanded our coding protocols during each of the three waves, the protocols used for the three datasets covered slightly different but often overlapping thematic areas. However, we only combined data from waves for protocol questions that were exactly the same (this is only an issue for Dataset 3 – see Table 1); thus, the fact that the coding protocols varied for each wave has no implications for our analyses here. The questions were written such that they called for little interpretation on behalf of coders, boosting reliability. In general, coders took between 1 and 1.5 hours to code each book, using the protocol. Foreign language (usually native) speakers were carefully trained and supervised to code books in languages not spoken by the Stanford research group.

Table 1. Overview of 3 Textbook Datasets Analyzed in this Report

	Time period covered	Number of books	Number of countries	Grade levels (% of books)		Decadal balance	Regional balance	Country balance	Overlaps between datasets
Dataset 1	1970-2008	456	68	Lower secondary (17%) Upper secondary (83%)	Social Studies (30%) Civics (24%) History (52%)	Lowest % of books: 1970-79 (9%) Highest % of books: 2000-08 (36%)	Lowest % of books: Arab States (1%) Highest % of books: Europe & North America (62%)	< 5 books: 25 countries ¹ > 20 books: 1 country ²	None.
Dataset 2	1950-2011	703	88	Lower secondary (25%) Upper secondary (75%)	Social Studies (16%) Civics (20%) History (48%) Geography (25%)	Lowest % of books: 1950-59 (7%) Highest % of books: 2000-11 (31%)	Lowest % of books: Arab States and Latin America & Caribbean (11% each) Highest % of books: Europe & North America (49%)	< 5 books: 26 countries ³ > 20 books: 3 countries ⁴	See cell below.

Dataset 3	1890-2013	1,024 (703 come from Dataset 2)	98	Lower secondary (31%)	Social Studies (15%) Civics (19%) History (60%) Geography (20%)	Lowest % of books: 1890-99 (1%) Highest % of books: 2000-13 (27%)	Lowest % of books: Arab States (8%) Highest % of books: Europe & North America (55%)	< 5 books: 29 countries ⁵ > 20 books: 8 countries ⁶	703 of the 1,024 books come from Dataset 2. To form Dataset 3, we coded 321 additional books for a subset of the indicators gathered for Dataset 2 and then combined this new data with the relevant indicators from Dataset 2.
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¹ Belarus, Bolivia, Costa Rica, Croatia, Czech Republic, El Salvador, Ethiopia, Finland, Guatemala, Guyana, Iran, Israel, Latvia, Macedonia, Malawi, Namibia, Nicaragua, Pakistan, Panama, Serbia, Singapore, Slovenia, South Africa, Tunisia, Venezuela.

² Russia.

³ Armenia, Brunei, Djibouti, Ethiopia, Gabon, Guatemala, Iraq, Ivory Coast, Jamaica, Jordan, Kuwait, Liberia, Mauritania, Mauritius, Mexico, Namibia, Nigeria, Panama, Qatar, Serbia & Montenegro, Tanzania, Thailand, Togo, Uganda, Vietnam, Zimbabwe.

⁴ Belgium, South Africa, Taiwan.

⁵ Armenia, Australia, Brunei, Djibouti, Ethiopia, Gabon, Iraq, Ivory Coast, Jamaica, Jordan, Kuwait, Liberia, Lithuania, Luxembourg, Mauritania, Mauritius, Namibia, New Zealand, Nigeria, Panama, Paraguay, Qatar, Serbia & Montenegro, Tanzania, Thailand, Togo, Uganda, Vietnam, Zimbabwe.

⁶ Belgium, China, Italy, Netherlands, South Africa, Switzerland, Taiwan, United Kingdom.

Trends in Key Areas Paralleling Sections a) through g) in the Literature Review

In this section, we present trend data on indicators from our three datasets relevant to SDG 4.7, paralleling the key themes described in the literature review. While the indicators we have are not exhaustive measures of how textbooks could incorporate each curricular area as per the definitions above, they do offer a broad and useful overview of relevant longitudinal world and regional trends. Please see Appendix 3 for a summary of the indicators relevant to SDG 4.7 analyzed below.

A number of important details should be kept in mind when considering the trends. First, for all analyses, the unit of analysis is textbooks (not countries).² Second, our measures are by and large constructed to determine *whether* an issue is discussed in the books, rather than *how* it is discussed (the latter question entails a host of coding reliability issues that we explain in further detail below). Third, given that different thematic areas were covered in each data collection wave, we draw on different datasets for the various indicators presented below. In the notes accompanying each figure, we detail which of the three datasets was used for each indicator (relevant sample sizes can be found in Appendix 2).

We present over time trends at the world level and wherever possible at the regional level (using UNESCO regions). All regional over time graphs begin only in the 1980s, as sample sizes for some regions before then are simply too small for regional breakdown of the data. In addition, for many indicators, the proportion of books that mention them are very low in some regions, making an analysis of over time regional trends too unstable. In those cases, we simply show regional breakdowns for contemporary books (i.e., 2000 onward). In general, the regional analyses must be interpreted with caution, in view of small sample sizes involved. As data was collected only at the secondary level, we do not distinguish between grade levels. Given the large number of countries included, it is not feasible to show country-by-country analyses; however, Appendix 1 provides examples how countries have changed over time on selected indicators.

a. Environment and Sustainable Development

Figure 1 graphs decadal averages of five indicators related to coverage of the environment in the textbooks analyzed between 1950 and 2011. They include whether environmental protection or damage is discussed in at least a paragraph, whether this issue is linked to rights, and whether it is discussed as a global issue. Moreover, we include measures for discussion of environmental movements and whether these are portrayed in terms of a global environmental movement. All five indicators show substantial growth over time. Coverage of environmental protection or damage in particular has increased tremendously: in the 1950s, merely close to five percent of the books mention this issue, whereas by the latest decade (2000-11) fifty percent do. And while between 1950 and 1959 none of the textbooks include discussion of environmental damage or protection as a

² As discussed above, the problem of differing sample sizes per country is accounted for in the academic studies analyzing our datasets, which corroborate our descriptive findings here.

global issue, close to thirty percent do so in the 2000 to 2011 time period. The other indicators have experienced noticeable, albeit less dramatic, growth.

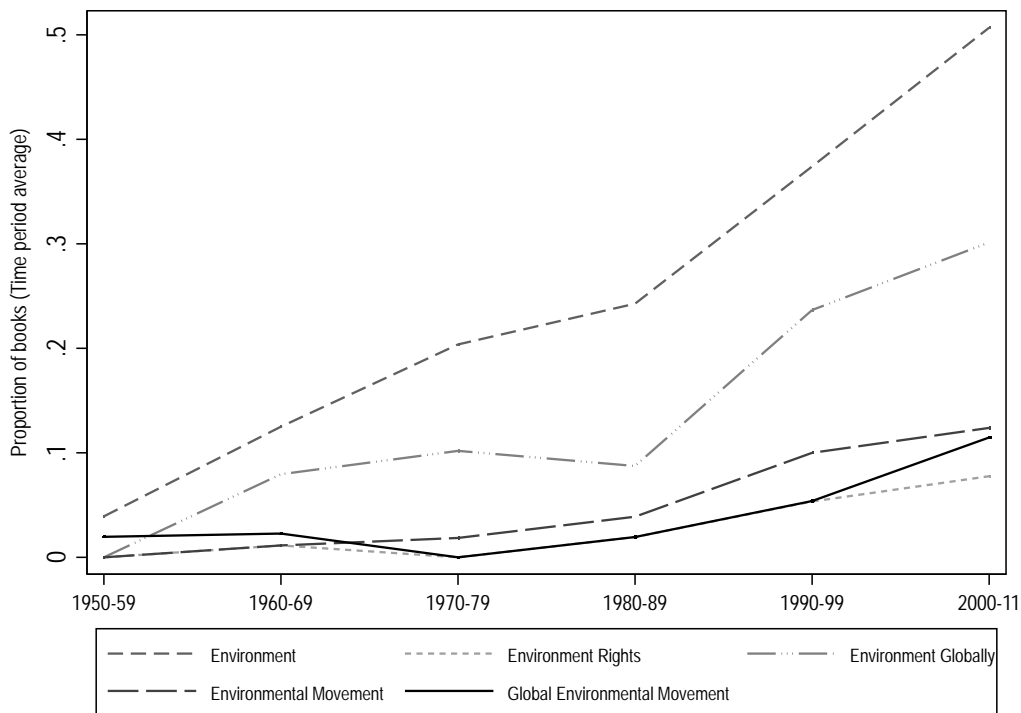


Figure 1. Environmental Issues in Textbooks, 1950-2011

Notes: All indicators are drawn from Dataset 2. Please see Appendix 2 for the relevant sample sizes.

In Figures 2 and 3, we present a more limited look at regional variation regarding the incorporation of environmental issues in textbooks. Figure 2 graphs regional averages of the proportion of books discussing environmental protection or damage as well as environmental rights, focusing only on books from the latest decade (2000-2011). In all regions other than the Arab States, more than 40 % of books in the 2000s incorporate discussions of environmental damage or protection. Books from the Arab States are not far below, at just above 30 %. The highest rates are in Latin America and the Caribbean where 80 % of books from the 2000s discuss this issue. Mentions of environmental rights are much lower everywhere (less than 20 % of books); again, Latin America & the Caribbean show the highest rate of incorporation.

While the incorporation rates for environmental rights are too low to graph by region over time, we can show regional over time trends for discussions of environmental protection or damage. Figure 3 thus shows decadal averages of this indicator, broken down by region, spanning the time period 1980-2011. Books from Latin America and the Caribbean as well as the Arab States show straightforward increases in their coverage of environmental protection/ damage. In books from Africa such coverage goes down slightly in the 1990s, but then rises in the 2000s. Books from Europe and North America have been relatively stable over the past three decades in terms of their incorporation of this issue. Finally, mentions of this issue in books from Asia and the Pacific appear to be declining slightly in the 2000s after a rise in the 1990s.

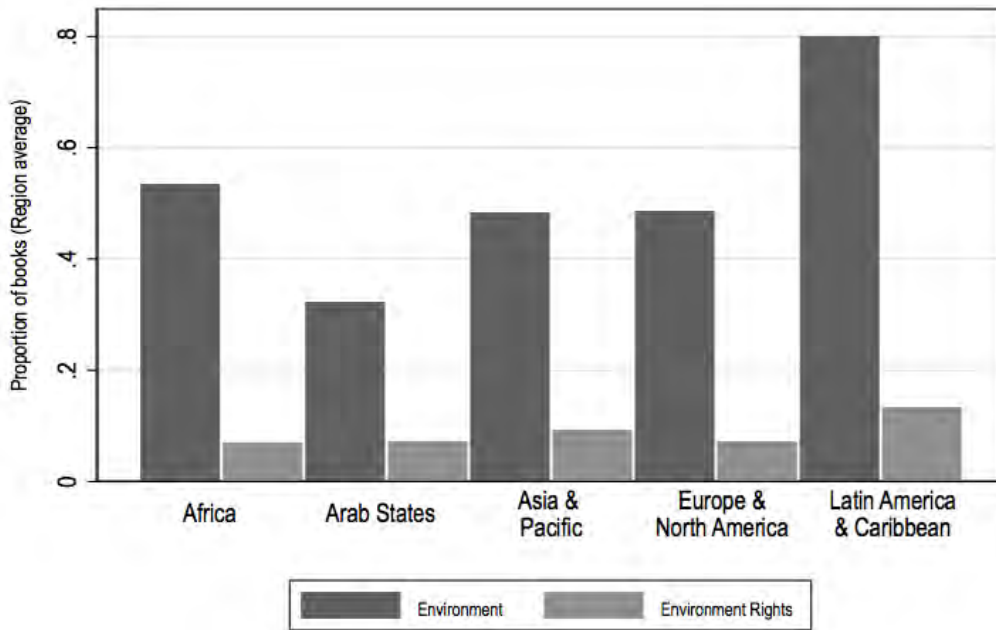


Figure 2. Environmental Issues in Textbooks, By Region (2000-2011)

Notes: Both indicators are drawn from Dataset 2. Please see Appendix 2 for the relevant sample sizes.

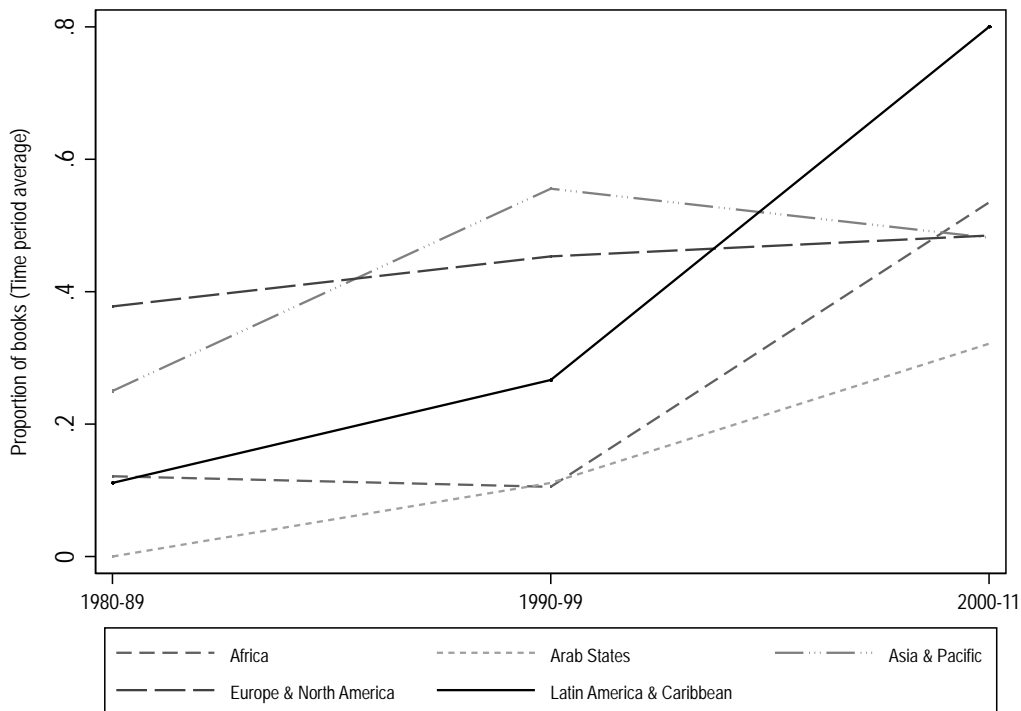


Figure 3. Environmental Damage/ Protection in Textbooks, By Region and Over Time (1980-2011)

Notes: This indicator is drawn from Dataset 2. Please see Appendix 2 for the relevant sample sizes

b. Human Rights

Figure 4 plots human rights related indicators, looking at textbooks between 1890 and 2013 (the time span for each indicator varies). To simplify presentation in one graph and consolidate small sample sizes in the early decades, data from 1890 to 1969 is presented as indicator averages in three time periods separated by the World Wars: the era before World War I (1890-1913), the years spanning the two World Wars (1914-1945), and the post-World War II decades (1946-1969). Starting in 1970, we present decadal averages of the indicators. We depict whether the books explicitly mention human rights, and whether they depict the following three types of rights as human rights: civil and political rights; economic, social, and cultural rights; and women’s rights. By the latest decade, close to fifty percent of the books mention human rights, contrasting with around five percent earlier in the century. This is closely tracked by rising framings of civil and political rights as well as economic, social, and cultural rights as human rights. Women’s rights portrayed as human rights are featured in a relatively small proportion of the books, but even here we witness increases in the 1990s and 2000s.

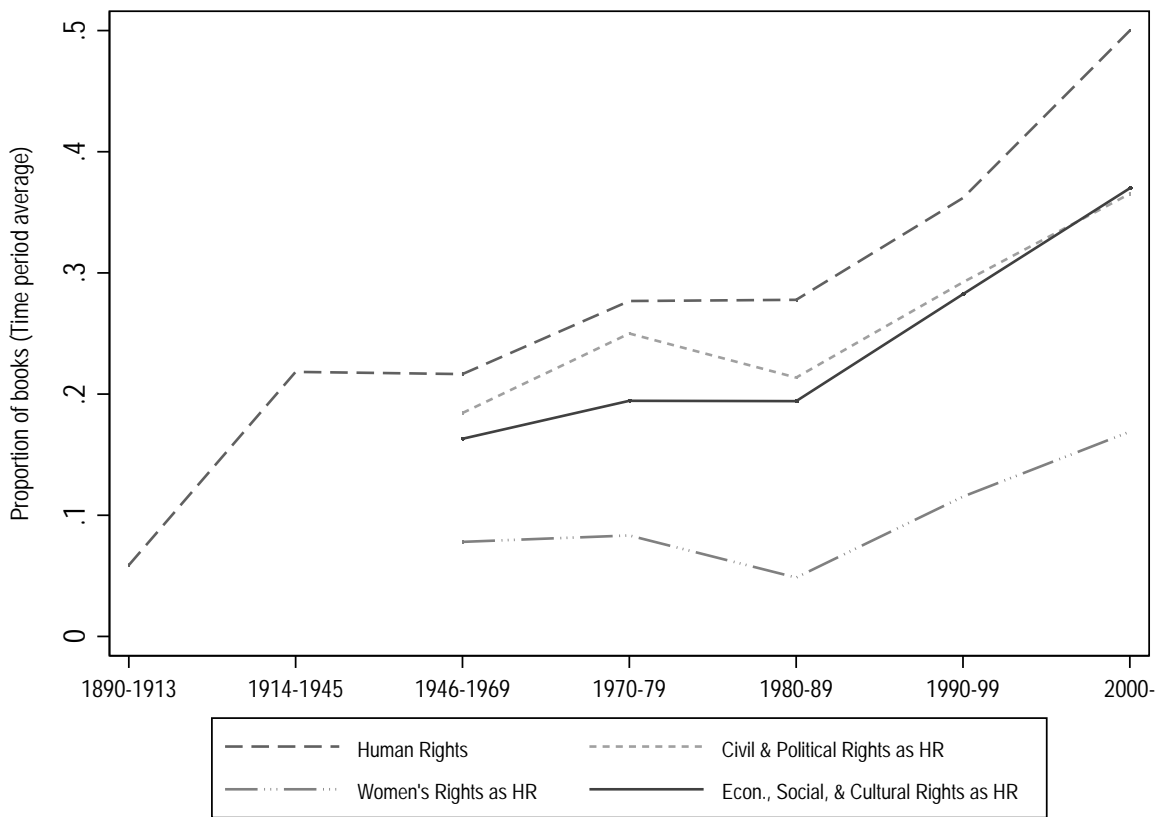


Figure 4. Human Rights in Textbooks, 1890-2011/13

Notes: For the lines starting in 1890, Dataset 3 was used - the sample sizes for the early periods are 34 (1890-1913), 142 (1914-1945), and 195 (1946-1969) (for decadal sample sizes, please see

Appendix 2). For the lines starting in 1946, Dataset 2 was used - please see Appendix 2 for the relevant sample sizes.

Figure 5 graphs decadal averages of the proportion of books mentioning international, regional, and national human rights documents between 1950 and 2011 (again, with varying years covered). Increases are evident across all three indicators, with international human rights documents generally discussed the most. Finally, Figure 6 shows ten-year averages of the proportion of books mentioning human rights violations, either domestically or in other countries, from 1970 to 2008. While relatively low, both measures show an increase in the 1980s, followed by modest growth.

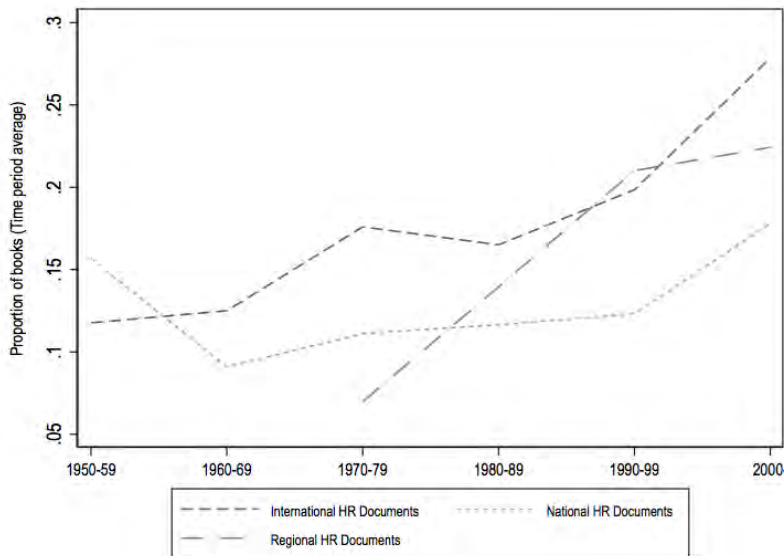


Figure 5. Human Rights Documents in Textbooks, 1950-2008/11

Notes: For the lines starting in 1950, Dataset 2 was used. For the line starting in 1970, Dataset 1 was used. Please see Appendix 2 for the relevant sample sizes.

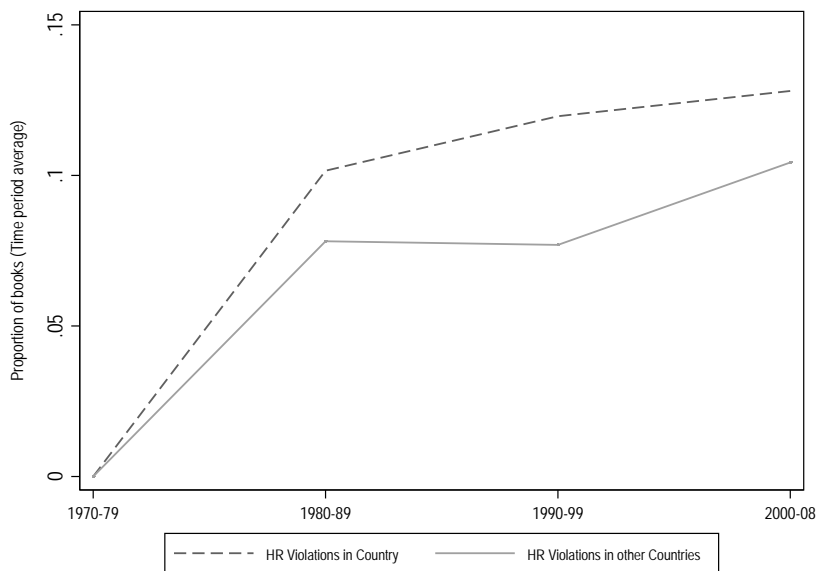


Figure 6. Human Rights Violations in Textbooks, 1970-2008

Notes: For both indicators, Dataset 1 was used. Please see Appendix 2 for the relevant sample sizes.

Figure 7 again offers a regional snapshot, displaying decadal averages of the proportion of books mentioning human rights, broken down by region, spanning the time period 1980-2013. Books from Asia and the Pacific as well as Africa show consistent increases throughout. The proportion of books from Europe and North America as well as the Arab States mentioning human rights is more or less flat between the 1980s and 90s, but then rises in the 2000s. Coverage of human rights in books from Latin America and the Caribbean appears to have risen in the 1990s, but then declined slightly in the most recent decade. In general, while human rights have been incorporated across regions, some differences remain even in the latest decade. The highest rates of incorporation in the 2000s are in Africa and the lowest in the Arab States.

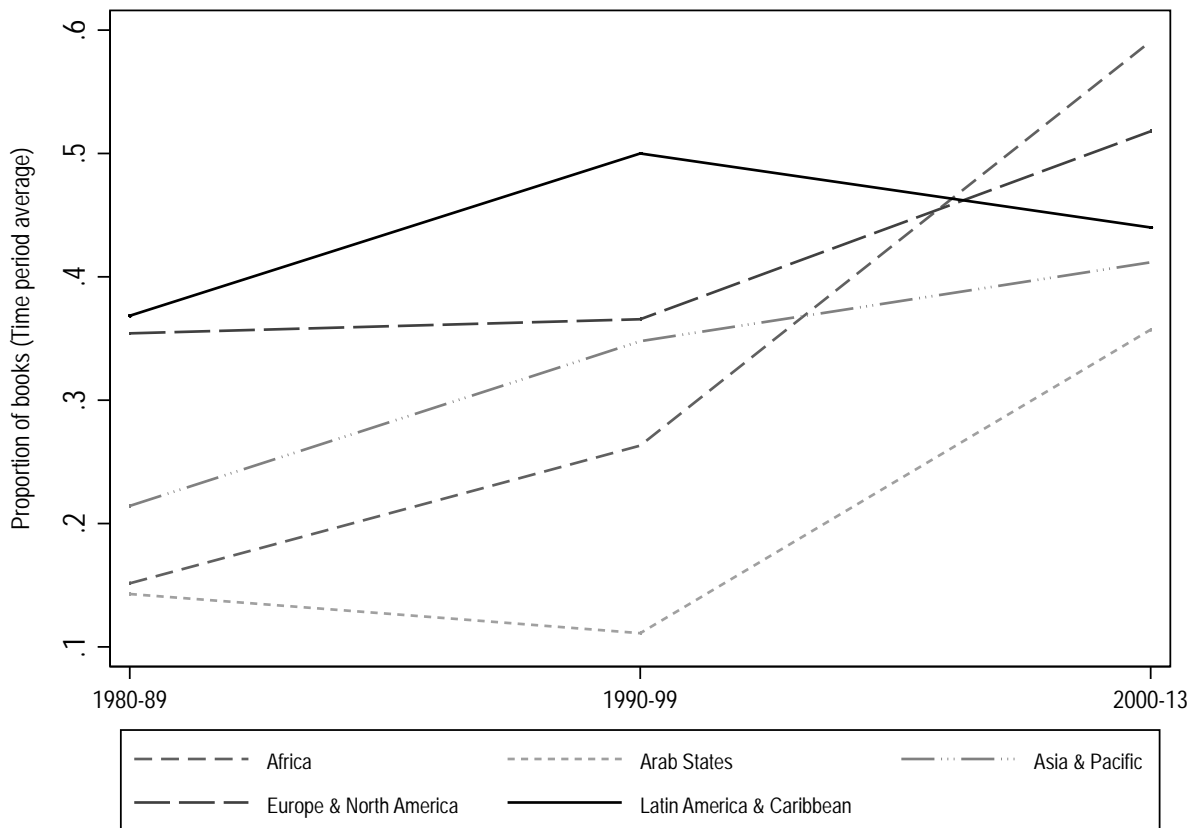


Figure 7. Mentions of Human Rights in Textbooks, By Region and Over Time (1980-2013)

Notes: This indicator is drawn from Dataset 3. Please see Appendix 2 for the sample sizes.

c. Gender Equality

In Figure 8, we present various indicators related to gender equality in textbooks from 1890 to 2013 (the time span for each indicator varies). We include whether the books mention women’s rights, discrimination against women, violence against women, women’s contribution to national or global society, women’s movements, or the global women’s movement. Like in Figure 4, data from 1890 to 1969 is presented as indicator averages in three time periods (1890-1913; 1914-1945, 1946-1969) and data from 1970 onward as decadal averages. The overall picture is one of growth, particularly in the 1990s and 2000s. Discussions of women’s rights and discrimination against women (for which we have early data) show growth after 1913 already, but then remain rather flat with even some declines, until a steep rise in the last two decades.

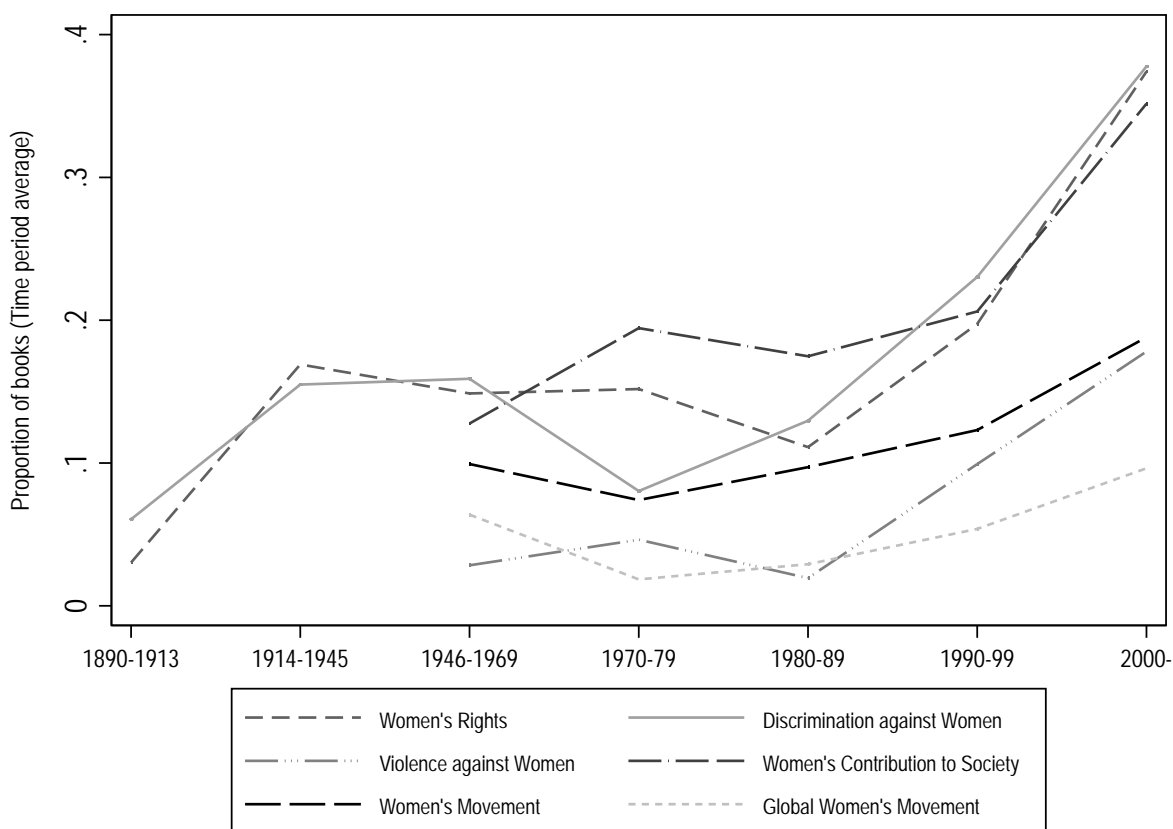


Figure 8. Gender Equality in Textbooks, 1890-2011/13

Notes: For the lines starting in 1890, Dataset 3 was used - the sample sizes for the early periods are 34 (1890-1913), 142 (1914-1945), and 195 (1946-1969) (for decadal sample sizes, please see Appendix 2). For the lines starting in 1946, Dataset 2 was used - please see Appendix 2 for the relevant sample sizes.

Figure 9 delves deeper into the issue of women’s rights by looking at whether books discuss them as being equal to those of men or being unique to women (these two options are not mutually exclusive). The notion of rights unique to women is not particularly pervasive, but it does show some modest increases starting in the 1980s. The idea that women have rights equal to those of men is more pervasive in the books and shows rapid growth from the 1990s onward, after some slight declines between 1950 and 1989.

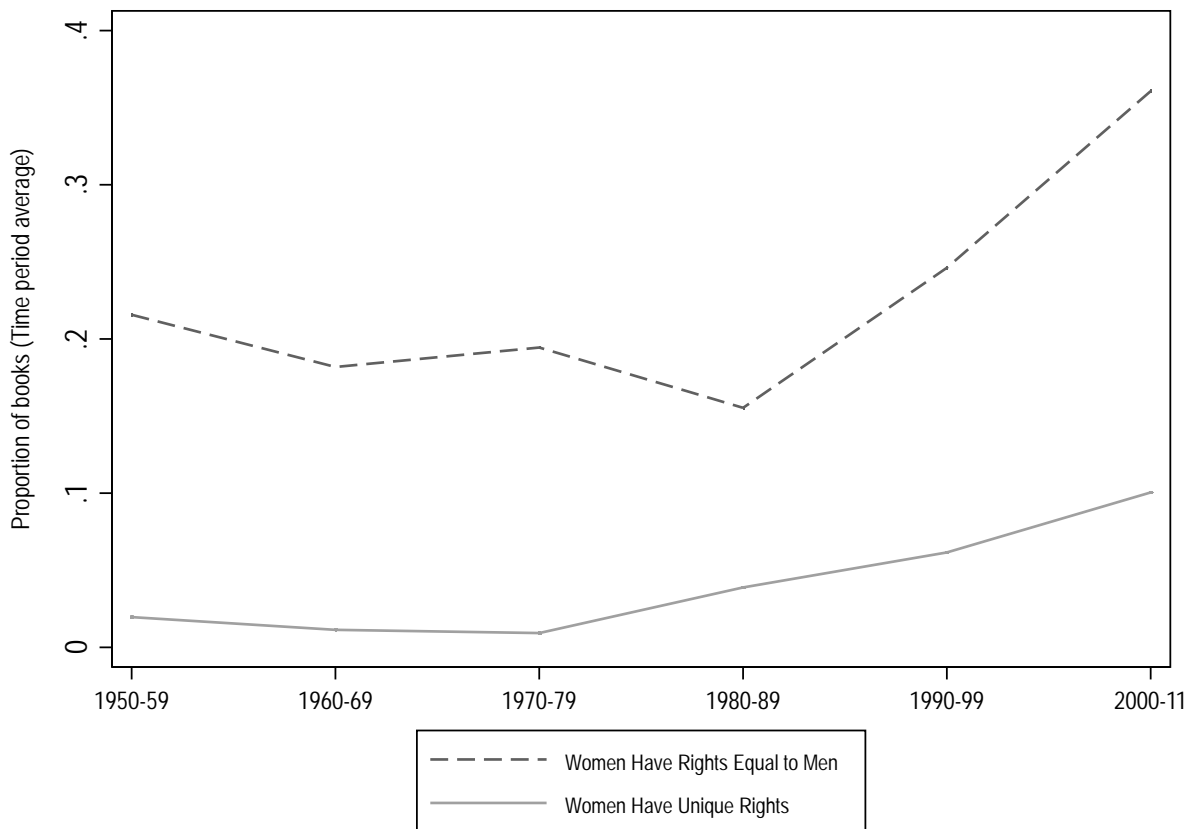


Figure 9. Portrayals of Women’s Rights in Textbooks, 1950-2011

Notes: Both indicators are drawn from Dataset 2; relevant sample sizes can be found in Appendix 2.

Lastly, Figure 10 breaks down the proportion of books mentioning women’s rights over time by region, again focusing on the time span since 1980. Books from all regions show increases over time, although mentions of women’s rights in books from Africa first decline in the 1990s before rising in the 2000s and the increases in books from the Arab States are relatively moderate. Even in the latest decade, however, there continues to be regional variation in the extent to which textbooks embrace markers of gender equality: the lowest rates of incorporation seem to be in books from the Arab States (just above 10 %) and the highest in books from Europe and North America, together with Africa (around 40 %).

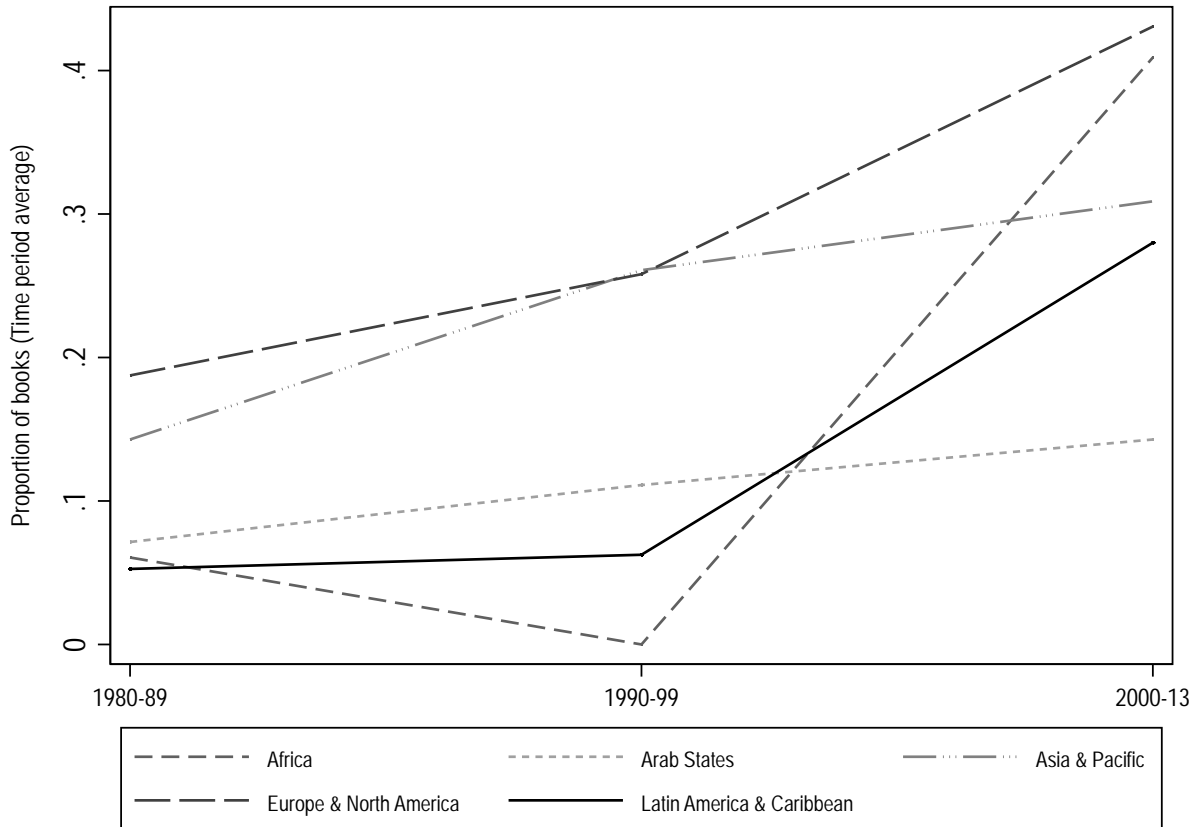


Figure 10. Mentions of Women’s Rights in Textbooks, By Region and Over Time (1980-2013)

Notes: This indicator is drawn from Dataset 3. Please see Appendix 2 for the sample sizes.

d. Global Citizenship

In Figure 11, trends in textbook content related to global citizenship are shown as follows: whether books suggest ways for students to get involved globally (e.g., through writing letters for Amnesty International) (1890-2013 covered) and whether books discuss global citizenship or membership in an international community (1970-2008 covered). Apart from a drop in the 1980s, both are on the rise, even though discussions of global citizenship are notably more pervasive.



Figure 11. Global Citizenship in Textbooks, 1890-2008/13

Notes: For the line starting in 1890, Dataset 3 was used - the sample sizes for the early periods are 34 (1890-1913), 142 (1914-1945), and 195 (1946-1969) (for decadal sample sizes, please see Appendix 2). For the line starting in 1970, Dataset 1 was used - please see Appendix 2 for the relevant sample sizes.

Figure 12 zooms in on regional variation regarding global citizenship narratives, graphing decadal averages by region for the years from 1980 to 2008. All regions show increases, though coverage of the topic in books from Europe and North America experiences a slight decline in the 1990s, before rising in the 2000s. The increases are somewhat moderate in books from Asia and the Pacific. Latin America and the Caribbean stand out with especially high rates of incorporation: in the past two decades, around half of the books from that region talk about global citizenship (see the literature review for an example of such narratives in the books). The topic is not mentioned at all in our books from the Arab States during the time period 1980-2008; this is likely an artifact of very small sample sizes for this region in Dataset 1 (see Appendix 2).

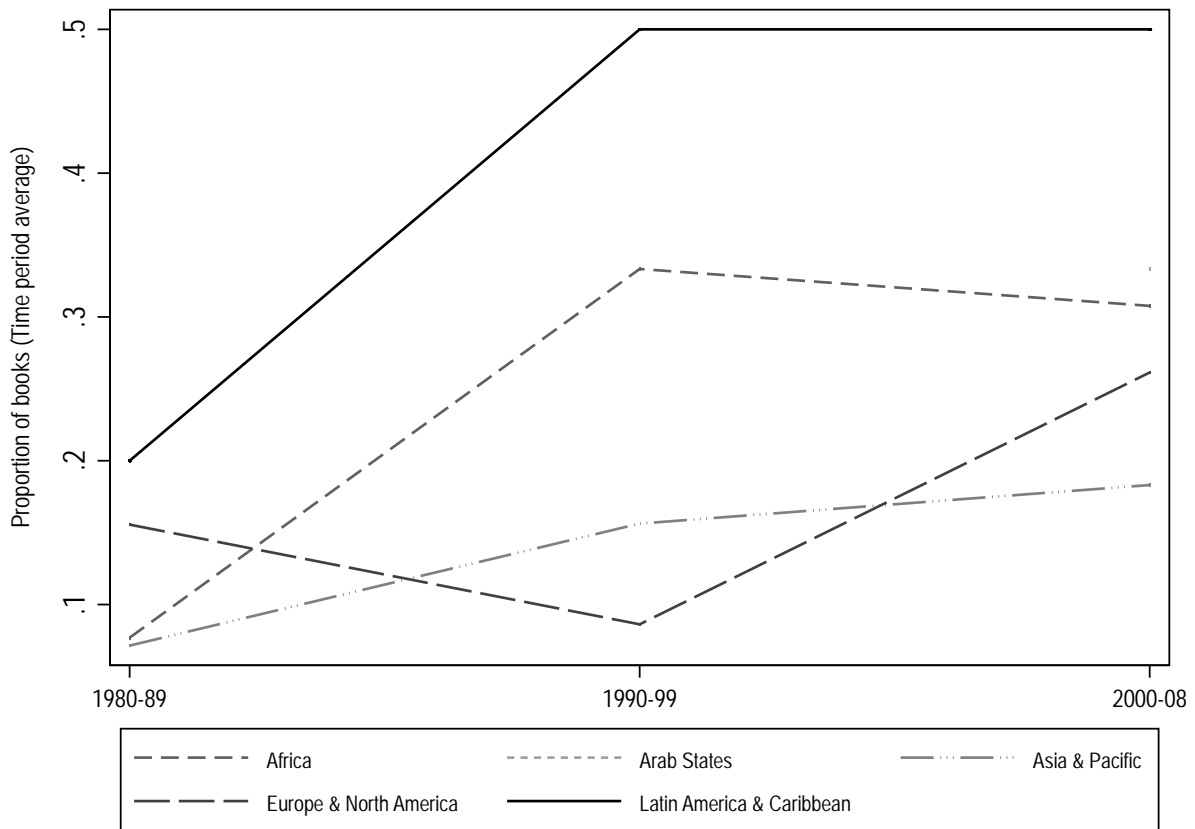


Figure 12. Mentions of Global Citizenship in Textbooks, By Region and Over Time (1980-2008)

Notes: This indicator is drawn from Dataset 1; please consult Appendix 2 for sample sizes. The line for ‘Arab States’ is not shown as none of the books we have from that region mention this indicator during that time period (but keep in mind small sample sizes – see Appendix 2).

e. Multiculturalism and Cultural Diversity

In relation to cultural diversity, we first plot what proportion of textbooks discuss linguistic, religious, and cultural rights in Figure 13, drawing on the dataset between 1950 and 2011. The trends are not very clear with respect to linguistic and cultural rights, with upward movement followed by downward movement. In the case of religious rights, the evidence seems to suggest a more consistent upward trend, particularly in the latest decade. Coverage of religious rights is generally the highest, and of linguistic rights generally the lowest.

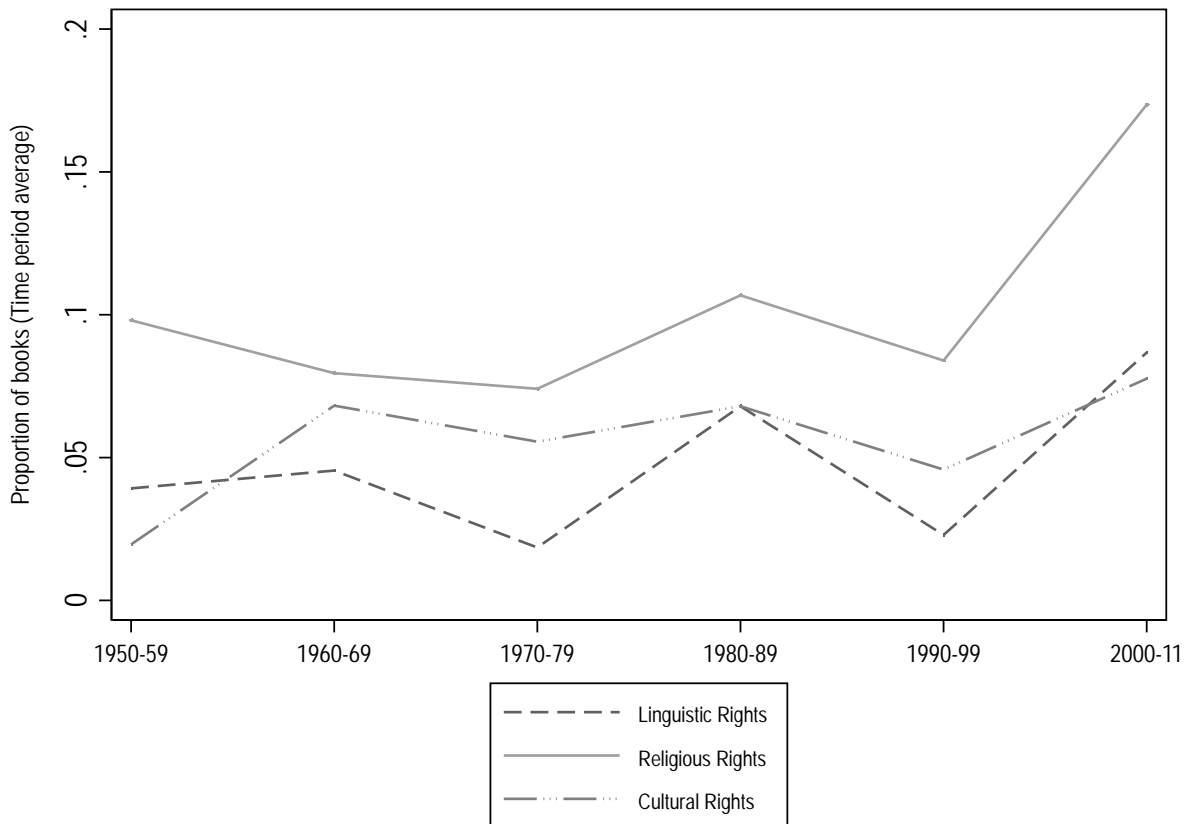


Figure 13. Linguistic, Religious, and Cultural Rights in Textbooks, 1950-2011

Notes: All three indicators are drawn from Dataset 2. Please review Appendix 2 for sample sizes.

In Figure 14, we disaggregate these indicators of cultural diversity textbook coverage by region. Given their very low coverage rates in many regions, it is not feasible to show regional trends over time (the variation is just too small to be stable). Instead, we restrict our sample to the books in the most recent decade (2000-11) and show overall regional differences in that time period. Taken all of these topics together, their incorporation seems to be lowest in books from the Arab States and Africa and highest in books from Asia and the Pacific. This is especially true for religious rights, which are discussed in almost 25 % percent of books from this region.

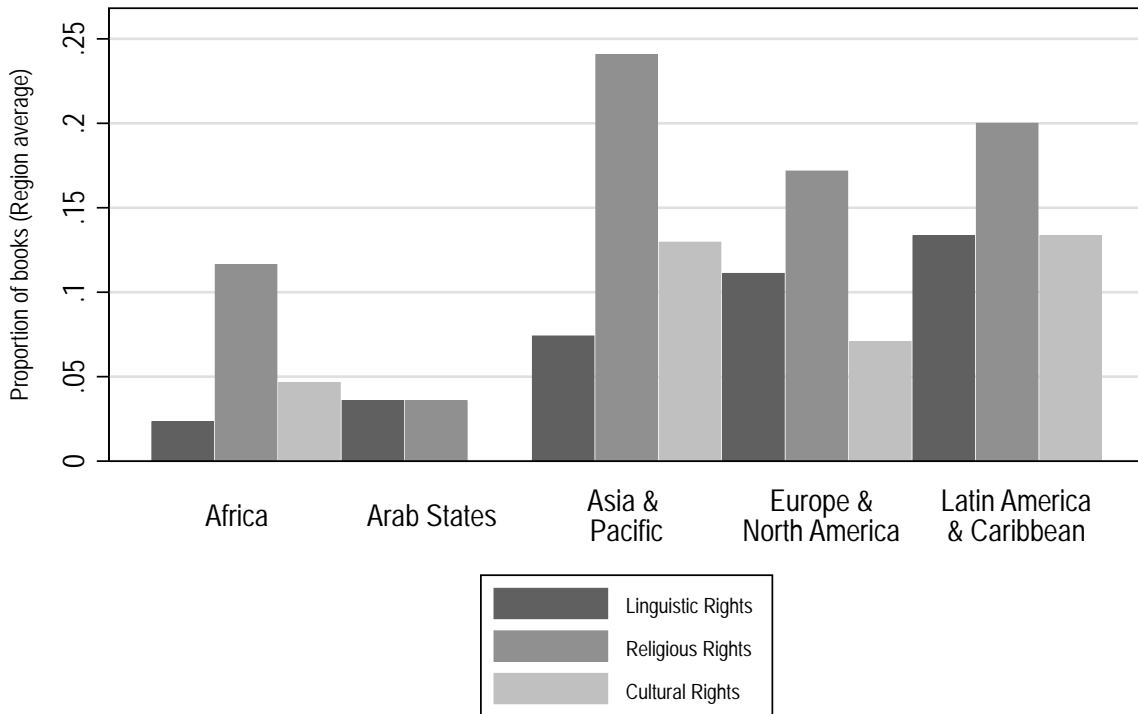


Figure 14. Linguistic, Religious, and Cultural Rights in Textbooks, By Region (2000-2011)

Notes: All three indicators are drawn from Dataset 2; please see Appendix 2 for sample sizes.

For further measures of cultural diversity, we turn to textbook content related to the equality of minority groups. Figure 15 shows what proportion of books mentions the rights of: immigrants/refugees; ethnic, racial, or religious minorities; indigenous peoples; gays/ lesbians; disabled persons; and the poor. We cover the period 1890 to 2013, consolidated into time periods and decades, as above, and with varying years covered for each indicator. Portrayals of the rights of immigrants/refugees and of ethnic, racial, or religious minorities (for which we have early data) experience some declines after an early increase in the era of the World Wars, but begin to grow again (and tremendously so) in the 1980s and 1970s, respectively. Textbook discussions of the rights of the poor decline until a modest rise in the 2000s. Indigenous rights drop in the 1990s but recover in the 2000s. Beyond these specific observations, the general imagery is of an increase in textbook content related to minority rights.

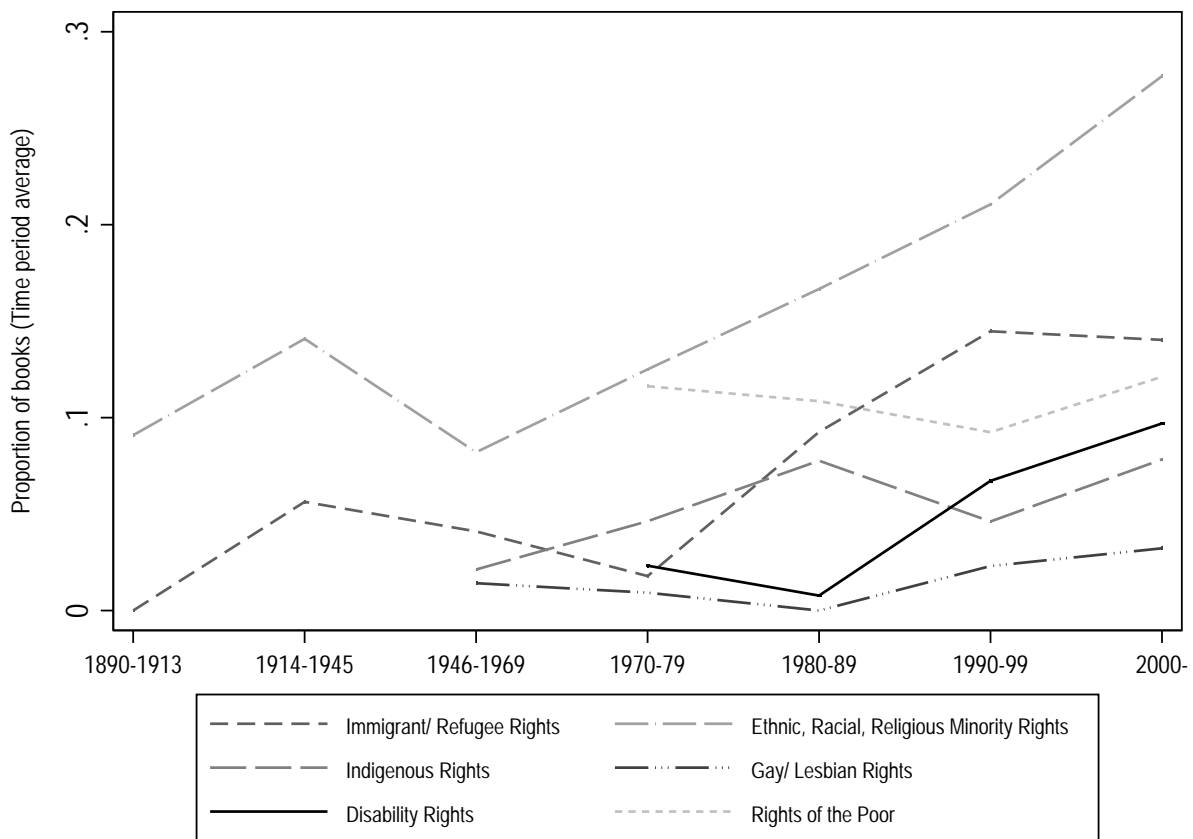


Figure 15. Equality of Minority Groups in Textbooks, 1890-2008/11/13

Notes: For the lines starting in 1890, Dataset 3 was used - the sample sizes for the early periods are 34 (1890-1913), 142 (1914-1945), and 195 (1946-1969) (for decadal sample sizes, please see Appendix 2). For the lines starting in 1950, Dataset 2 was used, and for the lines starting in 1970, Dataset 1 was used - please see Appendix 2 for the relevant sample sizes.

Figures 16 through 18 examine regional variations within these indicators. Figure 16 depicts regional averages of the proportion of books mentioning the rights of immigrants/ refugees, ethnic, racial, or religious minorities, and indigenous peoples – focusing only on books from the latest decade. Figure 17 does the same for gay/ lesbian rights, disability rights, and the rights of the poor. The figures reveal interesting regional differences: immigrant/ refugee rights are not mentioned at all in books from Africa and the Arab States and are little incorporated in books from Asia and the Pacific. Ethnic, racial, or religious minority rights coverage appears to be lowest in books from the Arab States, which also do not seem to mention indigenous rights, gay/lesbian rights, disability rights, or the rights of the poor. Books from Asia and the Pacific also show little incorporation of discussions around gay/lesbian rights, disability rights, or the rights of the poor, and the books we have from Africa do not discuss the rights of the poor at all.

For most of these indicators, coverage rates in many regions are very low, preventing us from examining all of them by region over time. Figure 18, however, takes the indicator with the highest levels of incorporation – textbook discussions of ethnic, racial, or religious minority rights – and graphs it by region in decadal averages from 1980 to 2013. No clear overall picture emerges. Coverage of this issue in books from Asia and the Pacific appears to have declined over time, while it seems to be increasing in books from Europe and North America as well as Africa. Books from Latin America and the Caribbean show a decline in the 90s before a steep rise in the 2000s. Finally, discussion of this issue in books from the Arab States rose slightly in the 1990s and has fallen slightly in the 2000s.

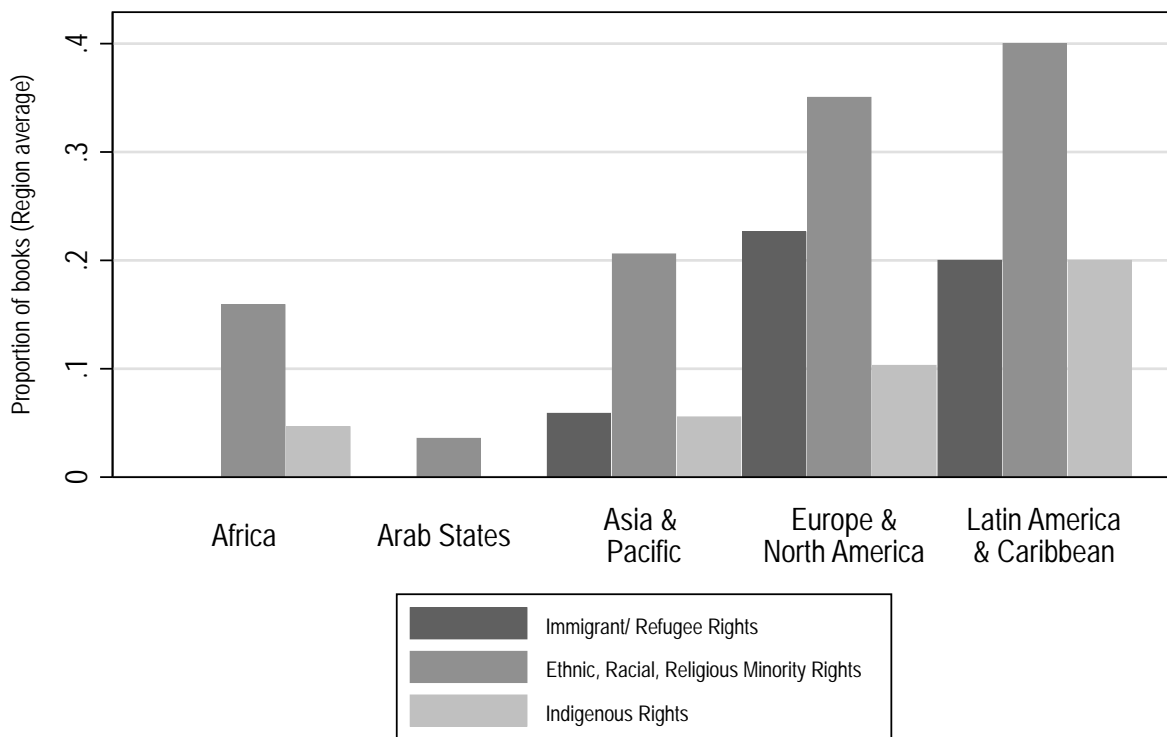


Figure 16. Equality of Minority Groups in Textbooks I, By Region (2000-2011/13)

Notes: For immigrant/ refugee rights as well as ethnic, racial, and religious minority rights, Dataset 3 was used. For indigenous rights, Dataset 2 was used. Please see Appendix 2 for the relevant sample sizes.

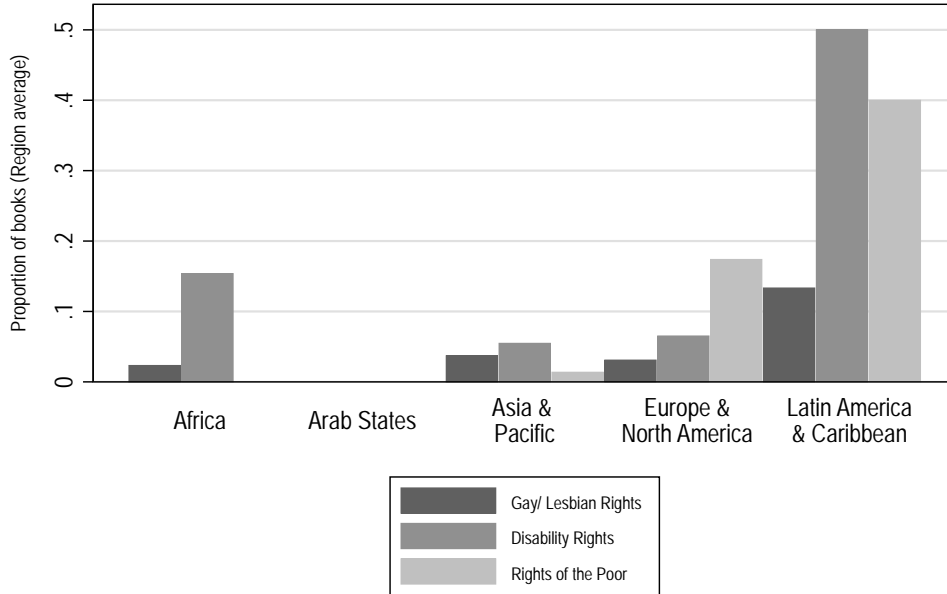


Figure 17. Equality of Minority Groups in Textbooks II, By Region (2000-2008/11)

Notes: For gay/ lesbian rights, Dataset 2 was used. For disability rights and the rights of the poor, Dataset 1 was used. Relevant sample sizes can be found in Appendix 2.

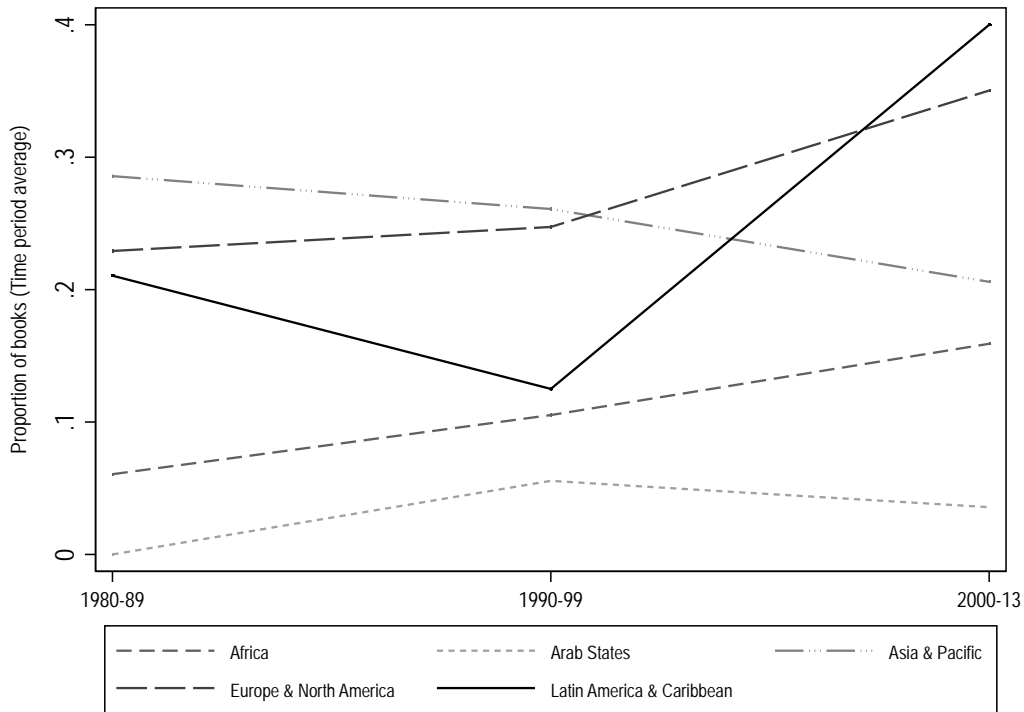


Figure 18. Mentions of Ethnic, Racial, and Religious Minority Rights in Textbooks, By Region and Over Time (1980-2013)

Notes: This indicator is drawn from Dataset 3; please consult Appendix 2 for sample sizes.

f. Peace and Non-Violence

In Figure 19, we show trends in textbook content relevant to peace and non-violence: 1) whether books discuss ways to prevent armed conflict and 2) whether they discuss conflict resolution or reconciliation mechanisms (this could include conflict resolution at the individual level, domestic or international trials, truth commissions, economic reparations, or similar). We cover the time period 1950-2011. While both indicators experienced a downward trend until the 1970s and 1980s, respectively, both seem to be on an upward trend since then, although overall incorporation remains relatively low.

Given such low coverage rates, we can only show cross-sectional regional data on these indicators for the most recent decade, provided in Figure 20. While the differences are small, we can see that discussions of conflict resolution/ reconciliation mechanisms are more pervasive in books from Africa and from the Latin American and Caribbean region. More books from Asia and the Pacific appear to discuss ways to prevent armed conflict than in other regions. Beyond that, no noticeable regional differences emerge.

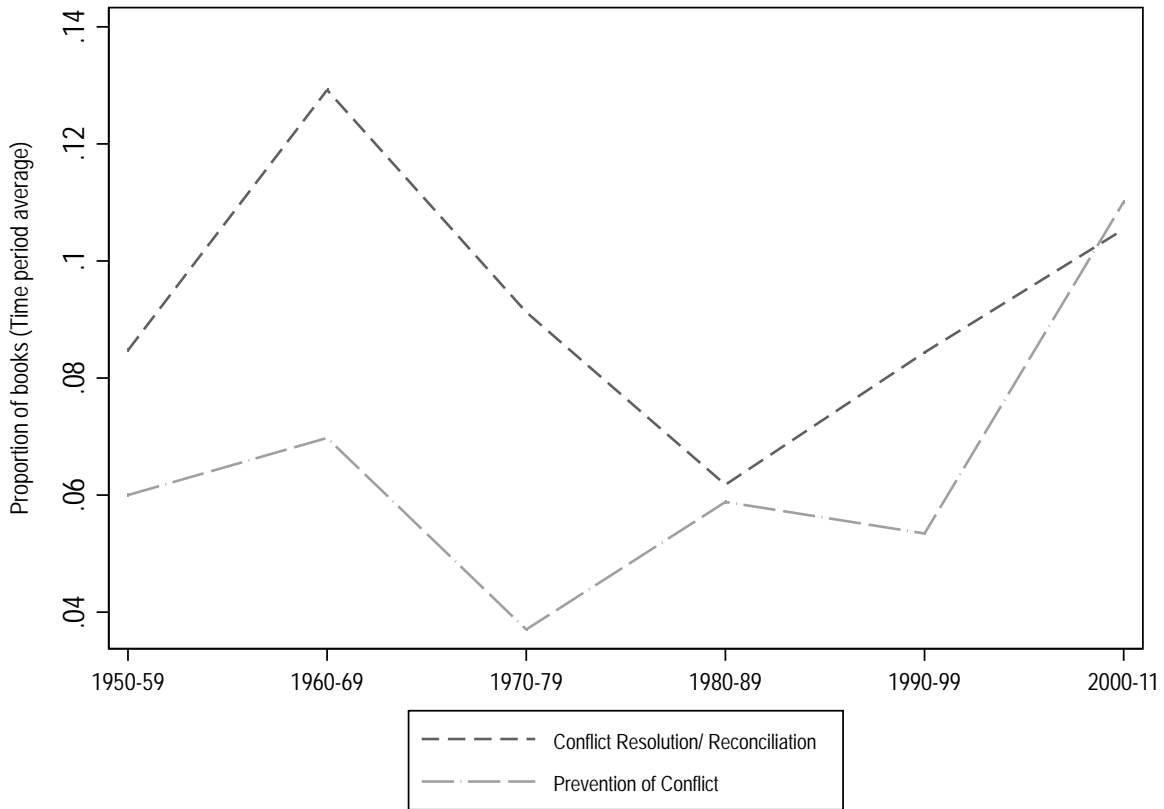


Figure 19. Conflict Prevention and Resolution/ Reconciliation in Textbooks, 1950-2011

Notes: For both indicators, Dataset 2 was used. Please consult Appendix 2 for sample sizes.

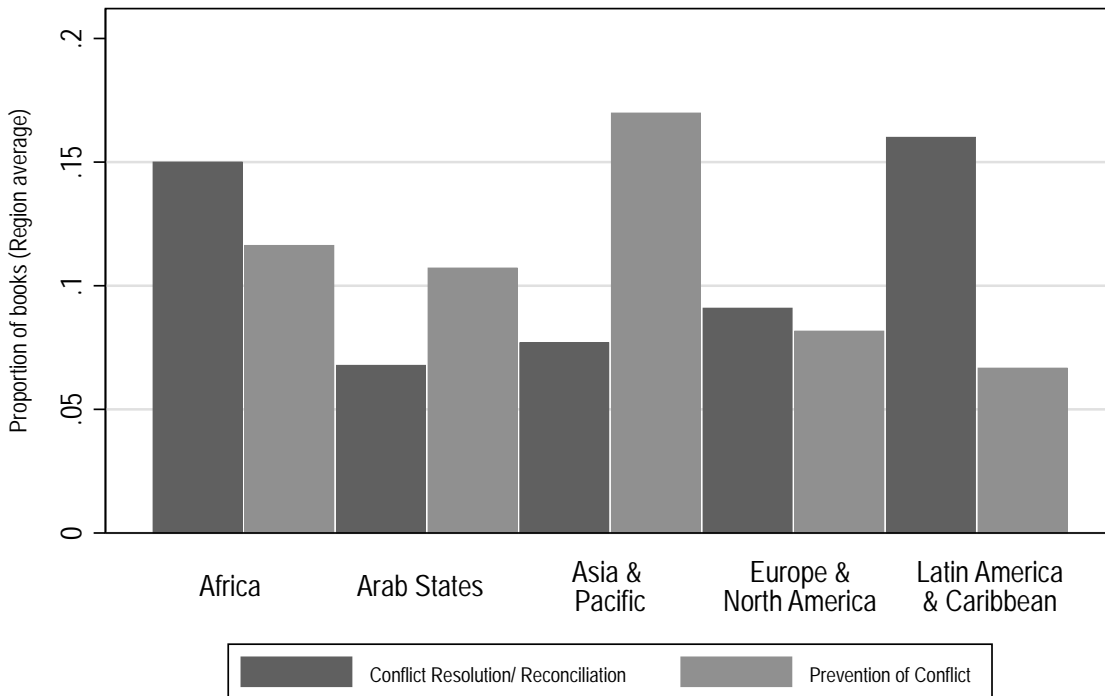


Figure 20. Conflict Prevention and Resolution/ Reconciliation, By Region (2000-2011)

Notes: For both indicators, Dataset 2 was used. Relevant sample sizes can be found in Appendix 2.

g. Student skills and Values

We now turn to a crosscutting theme, which concerns the extent to which textbooks encourage skills that position students to be active, flexible, and open-minded learners and participants in society. Figure 21 shows what proportion of textbooks between 1890 and 2013 include open-ended questions, role-play activities, encouragement of student opinion, and suggestions for student involvement (e.g., volunteering). In addition, we include whether books portray history as objective facts or whether history is presented as a question of multiple perspectives. The portrayal of history as facts is clearly on the decline, though still pervasive: it has dropped from nearly one hundred percent of books exhibiting this approach in the years prior to 1914 to around sixty percent in the latest decade. In contrast, the portrayal of history as multiple perspectives is growing, albeit slowly and still at a much lower level than the more traditional approach to history as fact-based. The other indicators are on a clear upward trend, which is especially visible in the proportion of books containing open-ended questions, which has risen from less than twenty percent in the early years to almost one hundred percent in recent ones.

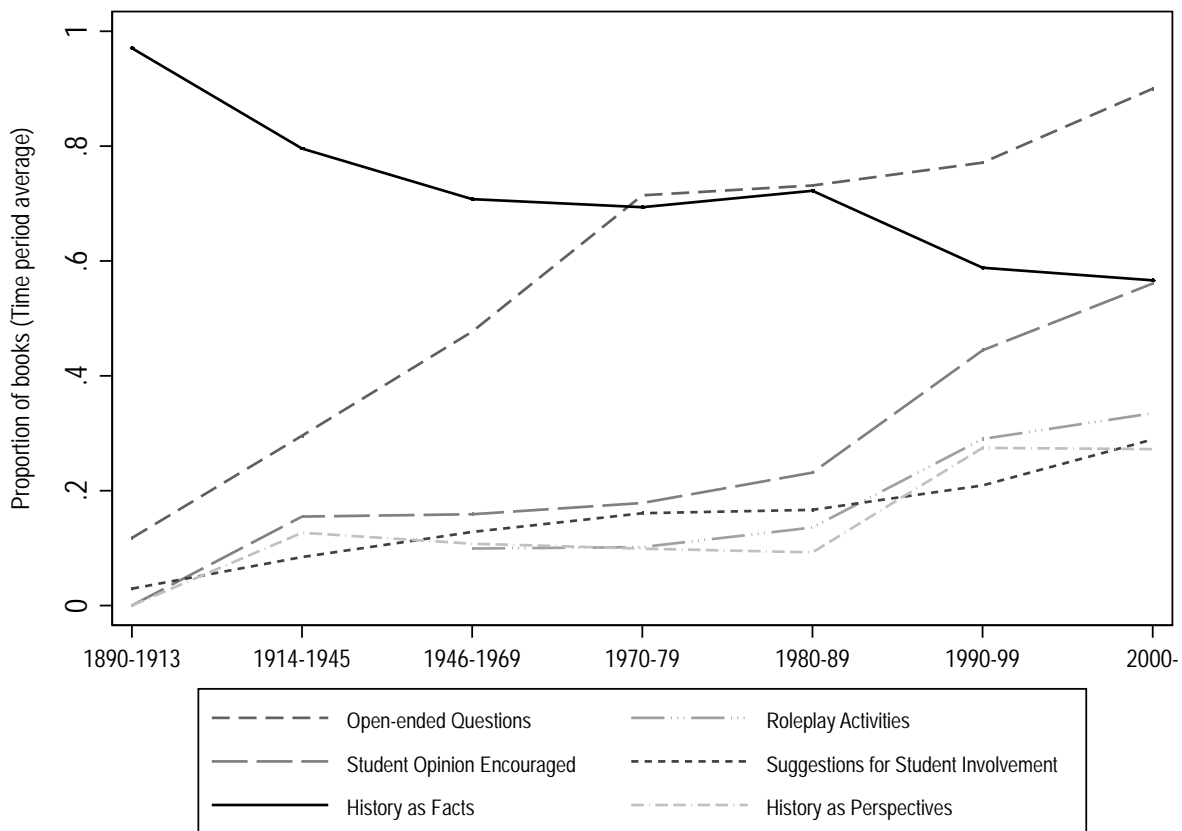


Figure 21. Student Skills in Textbooks, 1890-2011/13

Notes: For the lines starting in 1890, Dataset 3 was used - the sample sizes for the early periods are 34 (1890-1913), 142 (1914-1945), and 195 (1946-1969) (for decadal sample sizes, please see Appendix 2). For the lines starting in 1956, Dataset 2 was used - please see Appendix 2 for the relevant sample sizes.

Figure 22 offers a more selective regional look at the measures of how much textbooks seek to develop an active student, between 2000 and 2011/13. The incorporation of open-ended questions is quite consistent across regions. The inclusion of role-play is highest in books from Latin America and the Caribbean, as is the encouragement of student opinion. The latter is also high in books from Asia and the Pacific as well as Europe and North America. Beyond that, there seems to be little regional variation. As these indicators are somewhat secondary to the focus of this report, we do not show regional trends over time here. However, we ran the relevant analyses for the time period 1980 to 2011/13, with the following results: on the open-questions and student opinion items, all regions experience steady increases between 1980 and 2013; for the other two indicators, the overall trends are also of increases in each region, but some regions experience a flattening out in the 1990s (Africa on the student involvement and roleplay items) or the most recent decade (Latin America and the Caribbean and Europe and North America on the roleplay item).

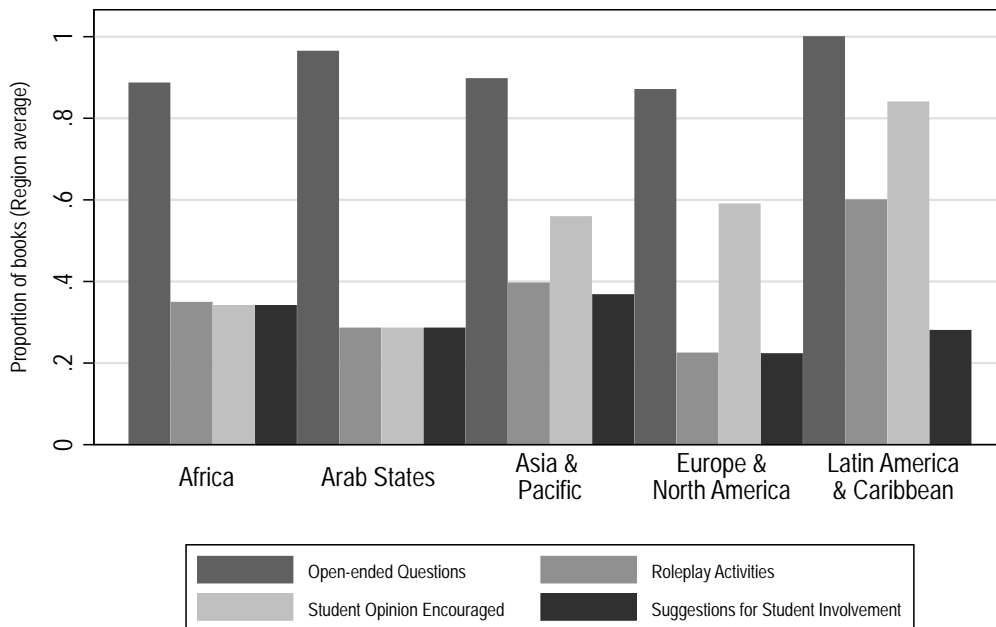


Figure 22. Student Skills in Textbooks, By Region (2000-2011/13)

Notes: For roleplay activities, Dataset 2 was used; for all other indicators, we draw on Dataset 3. Please consult Appendix 2 for sample sizes.

IV. Critical assessment of knowledge gaps

While existing databases span an impressive amount of content relevant to SDG 4.7, we lack data and information in a number of key areas. First, it would be important to develop more extensive measurements that are explicitly related to sustainable development and lifestyles. As our coding schemes were not focused on these issues, we have no explicit measures of whether and how the books discuss the concept of sustainability and its role in individual, national, and global spheres of life. Moreover, though we have several measures related to the environment, we have no data on how textbooks link these discussions to (social) development or the economy. Second, we need better data on textbook content relevant to the promotion of a culture of peace and non-violence. We have some material on discussions of conflict prevention and/ or resolution, yet little explicit measurement of whether textbooks incorporate peace education or similar materials. It would be useful, for example, to measure whether books contain discussions and activities that seek to explicitly develop students' conflict resolution and mediation skills (our measures are somewhat indirect on this aspect). Furthermore, we need better measurements of how books teach students about the causes and consequences of violent conflicts, and the conditions and possibilities for peace.

Beyond indicators on additional themes, it would also be worthwhile improving on the qualitative aspects of the measures that we do have. In other words, while we have good measures of whether books discuss certain issues, it is much more challenging to capture *how* these issues are discussed. It would be helpful to develop better measures of whether books depict different population groups in positive or negative ways, exhibiting both explicit and implicit biases. For instance, South African textbooks from the first half of the 20th century discuss different groups in considerable detail much earlier than many other contemporary textbooks, although the coverage is frequently derogatory, if not outright racist. The challenge in this, discussed in further detail below, is that such measures often call for substantial interpretation by textbook coders, which reduces reliability in the coding.

Going beyond the content of the books themselves, another area with a dearth in knowledge concerns textbook writers themselves. In view of their important roles in the production of school knowledge, systematically gathered data on their backgrounds (e.g., gender, ethnicity/ race, nationality, education) would be useful for getting a sense of diversity (or lack thereof) in the textbook production process.

Finally, the coverage of textbooks in currently available datasets is uneven. Marginalized countries and regions are underrepresented, whereas dominant countries and regions are overrepresented, in part because developed countries have been producing textbooks for a considerably longer period of time. In addition, subject coverage thus far has concentrated on history, civics, social studies, and geography. Keeping in mind limited resources, it could be worthwhile to expand this focus, for instance, into the field of language arts or the sciences (particularly environmental and geo-science). It would also be beneficial to develop data on primary school textbooks, as current cross-national analyses have focused on the middle and secondary school levels.

V. Challenges in developing an index or metric to measure country progress toward GCED and EDS content in textbooks

Textbooks are a valuable source of data about national commitments to sustainable development. They can be analyzed unobtrusively, removing concerns that teachers or students alter behavior in response to being studied; complete and/or relatively comprehensive samples can be obtained for some countries (especially in recent periods), so missing data is a manageable issue; and measurement instruments can be assessed for validity and reliability. Nonetheless, there are two main challenges to address when developing an index or metric to measure the extent to which countries are making concerted efforts to prioritize GCED and EDS related issues in school textbooks.

Sampling

Ideally, one would want to study all textbooks used (and obtain a measure of their usage) in each subject and each grade. But in practice there are difficult trade-offs between breadth and depth. It is necessary to decide on particular grade levels or ages that are roughly equivalent, although individual countries may not cover the same content in the same year of their curricular sequence. For example, Country A might proceed in a progression from local to national to global, while Country B integrates the global throughout. Depending on the year selected, the countries would look very different although the overall level of global instruction might be similar across a schooling experience. In addition, many countries have decentralized education systems, making it necessary to sample from only a few regions and construct a national average, although there might be considerable within-country variation (little is known about internal differences). Lastly, for some countries it remains difficult, if not illegal, to obtain textbooks (e.g., Saudi Arabia, Syria). Thus, researchers must attend to bias created in the sample by excluding some countries (i.e., global trends may look rosier than they truly are if the countries that do GCED and EDS are systematically, if unintentionally, excluded).

Coding

Although reliability and validity can be addressed relatively well, the coding document needs to be developed with a great deal of care and tested extensively. Thus, the project cannot be constructed quickly. Developing the coding document for cross-national research also raises unique complications. Straightforward translation issues can easily change the meaning of a question, and this issue becomes more nuanced when cultural definitions of large concepts (e.g., “global citizenship” or “human rights”) may also vary. For example, in some cases ideas of economic rights such as guaranteed employment or a living minimum wage are included in ideas of human rights, while other conceptions focus more narrowly on physical integrity or civil and political rights.

VI. Recommendations

In order to conduct the strongest possible cross-national monitoring and evaluation mechanism for GCED and ESS-related content, we recommend several design features for a regular monitoring mechanism, which would provide globally comparable information on textbook contents across countries, systems and over time. These recommendations are mainly aimed at addressing the main challenges of sampling and coding raised above, with a preliminary consideration of how such an effort could be organized.

Sampling

Overall, data collection needs to take into account subject, grade level, within-country textbook selection, and the appropriate timing for subsequent waves of data collection.

Subject: A key recommendation is to focus in on the subjects where GCED and EDS-related content is taught most explicitly (the social sciences). Although other subjects, such as mathematics, will have relevant information implicitly embedded in the materials, the most efficient way to consider the bulk of likely GCED and ESS-related content will be through civics, social studies, and history. Environmental science and geoscience are also relevant subjects to consider for ESS textbook content, and there could also be value to conducting cross-national studies examining science textbooks. Nonetheless, for efficiency purposes the social sciences likely have the most relevant content across GCED and ESS topics.³

Grade Level: Given school systems are structured differently, one approach would be to consider books used in the first year of full-time primary education, then again at or around eighth grade, and again in the final year of high school. Alternatively, many cross-national studies focus on a particular age level (e.g. 14 year olds). At present, far more is known about trends at the high school level than primary grades, although relevant teaching certainly begins at the primary level.

Within Country Textbook Selection: For many countries it would be possible to obtain a complete list of approved textbooks and code them all. However, in highly decentralized systems like the United States or Germany, this would be overly burdensome. In these cases, an appropriate strategy is to focus on the largest textbook markets (e.g. California, New York, Florida and Texas in the United States) and/or obtain recommendations from local experts on the most widely used books. TIMSS researchers used the expert consultation strategy for their curricular research to obtain the most widely used eighth grade math books.⁴ In their study, a cross-check with a survey administered

³ The second dataset collection effort described in the earlier section included geography textbooks, and these generally had lower emphases on things like rights and global citizenship than other social sciences.

⁴ In existing studies it has been impossible to reliably obtain hard statistics on textbook use (e.g. sales figures or school district distribution lists). For-profit publishers will not release these figures, and national governments often did not keep such records or were loathe to release them.

to teachers confirmed the texts were the most used.⁵ As part of this process, researchers should collect a brief description of the textbook production and approval process in each country to include as controls in subsequent analyses – in addition to the approval process, it would be important to understand how often textbooks are revised and how revisions are done or new textbooks approved. In particular, the following information should be gathered:

- 1) Is there an official list of approved textbooks?
 - a) If yes, obtain the list and analyze texts on the list.
 - b) If no, provide a brief description of ways schools decide on textbooks.
 - c) If no, provide a brief description of how the government monitors textbook content.
- 2) Are textbook approvals standardized within a country or does it vary by province/state?
 - a) If it varies by province/state, how should textbook collection be targeted towards particularly large or influential areas?
 - b) At what level is the approval made (e.g. federal, state/province, school district, school)?

Timing: As a last consideration, another benefit of textbooks is that they rarely change dramatically from year to year (with the exception of extreme disruptions to the political and educational system, as in the collapse of the Soviet Union). Unfortunately, there are no exact timelines available for textbook revisions across countries over time, so gathering more information on this issue (as mentioned above) would also be valuable. A noteworthy financial investment is required to substantially overhaul textbooks. Often, books are simply revised from year to year. Thus, a monitoring mechanism that gathered data every five years - or following a significant upheaval - would be sufficient to monitor textbook content. Additionally, another strength of textbook data is it is possible to go back in time to consider trends. Thus, we would recommend as an initial step collecting data for books published 1995-1999, 2005-2009, 2015-2019 (on-going).

Coding

Given the goal of analyzing content across countries with different languages and cultures, several additional precautions need to be taken in developing the coding document to ensure validity of the questions, beyond standard procedures such as testing questions for inter-rater reliability. It is critical to follow established methods for survey design, such as including multiple items on the same theme (to reduce error associated with any single question) and piloting questions to ensure they are written clearly (avoiding things like double-barreled questions, the use of negatives, and so on).

Experience has provided a few other pragmatic insights directly related to this type of coding instrument:

- Inter-coder reliability drops if it takes longer than an hour and a half to code a book. The vast majority of questions should be easy to answer by flipping through the pages, not

⁵ <http://nces.ed.gov/pubs97/timss/97198-5.asp>

reading the text in-depth. Not all textbooks will have tables of contents, indexes, or reliable use of subheadings so the coding should be developed with this in mind.

- Inter-coder reliability drops dramatically as response options get more specific. For example, the questions “How many pages of the book discuss recycling?” will have poor reliability. But the question “Does the book discuss recycling in at least a paragraph?” will have high reliability. The greater the gradients of responses (e.g. using ordered categories), the lower inter-rater reliability becomes.
- Questions need to be as factual as possible, not requiring any interpretation on the part of the coders. This is particularly important because of the highly varied cultural and linguistic backgrounds involved. For example, the question “Does the book discuss human rights in at least a paragraph?” yields highly varied responses depending on the coder’s interpretation of this vague concept. But the question, “Does the book explicitly use the exact phrase “human rights”?” provides consistent responses. This strategy likely greatly underestimates the level of relevant content in books, but it sets a clear and conservative bar that is comparable across countries. Deeper case-specific discourse analyses could complement the broad cross-national content analyses.
- In developing the survey instrument, the research team needs to come from a variety of cultural backgrounds and the books used need to come from the widest possible array of countries. This helps to ensure that the questions in the coding document are transferrable, that concepts that might be taken-for-granted in one context can be understood in others. For example, in developing studies we did not encounter a case where the phrase “human rights” did not have an immediately understood direct translation, but we found several cases where other terms (e.g. “sustainability” and “environmentalism”) were not as readily transferrable. Extensive piloting with researchers from a wide range of cultural backgrounds, as well as note-taking during data collection to adjust future rounds of data gathering, can mitigate issues of inter-rater reliability that arise from linguistic and cultural translation.

Production Analysis

Beyond collecting specific details about the content of textbooks, it would be valuable to have a short analysis of the textbook authorship, approval, and production process in each country in order to ensure maximum policy influence. The purpose here would be to understand the various levers available to change textbook content, as they would presumably vary from country to country. In addition, authorship and production processes will likely provide a partial explanation for variation in textbook content. There is no systematic understanding of the various procedures countries used, and it would be valuable to assess the authorship and production process itself in terms of inclusivity and equality, as well as to provide more insight into why certain textbook content may or may not be present. Examples of questions to ask include:

- How are new textbooks created (e.g. Are they commissioned? Is there a call for submissions? Are they written by committee?)
- If known, what are the characteristics of authors (e.g. disciplinary versus educational background, gender)?
- What are the criteria used to establish the list of approved textbooks? (e.g. is certain content required, is diversity and/or expertise of the authors considered?)

- Is the publisher a domestic company or an international one?
- Is the publisher a commercial company or a nonprofit one or government itself?
- Is there any evidence that content is replicated regionally (i.e. templates used across multiple countries)?

Implementation

To implement a successful monitoring and evaluation system, co-operation between governments and international organizations is necessary. At a minimum, national governments need to be willing to provide researchers with open and safe access to curricular content and freely disclose how textbooks are developed and approved. Research activities could then be carried out through co-operation with local ministries of education or universities. University students could be trained to collect and code textbooks once the coding document is developed. Possibly, in order to cut down on data collection costs partnerships could be developed to enable students to obtain research or course credits at their local university for working with a co-ordinating body. Data collection could be conducted in tandem with guided reading on related topics led by local faculty. Or, if funds are available, local researchers could easily be hired. An international co-ordinating body will be critical to ensuring the success of local data collection efforts. Unesco, or perhaps the International Bureau of Education, seem best poised to serve in this role given their extensive contacts with national governments. University partnerships could also be formed to help co-ordinate the research activities, although support would likely be needed from an inter-government agency to ensure access to the greatest number of national education systems.

VII. Conclusion

Textbooks remain a central classroom tool in most countries around the world. As such, they are a promising source of data to develop multi-dimensional measures of GCED and ESS content in education systems. Existing research suggests massive changes over time and around the world in these emphases, but we know very little about what drives these trends. In particular, case studies exist to explain particular countries or sub-national regions, but the fact this is a global phenomenon that generally occurs in the neoliberal era is less recognized and understood. Textbooks provide an important window to examining what values and priorities are expressed by the many distinct national communities across the world. Developing a global monitoring and evaluation system examining textbook content is a plausible and useful approach to promote the development of high quality education systems worldwide.

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Appendices

Appendix 1. Country Example Trends

Here we provide some examples of how countries change over time on indicators in this data (using Dataset 2, 1950-2011), following themes a) to g) in Sections II. and III. of the report. These examples are purely illustrative, and a few caveats must be kept in mind. First, there are a limited number of textbooks from each country and the patterns would not necessarily be the same if a larger sample was collected. We limit the examples to countries with more than ten books, and show the number of textbooks per country over time in the Table A1.2. Additionally, a stronger technique is to use regression techniques that produce expanded standard errors for countries with fewer cases, as in most of the published research on this topic. Second, the examples show just one indicator from the broader number of items available for each large concept. Countries may have different patterns on different indicators, and a more trustworthy way to consider country trends is to combine multiple items into indices.

Table A.1.1. Country Examples

Theme	Indicator	Increasing Over Time	Other Pattern
a) Environment & Sustainable Development	Discusses Environment	Belgium Taiwan	South Korea (inverted “u”) Israel (no mention)
b) Human Rights	Uses Phrase “Human Rights”	Peru Poland	Japan (linear decline) Brazil (inverted “u”)
c) Gender Equality	Uses Phrase “Women’s Rights”	Denmark Switzerland	Lebanon (inverted “u”) Taiwan (no mention)
d) Global Citizenship	Discusses Global Citizenship	Tunisia United States	Brazil (no mentions) Japan (backwards “j”)
e) Multiculturalism & Cultural Diversity	Discusses Religious Rights	Norway South Korea	Chile (linear decrease) Israel (linear decrease)
	Discusses Minority Rights	Netherlands Poland	Bulgaria (inverted “u”) China (inverted “u”)
f) Peace & Non-violence	Discusses Ways to Prevent Armed Conflict	Lebanon, Peru	Netherlands (inverted “u”), Sweden (no mention)
g) Student Skills & Values	Says Students Can or Should Get Involved	Finland Portugal	Lebanon (inverted “u”) Denmark (no mention)

Table A.1.2. Sample Sizes for Examples

Belgium	5	3	5	2	5	5	25
Brazil	0	2	4	2	2	2	12
Bulgaria	1	1	1	3	4	2	12
Chile	0	0	3	3	3	3	12
China	0	7	0	2	2	4	15
Denmark	1	2	0	1	2	5	11
Finland	2	2	2	2	1	2	11
Israel	1	0	2	4	3	2	12
Japan	1	3	3	0	1	6	14
Lebanon	0	0	0	1	4	6	11
Netherlands	2	1	2	2	3	3	13
Norway	2	1	1	2	3	4	13
Peru	0	1	6	4	1	1	13
Poland	2	0	4	0	3	3	12
Portugal	0	0	2	4	2	3	11
South Africa	1	2	3	4	1	10	21
South Korea	1	2	1	4	0	4	12
Switzerland	2	1	2	1	3	2	11
Taiwan	9	0	11	0	0	5	25
Tunisia	0	4	0	2	2	3	11
United States	1	3	3	0	2	4	13

Appendix 2. Distribution of Samples in 3 Textbook Datasets

Dataset 1, 1970-2008

*Table A.2.1. Textbook Distribution by UNESCO Region and Decade, Dataset 1 (1970-2008)**

	Africa	Arab States	Asia and the Pacific	Europe and North- America	Latin America and the Caribbean	Total
1970-79	0	0	12	35	2	43
1980-89	14	0	28	95	5	129
1990-99	10	0	33	60	27	119
2000-08	13	3	73	92	10	165
Total	37	3	146	282	44	456

*Regions may overlap (see: <http://www.unesco.org/new/en/unesco/worldwide/>).

*Table A.2.2. Textbook Distribution by Subject and Decade, Dataset 1 (1970-2008)**

	Social Studies	Civics	History	Total
1970-79	13	9	23	43
1980-89	36	25	72	129
1990-99	32	30	62	119
2000-08	51	45	80	165
Total	132	109	237	456

*Subject categories may overlap.

Dataset 2, 1950-2011

*Table A.2.3. Textbook Distribution by UNESCO Region and Decade, Dataset 2 (1950-2011)**

	Africa	Arab States	Asia and the Pacific	Europe and North- America	Latin America and the Caribbean	Total
1950-59	5	5	13	31	2	54
1960-69	21	10	17	40	11	88
1970-79	22	3	17	49	18	108
1980-89	33	14	12	45	18	103
1990-99	19	18	18	75	15	131
2000-11	43	28	54	99	15	219
Total	143	78	131	342	79	703

*Regions may overlap (see: <http://www.unesco.org/new/en/unesco/worldwide/>).

*Table A.2.4. Textbook Distribution by Subject and Decade, Dataset 2 (1950-2011)**

	Social Studies	Civics	History	Geography	Total
1950-59	0	9	30	13	54
1960-69	9	18	50	17	88
1970-79	15	24	49	31	108
1980-89	14	17	51	26	103
1990-99	24	23	70	34	131
2000-11	51	51	86	56	219
Total	113	142	336	177	703

*Subject categories may overlap.

Dataset 3, 1890-2013

*Table A.2.5. Textbook Distribution by UNESCO Region and Decade, Dataset 3 (1890-2013)**

	Africa	Arab States	Asia and the Pacific	Europe and North- America	Latin America and the Caribbean	Total
1890-99	1	0	0	5	2	8
1900-09	0	0	1	14	2	17
1910-19	0	0	8	15	1	23
1920-29	1	1	7	26	2	36
1930-39	1	0	17	46	5	60
1940-49	2	2	18	53	3	70
1950-59	7	9	18	37	3	67
1960-69	22	11	17	40	12	90
1970-79	22	3	21	49	18	112
1980-89	33	14	14	48	19	108
1990-99	19	18	23	94	16	153
2000-13	44	28	68	139	25	280
Total	152	86	212	566	108	1,024

*Regions may overlap (see: <http://www.unesco.org/new/en/unesco/worldwide/>).

*Table A.2.6. Textbook Distribution by Subject and Decade, Dataset 3 (1890-2013)**

	Social Studies	Civics	History	Geography	Total
1890-99	0	0	7	1	8
1900-09	1	3	17	1	17
1910-19	1	2	20	3	23
1920-29	1	6	30	5	36
1930-39	8	12	48	5	60
1940-49	8	11	58	5	70
1950-59	1	9	44	12	67
1960-69	10	18	51	17	90
1970-79	16	24	52	31	112
1980-89	14	17	56	26	108
1990-99	27	25	91	35	153
2000-13	67	63	137	65	280
Total	154	190	611	206	1,024

*Subject categories may overlap.

Appendix 3. Key Indicators Relevant to SDG 4.7 Analyzed in this Report

Dataset 1 (1890-2013)

Dataset 2 (1950-2011)

Dataset 3 (1970-2008)

	Dataset 1 (1890-2013)	Dataset 2 (1950-2011)	Dataset 3 (1970-2008)
Environment & Sustainable Development		Discussion of: environment; environmental rights; global environment content; environmental movement; global environmental movement.	
Human Rights	Discussion of human rights.	Discussion of: women's rights as human rights; civil and political rights as human rights; economic, social, and cultural rights as human rights; international human rights documents; national human rights documents/ bodies.	Discussion of: regional human rights documents; human rights violations in own country; human rights violations in other countries.
Gender Equality	Discussion of: women's rights; discrimination against women.	Discussion of: violence against women; women's contribution to society; women's movement; global women's movement; women's rights as equal to men; women's rights as unique.	
Global Citizenship	Suggestions for students to get globally involved.		Discussion of global citizenship.
Multiculturalism & Cultural Diversity	Discussion of: immigrant/refugee rights; ethnic, racial, religious minority rights.	Discussion of: linguistic rights, religious rights; cultural rights; indigenous rights; gay and lesbian rights.	Discussion of: the rights of the poor; disability rights.
Peace & Non-Violence		Discussion of: ways to prevent armed conflict; conflict resolution/reconciliation.	
Student Skills & Values	Inclusion of: open-ended questions; suggestions for student involvement. Encouragement of student opinion. History presented as facts; history presented as perspectives.	Inclusion of role-play activities.	