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A global study of intended instructional time and official school curricula, 1980-2000

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**A Global Study of Intended Instructional Time and
Official School Curricula, 1980-2000***

by

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I. Introduction

International education policies have mainly focused on the quantitative expansion of formal schooling and tended to give lip service to 'qualitative' issues such as re-structuring curricular contents or enhancing pupils' school-based learning experiences. This imbalance in international policy circles reflects, in part, the state of academic research. While scholarly accounts of educational expansion (Meyer et al 1992; Clemens 2004) and its impact on economic or political outcomes (Hannum and Buchmann 2003) have accumulated, comparative studies of school-based experiences and educational processes remain relatively underdeveloped and typically rely on comparisons of select system inputs (e.g., educational expenditures, the prevalence of classroom materials, pupil-teacher ratios) and outputs (e.g., drop-out or repetition rates, educational achievement, years of schooling obtained). Such input-output models of education, which reflect deep-rooted, economistic conceptions of 'quality' schooling, have become the basis for evaluating the 'efficiency' of national education systems and a framework for donor institutions and national policy makers to consider the 'effectiveness' of alternative educational policies (e.g., Barro and Lee 1996; Lee and Barro 1998; Cummings and Riddell 1994; Ross and Mahlek 1990; Hanushek and Kimko 2000; Ginsburg et al. 2001).

The present report examines two critical, yet under-researched, aspects of children's school-based experiences: first, **the amount of intended time – that is, yearly instructional hours - - countries expect enrolled pupils to be in school and given the opportunity to learn**, and second, **the curricular structuring of intended school time according to officially defined school subjects**.

Drawing upon extensive collections of official educational sources, mostly compiled by the International Bureau of Education (IBE), this paper reports global and regional patterns on intended instructional time and the prevalence of, and relative emphasis on, curricular subjects throughout primary and lower secondary education (grades 1-8) and in two historical periods (1980s and 2000s). Specifically, this report addresses the following questions:

- How many hours of school-based instruction do educational authorities typically mandate during each year of primary and lower secondary education?
- How do countries structure this instructional time in official timetables?
- Which curricular categories are defined and what school subjects are taught?
- To what extent do official subject emphases change between grades 1 and 8?
- To what degree do policies concerning intended time and curricular emphases vary across education systems and how have they changed over the past two decades?

The report is organized into five parts: Following this introduction, Section II briefly reviews relevant background literature and previous research. Section III describes the methodology of the study, including the compilation of curricular data, and the coding and construction of the study's main variables. Section IV presents empirical findings regarding intended instructional time, the organization of the official curriculum, with special attention to language education, mathematics and several additional subject areas, and lastly the 'overloading' of school timetables. Section V briefly discusses the report's main findings in the context of emergent scholarly debates. A special methodological appendix is included, which details the data sources used for instructional time estimates and measures of the official curriculum.

II. Background

Interest in the contents of education -- that is, the valued cultural knowledge that is selected and systematically organized in school curricula -- has a rather discontinuous history in scholarly debates and policy-oriented discussions. During the 19th and the early 20th centuries, when national school systems underwent consolidation in the West, considerable attention was devoted to the cultural knowledge deemed appropriate for boys and girls in public schools (Maynes 1985; Goodson 1993; Glenn 1988). State authorities, university scholars, labour union leaders, religious leaders and teacher associations argued over the inclusion (or exclusion) of school subjects and curricular topics, the contents of textbooks, and the appropriateness of pedagogical methods and testing practices (Goodson 1993; Kleibard 1986; Popkewitz 1987). Curricular issues were explicitly addressed by leading educators and social theorists and extensively discussed in international education meetings like the International Conference on (Public) Education, which first convened in the early 1930s (UNESCO 1979).

In the decades following WWII, international interest in the substance of the curriculum waned. School expansion -- rather than the re-structuring of curricular contents -- became the preferred solution for a host of pressing economic and social 'challenges' such as economic development, high fertility, the need for trained manpower and reducing poverty. 'Education for development' became the dominant theme of models advanced by social science experts and policy makers in relation to newly independent nations (Benavot and Resnik 2004). Among most social theorists and educational researchers, what schools actually taught mattered less than the social inequalities stemming from curricular differentiation or the nature of the "hidden" curriculum (Dreeben 1968; Lynch 1989; Bowles and Gintis 1976; Oakes, Gamoran and Page 1992). The main outlines of the school curriculum became, as some have argued, an obvious, taken-for-granted feature in the drive for modernity and economic growth (McEneaney and Meyer 2000).

In recent decades, debates about the curricular contents of national education systems -- how they are structured, how they have changed over time, and how they affect what kids know and learn -- have intensified. Due in large part to the highly publicised, comparative studies of educational achievement conducted by the IEA (e.g., TIMSS and CIVICS), as well as others supported by the OECD (e.g., PISA) and UNESCO (e.g., Casassus et al. 2002 in Latin America; the Southern and Eastern African Consortium for Monitoring Educational Quality; and the Monitoring Learning Achievement Project), renewed academic interest and public debate over curricular contents have been generated (see Heyneman and Loxley 1983; Keeves 1996; Baker and LeTendre 2000). Earlier research on school 'quality' carried out by the World Bank (e.g., Fuller 1986; 1987; Lockheed and Verspoor 1991) and the growing emphasis on 'quality' issues by UNESCO (e.g., EFA Global Monitoring Report 2005) have also had an impact. As a result, greater analytical and policy attention is being paid to key school resources such as available instructional time, the organization of the school curriculum, languages of instruction, teacher effectiveness and the scope, pace and complexity of classroom life.

The spread of comparative studies of pupil achievement and school curricula has also problematised widely held assumptions about the curriculum among comparative education scholars and social scientists. For example, many comparative educationalists maintain that the curricular contents of education systems fundamentally reflect national priorities and/or distinctive cultural worldviews, which make broad comparisons of school curricula not only

difficult, but of little validity (see Holmes and McLean 1989; Cummings 1999). In addition, researchers in the field of curriculum history, who examine historical changes in the configurations of educational knowledge, assume that "internal" societal actors – for example, national political stakeholders, economic elites, discipline gatekeepers and education specialists -- play the dominant role in determining what counts as official school knowledge (Goodson 1995; Kleibard 1986). From this latter analytical framework, comparative studies of school curricula, which highlight the impact of institutional models and global forces and downplay national political contestations over subject contents, are viewed as inappropriate accounts of how and why school curricula change.

Previous Comparative Studies of the Official School Curriculum

Notwithstanding the conceptual misgivings noted above, large-scale comparative and historical analyses of official curricular policies have blossomed. This emergent scholarship has shown that the basic *categories* of the school curriculum, and the *means* by which countries organize the educational knowledge they intend to transmit to young people in official timetables, have become quite standardized. Key findings from these cross-national studies of the official curriculum include the following (adapted from Benavot 2002):

- 1) On average, countries mandate that children spend about 750 hours each year in primary-school classrooms (Amadio 1998; UNESCO-IBE 2000).
- 2) Most of the educational knowledge taught in primary schools can be classified into six subject areas: language, mathematics, natural science, 'social sciences', aesthetic education and physical education. These subject areas represent the core curriculum of primary education worldwide and typically receive between 80% and 90% of overall instructional time during the first six years of schooling. Several other subjects—religious/moral education, hygiene/health education, vocational education/ practical skills—are taught in many national school systems, though their presence is contingent on historical or cultural conditions (Benavot et al. 1991).
- 3) Language education and mathematics receive special emphasis in official primary curricula. On average, one-third of all instructional time in primary schools is devoted to language instruction; of this, about 25% of time is for national/official languages and 8% to foreign languages (local languages are infrequently taught). Mathematics is allocated about one-fifth of total instructional time. The mean instructional time devoted to the arts, sciences, physical education and the 'social sciences' is at, or just below, 10% for each subject area.
- 4) These curricular structures have remained remarkably stable between 1920 and 1985. In addition, certain longitudinal trends have been discerned: the proportion of instructional time devoted to 'modern' subjects such as mathematics, natural sciences and foreign languages has increased (Kamens and Benavot 1991; Cha 1991; McEneaney 1998), and the teaching of history, geography and civics as separate subjects has been reduced in favour of the more interdisciplinary 'social studies' (Wong 1991).
- 5) Although the structural organization of primary school curricula has remained fairly stable, the specific contents of school subjects have apparently experienced considerable shifts. Principles of individualism, child-centrism, a more rationalized polity and the protection of the natural environment have gained prominence in school curricula (McEneaney and Meyer 2000). Trans-national topics have become more pervasive in the social sciences (Frank et al. 2000) and civic instruction has increasingly shifted its focus to the 'post-national citizen', actively involved in world affairs (Rauner 1998).

- 6) At the upper secondary level, traditional gymnasium-type programmes and instruction in the classical languages have declined in almost all world regions since the 1930s. Europe is the only region in which they remain relatively prominent. At the same time, general/comprehensive programmes as well as specialized mathematics and science tracks have increased in most world regions (Kamens, Meyer and Benavot 1996).
- 7) Two basic modes of organizing academic upper secondary education increasingly characterise most education systems: one, a single, general or comprehensive programme involving a measure of course selection by students; and two, parallel and more specialized programmes of study (e.g., mathematics and science, humanities, law), each emphasizing distinctive contents. The latter mode has typically emerged in systems in which classical programmes once predominated. (There are also quite a few countries that mix or combine these two modes).
- 8) In the academic programmes of upper secondary education curricular emphases usually reflect track types or study programme. Tracks labelled as 'comprehensive', 'mathematics and science', 'social sciences' or 'classical' contain subjects and curricular emphases in line with the programme's name or label. For example, mathematics and science programmes (tracks) usually contain about twice as many class periods devoted to the study of these subjects as compared to other upper secondary programmes.

Overall, this body of research highlights the growing isomorphism of national policies concerning the school curriculum. Official statements of subjects to be taught and time emphases, mainly at the primary level and, to a lesser degree, at the upper secondary level, are increasingly standardized worldwide. These findings not only underscore the predominance of the nation-state as the site at which school curricula are constructed and sanctioned, but also the spreading influence of international organizations and trans-national professionals in diffusing rationalized prescriptions of educational knowledge and legitimated curriculum models (Meyer et al. 1997; McNeely 1995; Schafer 1999). Cultural distinctiveness and national historical legacies continue to shape curricular structures, but they are often transformed or reshaped by highly institutionalized models at the global level.

Limitations of Previous Research

Undoubtedly, comparative studies of official school curricula, such as the aforementioned, mark an important turning point in the field insofar as they tease out long-term continuities and broad-based transformations in the structuring of curricular contents in national education systems. They also point to the salience of trans-national forces on curricular policies, whose impact has strengthened during the post-WWII period. Nevertheless, these studies are incomplete in at least three respects:

- 1) They exclusively focus on pre-1985 trends and leave unexamined recent patterns of curricular organization. Given that the past two decades are characterized as a period of heightened globalisation, both in economic and cultural terms, it is germane to examine whether trends towards curricular homogenisation and standardization are continuing, or whether various forms of diversification are apparent.
- 2) They examine curricular policies at the two ends of national education systems -- the initial years of mass schooling in primary schools and the final grades of upper secondary schools. Cross-national investigations of the official curriculum at the lower

secondary education level are lacking. Not only is this the fastest growing sector in many education systems, but also interest in reforming 'conventional' and highly selective forms of secondary education has intensified, especially in international organizations such as UNESCO (e.g., the 47th session of the International Conference on Education) and the World Bank (see the forthcoming policy paper on secondary education). Moreover, due to the extension of compulsory schooling and expansion of general/comprehensive programmes, lower secondary education represents an important analytical context to investigate the impact of trans-national forces on curricular contents.

- 3) Previous studies of school curricula *averaged* grade-specific patterns of curricular emphases, thus ignoring an interesting source of within-system and between-system variation. There is some evidence that national policies towards instructional time and subject emphases vary, to a considerable extent, between the lower and upper grades of primary education – an issue previous research left unexamined. Given the impact of the EFA movement (i.e., expanding primary enrolments and increased retention in upper primary grades), this issue merits systematic investigation.

In short, the present study directly addresses several areas in which previous comparative studies were limited: it examines changes in curricular policies for the 1980-2000 period, for both primary and lower secondary education, and according to grade level (i.e., grades 1 through 8).¹ In doing so, it represents the most extensive and up-to-date study of its kind. It seeks not only to present a global perspective on the organization of the official school curriculum, including variation by grade level, geopolitical region and over time, but also to reconsider major conclusions from previous research.

Yearly Instructional Time

In almost all education systems, government authorities mandate a certain number of years -- and a set quantity of hours per year – during which pupils are required to be in school and engaged in classroom learning. To be sure, not all school and classroom time is devoted to formal instruction or pupil learning. Nevertheless, the organisation of school time is the object of sustained attention by educational officials. Especially important are decisions regarding how this time should be distributed in light of general educational objectives (see Amadio et al 2004) and specific curricular goals. Moreover, given the inextricable links between schools and the surrounding society, professional associations, trade unions, teachers and the business community often voice concerns about official determinations of school time and its distribution across curricular subject areas. Parents are also interested in time policies -- not only due to their impact on learning outcomes and school success, but also how they address the building up moral character, life aspirations, community responsibility and extended family loyalty. And for children from poorer families, the time spent in school represents a relatively protected space outside the vicissitudes of rural or urban life – often an alternative to long hours in low paying jobs or unpaid labour. In short, school time is not simply an issue of teaching and learning, it is also an institutionally embedded time interval where societal demands, educational purposes and parent-child ties intermesh.

¹ Some analyses of grade 9 curricula have been carried out. However, in many countries during the 1980s this grade level already marked the start of upper secondary education, with an array of academic tracks and more specialized programs. Thus, the number of countries in which the 9th grade has been a continual part of lower secondary education is limited, and creates problems of interpretation when longitudinal comparisons are carried out. Detailed analyses of curricular organization in grades 9 to 12 will be addressed in a future report.

A widely held assumption in the research literature concerns the impact of instructional time on pupil learning (Bloom 1974; Smyth 1985; Anderson 1994; Millot 1995). Simply stated, the more time that educational authorities require that pupils be present in classrooms, the greater the chances of positive time effects on desired learning outcomes (e.g., knowledge acquired, skills mastered, values and attitudes internalised). More complex models of allocated time take into account school and classroom contingencies such as teacher absences due to strikes, in-service training, conferences or illnesses, and time allocated to non-instructional activities such as recreation, breaks, examinations, holiday celebrations or classroom management (Harnischfeger and Wiley 1977). Nevertheless, the core, intuitively sound, notion remains: pupil achievement increases when students are given greater opportunities to learn, especially when 'engaged learning time' is maximized. Although some studies raise doubts about the learning effects of more instructional time (e.g. Karweit 1978; Anderson 1984; Demfer 1987), the presumed positive benefits of instructional time have considerable currency among international and national policy makers.

The present report makes no attempt to examine the empirical validity of the aforementioned claims. Rather, it advances a different argument: the educational rhetoric claiming that instructional time has a positive impact on pupil achievement has diffused rapidly in the world. As a result, and regardless of the scientific merit of this claim, we expect that countries in different world regions will, over time, increase the intended amount of instructional time. In short, this report examines whether the institutionalisation of the 'more time-more learning' principle has contributed to a global increase in the quantity of intended instructional time mandated by educational authorities.

III. Methodology

This section describes the operationalisation of the main dependent and independent variables employed in this study. A special methodological appendix lists the various data sources from which information on these variables was drawn.

Dependent variables

Intended instructional time may be defined as the number of hours during the school year that educational authorities expect local schools to allocate for the teaching of all required (and optional) curricular subjects as well as other planned school activities. Such administrative expectations or guidelines are typically operationalised in decisions concerning the length of the working school year and, more importantly, in official timetables (or school plans) which list the subjects to be taught at each grade level (or educational cycle) and the mandated number of weekly 'periods' or instructional 'hours' for each subject (see Kamens, Meyer and Benavot 1996: 121). In short, policies delineating system wide expectations concerning annual instructional hours are inextricably linked to the official school curriculum and subject-based timetables.

Official plans and intentions regarding yearly instructional time should not be confused with the actual amount or intensity of instructional time that students receive. School surveys carried out in both more and less developed countries show that, for a variety of reasons (e.g., school closures, teacher absenteeism and strikes, political disruptions, agricultural cycles, natural disasters), the disjuncture between official policies and classroom realities is

significant, and that students almost invariably receive less than the prescribed amount of instructional hours (Millot and Lane 2002; Benavot and Gad 2004).

The findings on annual instructional time reported below are based on a newly constructed, international database prepared by the IBE.² The estimated figures assess, as carefully as possible, the number of hours that students were expected to be present in formal, school-based learning situations.³ In calculating the intended yearly hours of instruction for each country, three components were taken into account:

- 1) the duration of the ‘working’ school year, expressed as the number of days or weeks that schools are open and classroom instruction is taking place;
- 2) the number of teaching ‘periods’ (lessons, or instructional ‘hours’) allocated to each subject in each grade level as specified in official curricular timetables or other curriculum-related documents; and
- 3) the average duration of ‘periods’ (lessons or ‘hours’), expressed in minutes.

While information on the last two components is relatively precise in national documents and reports, there are problems determining the exact number of working days or weeks in a typical school year. This is due to the fact that some systems devote certain days or school periods to examinations, teacher in-service training, in-school holiday celebrations or extra-curricular activities, which are included in official reports of ‘working’ weeks. Sustained efforts were made to verify, and subsequently revise, national figures on the actual number of working school days or weeks for each grade level. In addition, daily or weekly time set aside for breaks and recreational activities was, whenever possible, deleted from our estimates of intended instructional time.

In the case of federal states like India and Brazil, a national average was calculated based on recommendations at the federal level (India) or on curricular timetables adopted in individual states with similar system structures (Brazil). In other cases, however, an estimate at the federal level was not calculated due to significant variations across Provinces/Territories (Canada), Lander (Germany) or Cantons (Switzerland). The federal states in this latter group have been excluded from the analyses until more detailed sub-national data becomes available.

In general, the reliability of instructional time data for the 2000s period is significantly better than that for the 1980s. The main reasons for this include: the use of a single source of data compilation (IBE), rather than multiple sources; the growing detail and precision of official national documents; and the ability to cross-check questionable figures by examining national sources via the Internet as well as personal contacts with official authorities. In the end, several ‘problematic’ cases were dropped from the analyses due to unclear or grossly imprecise figures, usually for the 1980s. Finally, in analyses of over-time comparisons, only

² Since an earlier version of this background report was submitted to Global Monitoring Report team, additional estimates on instructional time were compiled, and have been incorporated in the present report’s tables. These revisions and updates have not significantly altered the observations and conclusions found in the EFA Report (2005) *The Quality Imperative*.

³ In the future, by combining data on intended instructional hours with new figures on school life expectancy (see UNESCO 2004), it may be possible to examine cross-national variation in the accumulated time that pupils are likely to be exposed to classroom instruction during the first years of basic education. Such an indicator of school ‘quality’ (or intensity) would supplement more conventional measures like educational expenditures, teacher qualifications, class size and textbook availability by highlighting crucial institutional conditions that directly affect children’s school-based experiences.

countries with instructional data at both time points were included. This constant case base was used in order to enhance the validity of the conclusions. In short, the figures reported below represent the best available estimates.⁴

The **official school curriculum** was analytically conceived as encompassing several basic components: a list of the subjects to be taught, an amount of instructional time to be allocated to each subject, a definition of authorized textbooks to accompany classroom instruction, a delineation of detailed topics to be covered by teachers in course or subject syllabi, and official directives concerning teaching methods and pedagogy. The present report focuses solely on the first two of these components. In most countries the subjects to be taught and intended time allocations are mandated in official curricular or lesson timetables by authorized educational authorities, usually at the national level. Official timetables embody a schematic plan defining the subjects schools should teach at each grade level (or educational cycle) and the number of weekly ‘periods’ or instructional ‘hours’ per subject (see Kamens, Meyer and Benavot 1996: 121).

For the present study, hundreds of official timetables were identified, divided by historical period and coded according to a set of standard procedures and rules. These rules specified how to code all subjects listed in timetables including combined subjects, interdisciplinary subjects and electives, and also how to deal with timetables accommodating regional, linguistic, cultural or religious differences.⁵ During the coding process, instructional time for each grade level (1 through 8) and for all curricular ‘subjects’ and educational activities was allocated into a basic classification scheme of 33 subject areas.⁶ At a subsequent stage, the initial list of 33 curricular categories was re-classified into 10 general curriculum areas (see Table 1). Most analyses in the findings section report trends for the 10 subject areas listed in column B; others, however, examine patterns for subjects listed in column A. Again, we reiterate that our data sources and coding scheme do not provide information about the *actual* contents behind the labels listed in the official timetables.

⁴ Developing reliable cross-national estimates of annual instructional time, especially at multiple time points, presents a formidable methodological challenge. In addition to recent IBE studies (Amadio 1998; UNESCO-IBE 2000), earlier attempts at assessing national variation in this measure include Benavot (1991; 2002) and UNESCO (1991). A close examination of national figures from different sources reveals the many definitional and reliability problems associated with this research tradition. Nevertheless, we believe that the estimation procedures carried out in the context of this report, in addition to the constant case analyses performed, represent the most accurate study to date.

⁵ Examples of ‘combined’ subjects include ‘Pensamiento, acción social e identidad nacional’ or ‘Histoire, éducation civique et géographie’.

⁶ The Comparative Curriculum Project also examined the organization of upper secondary education, although an expanded list of 45 subject areas was employed in order to capture the greater diversity of knowledge areas included in official timetables.

Table 1: The Re-classification of Curricular Subjects Found in Official Timetables

Initial classification of subjects/activities listed in the official timetables (Column A)	Re-classification of subjects into General Curriculum Categories (Column B)
National Language	Language Education*
Official Language	
Local Language	
Foreign Language	
Literature	
Mathematics	Mathematics
Arithmetic	
Geometry	
Science/ Natural Sciences	Sciences
Chemistry	
Biology	
Physics	
Technology	Technology/ Computers
Computer	
History	Social Sciences
Geography	
Social Studies/ Social Sciences	
Civics/ Citizenship Ed	
Environmental Science/ Studies	
Religion	Religion and Moral Education
Moral Education/ Ethics	
Arts/Handicrafts	Aesthetic Education
Dance or Music	
Physical Education/ Sport	Sports
Hygiene/Health Education	Skills and Competencies
Domestic Science	
Manual Training	
Vocational Education/ Skills	
Business	
Agriculture/Horticulture	
Life Skills	
Electives	
Optional Subjects and Other	

* The language classification was altered in our report to the EFA Monitoring team in Paris (see below)

After completing the coding of official timetables, we constructed three variables for cross-national and longitudinal comparisons:

- 1) a dichotomous variable based on whether a subject (area) was (or was not) taught in an official timetable. This variable enabled us to estimate the proportion of countries in the world (or geographical region) that require instruction in a specified subject area;
- 2) a ratio variable based on the percentage of total class periods or instructional hours that were allocated to each subject area in the timetable. This variable estimated the

- percentage of total instructional time allocated to different subject areas i.e., the relative emphasis/importance of different subject areas in the official curriculum
- 3) an interval variable based on the number of yearly hours of instruction devoted to each subject area, per grade level or educational level (primary, lower secondary, upper secondary). This variable estimated the quantity of annual instructional time that students are expected to learn a subject area.⁷

The classification of language education in the school curriculum

Our initial classification of subjects related to language education drew on previous cross-national research (Cha 1991), which divided language instruction into four categories: national, official, local/regional and foreign language education. At the request of the EFA Global Monitoring team, this scheme was slightly altered. In the revised classification scheme, all subjects related to language instruction were re-coded and re-classified according to designations of "official" and "non-official" languages listed in Table 6 of UNESCO's (2000) *World Culture Report*. As a result, four categories of language education were constructed:

1. Official Language: this category combines all instructional time allocated to the "official" languages of each country as specified in the World Culture Report. In practice, this meant combining previous estimates of instructional time for "national" and "official" languages.
2. Local/regional Language: This category refers to time devoted to the instruction of "non-official" (according to UNESCO) indigenous languages; namely, those spoken by a significant cultural minority in the country.
3. Foreign Language: This category refers to instructional time allocated to "non-official" international or exogenous languages.
4. Literature: This category refers to time devoted to a subject listed in the timetables as 'literature'. We assume that instruction in this subject involves, by and large, books, short stories, poetry, etc. related to one of the "official" languages of the country, although this cannot be ascertained from the timetables themselves.

Independent variables

Several independent variables were employed in the reported analyses. These include: world region based on the UNESCO classification scheme, the duration of the primary education cycle, gross and net primary enrolment rates, population size, and national income levels based on gross domestic product per capita (in price purchase parities or PPPs). The education variables were coded from UNESCO's *Statistical Yearbooks* (published annually until 1999); the population and economic variables were coded from the 2000 edition of the World Bank's *World Development Report*.

⁷ All of the tables in the present report are based on the first two variables. Future analyses will highlight trends for the third variable.

IV. Findings

This section examines global, regional and longitudinal trends for the following variables: intended instructional time, the overall organization of the school curriculum, official curricular intentions concerning language education, mathematics, and several additional school subjects. It also explores the issue of timetable “overload” -- that is, the tendency of countries to mandate a relatively high number of required subjects for pupils at a particular grade level.

4.1 Intended Instructional Time

Table 2 reports global patterns for annual instruction time in grades 1 to 8 at two time points: circa 1985 and circa 2000. The descriptive statistics found in this table are based on a constant set of cases *at each grade level* in order to enhance the validity of over time comparisons.⁸ Several interesting results are apparent: First, during the first 2 years of primary education countries mandate, on average, about 710-740 hours of instructional time per year. Intended instructional time increases in each subsequent grade level and reaches approximately 900 annual hours in grade 8. This pattern translates into an average supplement of about 25 annual instruction hours per grade level, although these increases are not linear. There are significant jumps during grades 3-5, and then again between grades 6 and 7, when the transition between primary and lower secondary education typically occurs. With few exceptions, these global patterns in instructional time by grade level are found in both historical periods, regardless of the estimation procedure employed.

(Table 2 about here)

Second, a certain degree of convergence is apparent in Table 2. National policies concerning intended instructional time tend to vary to a greater extent in the early primary grades and show greater homogeneity and convergence in grades 4-8 (note the reported standard deviations and coefficients of variation). Thus, concurrent with the increase in mean instructional time between grades 1 to 8, education systems become increasingly similar with respect to instructional time policies by the end of primary education and the start of secondary education.

Third, Table 2 examines whether countries have expanded (or reduced) the amount of yearly instructional time their school systems are supposed to deliver during the 1985-2000 period. An examination of global *means* for the same grade level indicates that there have actually been slight decreases in intended instructional time for all grade levels except grade 7. While consistent, these declining trends are small, representing less than 10 hours of yearly instructional time. The greatest decrease is in grade 6 (19 hours), which translates in absolute terms to less than one week of schooling in most countries and in relative terms to less than 3% of the total intended instructional time. Given that many sources were employed in calculating the reported figures and some measurement error remains, evidence of a broad-based, statistically significant global decline in intended instructional time does not obtain. Rather, the findings suggest -- based on mean figures -- that time allocated for classroom instruction in primary and lower secondary education worldwide has remained fairly stable during the past 15-20 years.

⁸ Two non-constant case tables reporting mean estimates of annual instructional time, by EFA region, are included in the Appendix (see Tables A1 and A2). These tables include information on grade 9, even though figures are based on a smaller, less representative set of cases.

An examination of *median* instruction hours in Table 2 actually shows that there were increases in instructional time in grades 1-3, followed by decreases in grades 4-5, and finally increases in grades 6-8. Given that medians are less sensitive to outliers than means, the longitudinal trends based on medians provide a more reliable and informative picture. In both estimation procedures, the over time differences are relatively small both in absolute and percentage terms. In sum, *there is little conclusive evidence of a significant global decline (or increase) in annual instructional time between the 1980s and the most recent period.*

(Table 3 about here)

Table 3 reports regional differences in intended instructional time. In the early grades of primary education (grades 1-4), median instructional hours tend to be *higher* in the education systems of Sub-Saharan Africa, Latin America and the Caribbean, and Western Europe and North America. They tend to be lower in Central Europe and the former Soviet Union and, to a less extent, in East Asia and the Pacific and the Arab States. Nevertheless, despite initial regional differences in intended instructional time in the early grades, all regions show increases -- albeit uneven -- in intended time policies in subsequent grade levels, resulting in less regional variation by the lower secondary grades. In general, significant increases in instructional time tend to occur in grades 3 or 4, and then again in grades 6 or 7. These patterns hold true for both the 1980s and the 2000s.

Table 3 likewise permits us to study grade-specific longitudinal trends in annual instructional time within different world regions. The findings indicate that longitudinal trends vary by UNESCO-EFA region and, to a lesser extent, by grade level. In the Latin American, Caribbean, Arab and (the early grades of the) East Asian and Pacific educational systems, we find *increases* in annual instructional time, varying in size but all moving in the same direction. In sub-Saharan African systems, official policies have reduced instructional time in grades 1-2, but increased time in the grades 3-8. In the remaining regions -- Southwest Asia, Central and Eastern Europe, and North America and Western Europe, we find *decreases* in intended instructional time, again varying in magnitude.

The findings reported in Table 3 contradict the previously discussed hypothesis, according to which we expected to find broad-based increases in intended instructional time over time in almost all geopolitical regions. Region-specific realities are considerably more complex than conjectured, and necessitate more context-specific explanations and interpretations. Beyond the issue of measurement error, the following explanations may account for the declining trend in intended instructional time in certain countries and regions:

First, when national educational budgets are severely strained -- due to economic stagnation, economic restructuring, or global recession -- reductions in instructional time represent an attractive policy alternative. Substantial savings in expenditures -- for example, in teacher salaries and building maintenance -- can be realized by reducing the number of hours that schools are open, and teachers and pupils are in class. This explanation has face validity in countries of all development levels.

Second, educational authorities often grapple with a trade-off between quantity and quality. For example, the adoption of policies to ensure universal access to education of primary school-age children, especially for girls, may necessitate a reduction in the school year and, consequently, intended instruction time. Indeed, developing countries are under considerably

more pressure – and under the scrutiny of systematic monitoring -- to achieve Education For All, than to address issues of school quality such as maintaining or increasing the amount of instructional time. A related example can be seen in countries that introduce double- or triple-shift schooling in the primary grades, which nearly always reduces intended instructional time. Finally, there is some evidence that the World Bank and different NGOs have placed greater emphasis on the efficiency of existing time policies rather than extending the amount of instructional hours. Overall, this explanation is more relevant to trends in the developing world.

Third, reductions of instructional time may be part of a broad structural reform in the educational system. For example, countries increasing the number of years of compulsory schooling, or integrating primary and lower secondary systems into a single basic education framework, may reduce instructional time as a "temporary" measure to ensure the reform's success without additional budgetary outlays. This explanation appears particularly valid in understanding changes in the Central and Eastern Europe region, and possibly elsewhere.

Fourth, reducing instructional time may represent a basic re-orientation of a country's official curricular goals. For example, instructional time may be reduced as part of:

- a policy to reduce curriculum 'overload' – that is, the number of school subjects student must learn (i.e. Japan),
- a policy to abolish or weaken non-academic subjects such as recreation, agriculture, labour experience, or
- a policy to transform previously required subjects into electives or options, thus reducing the number of weekly school periods.

In summary, the results show that most countries in the world mandate between 700 to 900 formal hours of instruction during each year of primary and lower secondary education. Intended time policies tend to be lower, with greater regional variation, in the primary school grades and higher, with less regional variation, in the lower secondary school grades. These global patterns have not changed significantly during the past two decades. Indeed, there is no conclusive evidence of a *worldwide* increase in intended instructional time during the period under question. Having said that, interesting regional differences were uncovered: whereas the educational systems in some regions (e.g., Latin America, Caribbean, Arab States and in parts of sub Saharan Africa) have expanded annual instruction time, in other regions (e.g., Southwest Asia, Central and Eastern Europe, and Western Europe) the intended time has been reduced during the 1985-2000 period. Different economic, political and educational conditions apparently account for these divergent tendencies.

4.2 The Overall Organization of the Official School Curriculum

How do countries structure intended instructional time in major curricular areas and according to officially defined school subjects? The results in this and subsequent subsections paint a broad portrait of the organization of official curricular intentions in both primary and lower secondary education and reveal the directions in which countries have reformed official curricular policies throughout the past two decades.

The initial set of findings, based on the dichotomous variable described in Section III, indicates the proportion of countries worldwide that require instruction in major subject areas. To simplify the presentation of global and longitudinal patterns, data have been aggregated

into 10 general subject areas, in three combined grade levels (grades 1-3, 4-6 and 7-8) and in two historical periods (1980s and 2000s).

(Table 4 about here)

To begin with, Table 4 shows that practically all countries require instruction in six core subject areas: languages, mathematics, sciences, social sciences, aesthetic education, and physical education/sport. Within this set of core areas, there are several noteworthy patterns. First, instruction in language education and mathematics is universally required in all grade levels (1-8). Second, with a minor exception, at least 90% of countries require some instruction in aesthetic education and physical education/sport in all grades; the prevalence of the former tends to decline across grade levels while that of the latter increases. Third, the vast majority of countries require instruction in the sciences and the social sciences (this combines information on history, geography, social studies, citizenship and/or environment): both subjects gain prominence in the curricular guidelines dealing with upper grade levels.⁹

Table 4 also reports results for four “non-core” subject areas: religion/ moral education, computer/ technology, practical education/ vocational skills and electives/other subjects. About 50-60% of all countries require some form of religious or moral education in their official school curriculum -- its prevalence remains fairly constant across grade levels and time periods. Fewer countries are requiring instruction in practical education and vocational skills, especially during the years of primary education. In grades 1-3, 72% of all countries required instruction in this subject area in the 1980s, only 56% did so circa 2000; in grades 4-6 the decline was from 85% to 71% and in grades 7-8, a smaller decline from 77% to 67%. By contrast, more and more countries are including elective and optional subjects in the official school curriculum: in the 1980s elective and optional topics were offered in only 37-46% of countries, whereas in the 2000s over half of all countries include such subjects in their timetables. Finally, the prevalence of subjects related to computers and technology in national curricula has increased at all grade levels between the 1980s and 2000s. This subject area is presently taught in about one-fourth of all primary-level grades and about 40% of all lower secondary grades.

(Table 5 about here)

Next we examine *the relative importance of the ten major subject areas in official curricula* for grades 1-8, based on the ratio variable described earlier. The global patterns reported in Table 5 refer to official curricular policies obtaining in the 2000s only. In contemporary education systems the dominant subject areas mandated by education authorities in primary school curricula are language education and mathematics. Taken together, the percentage of total instructional time devoted to these subject areas ranges from 60% in grades 1 and 2 to 45% in grades 7 and 8. The relative importance of each of these subject areas declines across grade levels: whereas instruction in language education comprises 40% of total instructional time in grades 1-2, it receives only 30% of total instructional time in the lower secondary grades. The relative emphasis on mathematics declines from about 20% to 13-14% of total instructional time. Similar patterns obtain in the analysis of national curricular policies in the 1980s (see Table A3 in the Appendix).

⁹ In unreported analyses we have found that the sciences tend to be taught in an integrated fashion in the early grades of primary education and begin to be broken down into separate subjects (i.e., biology, chemistry and physics) in the upper primary and lower secondary grades.

In the other core subject areas, we find contrasting trends: in aesthetic and physical education there are reductions in relative emphases from the primary to lower secondary grades. However, in the sciences, social sciences and, to a lesser extent, computers/technology and practical skills we find increases in emphases across grade levels, especially between grades 6 and 7. In general, *there appear to be two major transition points in the structuring of official curricular policies: one between the lower and upper grades of primary education (typically after grade 3) and one between the end of primary and the start of secondary education (typically after grade 6).*

Finally, there is evidence of greater isomorphism in the structuring of lower secondary versus primary school curricula. An examination of the standard deviations around global means (see Table A4 in the Appendix) shows that curricular policies in lower secondary education for the core subject areas (i.e., languages, mathematics, social sciences, aesthetic education, physical education, religion/moral education) are more homogeneous worldwide than those for primary education. These findings suggest that national differences – be they political, cultural and economic – have less impact on the formation of the official, intended curriculum in lower secondary education.

We turn now to examine more detailed results in selected subject areas of the official curriculum, and highlight variations by world region, as classified by UNESCO.

4.3 Language Education

As we have seen, language education is *the* core curricular subject in the first eight grades of mass education. Instruction in all language-related subjects – namely, in ‘official’, foreign, local and regional languages and in literature -- comprise a preponderant component of the primary and lower secondary curriculum. (Recall that ‘official’ is defined according to UNESCO’s *World Culture Report*). The core status of language education is clearly reflected in the absolute (and relative) amount of curricular time that this subject area receives in official timetables. Of additional importance is the fact that ‘official’ language instruction predominates all other forms of language education in grades 1 through 8. Table 6, which reports the percentage of total language time allocated to ‘official’ languages and literature, shows that this curricular activity comprises, on average, 80 percent of all language education during the first 5 grades of primary education. Even in grades 6-9, over 60 percent of the total time devoted to language-related subjects involves a country’s ‘official’ language(s).

(Table 6 about here)

Although many countries begin instruction in ‘non-official’ (i.e., local, regional or foreign) languages at the primary level, there is a significant increase in the teaching of these languages at the start of secondary education (typically grade 7, sometimes grade 6). In the primary grades ‘non-official’ language instruction is limited to between 5-10% of all language education, whereas in grades 7-9 it increases to one-third or more of all language instruction. Table 6 also shows that during the past two decades, countries have, on average, increased their emphasis on ‘non-official’ languages. This is true for all grade levels except grade 9, which is least representative of global trends due to the relatively small number of cases.

Since ‘non-official’ language instruction includes both foreign and local languages, we explore which type of ‘non-official’ language is (and has become) more prominent in the school curriculum. Tables 7 and 8 examine the prevalence and relative emphasis on different

types of language education worldwide, by grade level, for the 1980s and 2000s, respectively. These tables show quite clearly that the proportion of countries in the world that require instruction in **local/regional languages** was small in the 1980s (between 4-9%) and remains so during the 2000s (5-7%).¹⁰ (In absolute terms these percentages translate into 4-6 countries in the 1980s and 6-9 countries in the 2000s). Among those countries that require local language instruction in their curricula, mean instructional time devoted to local languages is higher in the early primary grades and declines by half in the lower secondary grades.

(Tables 7 and 8 about here)

Especially noteworthy are the results regarding **foreign language** instruction. First, the proportion of countries worldwide that require instruction in foreign languages increases substantially across successive grade levels: from 4% (grade 1) to 79% (grade 8) in the 1980s and from 16% to 83%, respectively, in the 2000s. Second, for all grade levels, the percentage of countries requiring foreign language instruction increased significantly over the past two decades, with significant increases observable in each of the first five grades. Third, when we examine the mean percentage of instructional time devoted to foreign language instruction, we find little evidence of cross-grade level or over-time changes. The values for this measure remain within a fairly narrow range (12-15% of total instructional time). Nevertheless, in considering results for both measures – namely, the proportion of countries requiring foreign language instruction *and* instructional time allocations -- it is quite clear that more and more countries are requiring pupils to learn foreign languages and introducing this requirement at earlier grade levels in primary education. These findings account for the aforementioned pattern concerning ‘non-official’ language instruction in school curricula.

Moving beyond the empirical results and into the terrain of interpretations, it is worth revisiting the UNESCO list of official languages, which was the basis of language classifications employed in the present report. In examining this list, one is struck by the extent to which political and cultural factors have profoundly influenced the ‘official’ status of languages in different countries. The ‘official’ recognition of some languages and not others by the nation-state, and the requirement that certain languages be included in public school curricula, reflect historical conditions (e.g., colonialism), economic forces, minority group status and contemporary political interests. This is the case for most newly independent countries in the post-WWII period, especially in Africa and Asia.

¹⁰ The data collection and coding strategy employed in this study may have underestimated the incorporation of local and regional languages in the official school curriculum. In Central and South America, for example, local/indigenous languages have received growing recognition in the last twenty years. Even if Spanish (or Portuguese, French or English, depending on the country) continues to be the main and exclusive ‘official’ language of the national educational system, various indigenous languages have been granted ‘semi-official’ status at local and regional levels. In recent years, at least 17 Latin American countries have instituted bilingual education programmes or projects involving the use of indigenous languages in addition to ‘official’ ones, especially in primary schools (Amadio et al 2004). Few of these countries offered such language opportunities at the end of the 1970s. Most of the ‘official’ (nationwide) curricular timetables coded in the present study did not provide detailed information about instructional time devoted to indigenous language(s), owing to the fact that these initiatives were prepared by either local/regional authorities or specialized ministerial directorates, departments or units. Moreover, curricular decentralization reforms recently adopted in other countries and regions may result in the setting aside of a certain percentage of instructional time to be flexibly defined at the local level. Where applicable, instruction in ‘local’ languages may be ensured through this flexible part of the official curriculum. In the future there is an acute need to explore sub-national differences in languages taught and languages of instruction, based on a more in-depth data collection of official curricular policies.

Furthermore, although a comparable list of ‘official’ languages for the 1980s was not reviewed, anecdotal evidence suggests that the overall quantity of spoken languages in the world that have received the ‘official’ designation in at least one country has increased as has the mean number of ‘officially’ recognized languages per country. Nevertheless, it is worth noting that linguists predict that almost half of the 6,000 languages spoken in the world today are likely to disappear (become extinct) by 2050 (Wurm 2001). Thus, the long-term viability of thousands of ‘non-official’ local vernaculars depends on linguistic minorities succeeding in achieving ‘official’ recognition by state institutions. When such recognition is converted into explicit bi- or multi-language policies in public school curricula, such viability is definitely enhanced.

Thus, two key points emerge from the language-related analyses of curricular timetables: first, local or region-specific vernaculars that are unable to secure official recognition by the nation-state, have been -- and continue to be -- given minimal attention in public school curricula. There is little evidence to suggest that this situation will change in the coming years. Second, mass schooling obviously plays a critical role in the transmission of national cultures, especially when one considers the overwhelming emphasis on ‘official’ -- typically national -- language instruction in public schools. However, more and more countries are requiring instruction in ‘non-official’ foreign languages, a requirement that increasingly begins in the early grades of primary education rather than in secondary education. More than anything else, the strengthening of foreign language instruction is a manifestation of increasingly salient globalisation processes. A complementary interpretation can be noted: more and more countries want to enrich the linguistic resources that school leavers take with them upon entering fast-changing, trans-national labour markets.

Another important implication emerges from our analyses. Language education policies in official school curricula reflect powerful social and political processes. Nevertheless, a positive relationship between specific language policies, on the one hand, and desirable educational outcomes, on the other, has not been demonstrated. Whether pupil achievement, retention or attainment is enhanced in primary schools with mono-, bi- or multiple-language instructional policies remains unclear; indeed, this is an issue that deserves to be systematically studied in the future.

4.4 Mathematics Education

After language education, mathematics is the second most prominent subject area in official school curricula – typically receiving one-sixth to one-fifth of intended instructional time. The subject label countries use to refer to this curricular area in official timetables is quite standardized (“mathematics”), although for the higher grades (grades 6-9) timetables sometimes specify particular topics in mathematics education (e.g., arithmetic, geometry). Analyses of mathematics education combine instructional time for all mathematics-related subjects.

As previously reported, all countries require instruction in mathematics throughout primary and lower secondary education. However, the relative emphasis on mathematics instruction is higher in the early years of primary education and lower after the transition to secondary education (see Table 9). Countries allocate, on average, about one-fifth of total instructional time to mathematics in grades 1-2; this percentage declines slowly until grade 6, followed by

a sharp decline in grade 7 after which the percentage tapers off at about 14%.¹¹ Analyses show that the declining importance of mathematics education between primary- and secondary-level grades occurs in both the 1980s and the 2000s. The evidence also suggests that global homogeneity in the structuring of mathematics education has increased. In other words, the extent of cross-national variation – measured by coefficients of variation -- in the relative emphasis on mathematics education is lower in the most recent period than in the 1980s (see the bottom rows of Table 9).

(Table 9 about here)

The region-based analyses reported in Table 9 show that regional differences in mathematics education are quite small and rarely consistent across grade levels. Countries in Central and Eastern Europe and sub-Saharan Africa tended to place greater emphasis on this subject area in the 1980s; countries in Latin America, the Caribbean and sub-Saharan Africa do so in the 2000s. By and large, the patterns concerning primary and secondary education noted at the global level are also apparent in each EFA region. In some regions there is a very slight increasing emphasis between grade 1 and grade 2, but the overall declining trend between primary and secondary education occurs in all regions. There are minor regional differences (mostly in the 1980s period) concerning the “critical” transition point (grades 5-6 in EAPA and SWA, or grades 6-7 in other regions), which appear to be related to the duration of primary schooling and the start of (lower) secondary education. In the most recent period, the main decline in the relative emphasis on mathematics education occurs after grade 6.

Previous cross-national research (Kamens and Benavot 1991) reported that over the course of the 1925-85 period, the emphasis on mathematics education increased worldwide: almost all countries expanded instructional time in this subject area. During the last two decades several highly publicised surveys of mathematics achievement (TIMSS, PISA) have furthered heightened public awareness about the presumed importance of mathematical knowledge and competencies. For these and other reasons, we expect that most countries in the world will continue to increase the emphasis on mathematics education during the 1985-2000 period.

We explore this hypothesis in Table 9, which reports constant-case estimates of the relative emphasis on mathematics education for the 1980s and 2000s, by grade level and region. At the global level, the analyses suggest that the percentage of instructional time devoted to mathematics education has remained surprisingly constant, with only slight increases in grades 1 and 2. At the regional level, the trends are mixed: there are declining emphases in sub-Saharan Africa, Central and Eastern Europe and in most grades of East Asia and the Pacific, and increasing emphases in Latin America and the Caribbean and, to a lesser extent, in the Arab States. Thus, *in contrast to our hypothesis, there has not been a significant overall increase in the emphasis on mathematics education over the 1985-2000 period.*

4.5 Trends in Select School Subjects

Beyond the core concerns of the school curriculum – literacy and numeracy – we turn to examine, in greater detail, trends pertaining to select ‘newer’ subject areas. Table 10 examines global trends for several important subject areas that have been (and continue to be) prominent in the official guidelines of many countries. Most of the analyses reported in this

¹¹ Preliminary analyses of upper secondary curricula indicate that the percentage of instructional time devoted to mathematics education continues to decline in upper secondary grades, with the exception of specially designated mathematics or science tracks.

table are based on the detailed classification scheme (33 categories) discussed in Section III. Specifically we report the proportion of countries at each grade level (and time period) requiring instruction in the following select subjects:¹²

- health education or hygiene
- environmental studies or ecology
- civics or citizenship education
- social studies
- moral education or values education (includes ethics but excludes religion)
- technology-related subjects (excludes computers)
- vocational education/skills (excludes agriculture, manual training, domestic science).

(Table 10 about here)

Several of the trends reported in Table 10 reflect, as the reader will note, the construction and institutionalisation of “new” curricular subjects (Goodson 1987). Since the mean percentage of time allocated to these curricular subjects tends to be relatively low, the main issue is whether or not countries have identified these subjects or knowledge areas as worthy of inclusion in official timetables. Key findings emerging from the analyses are noted below.

- **Health education or hygiene** is a fairly prominent subject area in official national curricula. In about one-fourth to one-third of all countries, instruction in some form of health education is required during primary and (lower) secondary education. Our findings indicate that the subject area’s prevalence in primary school curricula has declined slightly since the 1980s, although this is less noticeable in secondary school grades. An unresolved issue concerns the actual themes and contents of health education in different countries. More so than in other subject areas, the knowledge, skills and competences taught under the rubric of “health education” are rather wide-ranging, encompassing for example, family planning, AIDS education, sex education, drug prevention, personal hygiene and so forth. The continuing prevalence of health education in national curricula is likely due to its versatility – namely, to serve as a legitimate, accommodating and catchall subject for broad-based (and changing) contents. Further study of the actual educational contents of this subject area is suggested.
- **Environmental studies or ecology** has indisputably become a new subject area in many official timetables, in particular in the primary school grades. Its prevalence in national curricula has increased during the past two decades. During the first 5 grades of primary schooling, the proportion of countries requiring instruction in environment-related topics has increased over time from between 10-18% to between 17-25%. This is an excellent example of how national curricula are affected by contemporary social movements, changing international discourse and national priorities, especially in the areas of sustainable development and environmental protection. More and more countries have taken up the banner of environmental themes and found ways to incorporate them into the official knowledge that schools are required to teach in the primary grades.

¹² Detailed tables reporting regional breakdowns and the mean percentage of time allocated to each subject area are available upon request.

- **Civics and citizenship education** represent another subject area, whose prevalence has increased in almost all grade levels between the 1980s and the most recent period. On average, between one-fifth to one-third of all countries obligate the teaching of this subject in primary schools, and close to half of all countries require that citizenship education be taught in the (lower) secondary grades. The increased attention to citizenship education is particularly apparent in the lower grades of primary education. Given the major political transformations that resulted from the disestablishment of the USSR and Yugoslavia into newly independent countries, as well as international promotion of more open, participatory political regimes, the growing prevalence of citizenship education as a separate subject is not surprising.
- **Social studies**, as others have noted (Wong 1991), is not exactly a new subject, but rather a reconfiguration of several old subjects – namely, history, geography and, to a lesser extent, civics. Interdisciplinary by nature (as are each of the previously discussed subjects), its prevalence has not changed very much during the 1985-2000 period. On average, it is a required subject in one-third to one-half of all national timetables. It is especially prominent in the upper primary and lower secondary grades.
- **Moral and values education** has traditionally been an important subject area in Asian countries. A comparison of timetables from the 1980s and the 2000s suggests that this subject has become more prevalent in the lower secondary grades over the past two decades. Moreover, it would be worthwhile to investigate which non-Asian countries have institutionalised this subject area in their official curricular guidelines.
- Instruction in **technology-related** subjects has increased significantly between the 1980s and 2000s. While technology was a fairly minor subject area in the primary grades of 1980-based timetables (on average, 5-6 percent), it is now required in between 16-27 percent of all primary level timetables. In the lower secondary grades, the proportion of countries requiring instruction in technology subjects has more than doubled. In both time periods, the importance of this subject area increases with grade level. If one were to factor in computer instruction, the reported trends would be further accentuated.
- **Vocational education/skills** is not a new subject area. On the contrary, it is a rather “old” subject area whose prominence and legitimacy have declined in almost all regions of the world since WWII (Benavot 1983). The findings in Table 10 lend further support to this trend, indicating that the proportion of countries requiring instruction in this subject at each grade level has declined over time. Nevertheless, given that our coding scheme classified traditional vocational subjects like agriculture, domestic science and manual training into separate categories, it is likely that newer vocational subjects are included in this category. More detailed analyses are needed to carefully examine this claim.
- **Electives and optional subjects:** Several authors (Meyer 1999; Ramirez and Meyer 2002) have argued that the expansion of mass education has been accompanied by a celebration of individualist and participatory forms of knowledge and instructional methods, which reflect the growing dominance of progressive, child-centred pedagogies. As a consequence, they predict that official timetables will place greater emphasis on curricular electives and options, as a way of allowing pupils (rather than

educational authorities) greater autonomy in choosing the knowledge they deem most relevant to their lives. Table 11 explores this idea by analysing the proportion of countries in each EFA region that include electives or optional subjects in their official timetables for the 1980s and 2000s.¹³

(Table 11 about here)

Overall, the results confirm the hypothesis noted above and indicate a global increase (from 16% to 48%) in the percentage of countries offering at least some electives or optional subjects in their official curricular guidelines. The prevalence of curricular electives or options is stronger in more-developed, rather than less-developed, regions. Specifically, the percentages are higher in Western Europe and North America, Central and Eastern Europe, and East Asia and the Pacific and much lower in sub-Saharan Africa, the Arab States and Southwest Asia. Two caveats are worth noting: first, the inclusion of electives appears to be more prominent in the upper grades of primary education and in lower secondary education; second, among the countries that offer some optional component, this typically involves only 4-8 percent of official curricular time. In short, while there is a basic tendency in this direction, it remains quite limited in scope and appears strongly associated with individualistic ideologies and child-centred pedagogies.

4.6 The Overloading of Official Timetables?

One of the long-standing dilemmas facing educational authorities and curriculum developers concerns the selection of school subjects and the organization of official timetables in light of the on-going 'knowledge explosion' and globalisation of curricular contents, on the one hand, and pupil needs and parental interests, on the other. 'Conventional' discipline-based school subjects increasingly compete with newer or more integrative school subjects for a place in the official timetable, which further intensifies this dilemma. Some observers have noted the phenomenon of 'timetable overload,' a solution to the above dilemma in which pupils are taught a large number of subjects at each grade level. This situation is thought to produce a sense of fragmentation and superficiality in the educational knowledge pupils encounter.

We explore the extent to which official school curricula have become overloaded, by counting the number of required "subjects" or subject categories found in primary and lower secondary timetables at the 1980s and 2000s (see Table 12). We then set two somewhat arbitrary standards – namely, ten or more subjects in grades 1 to 5 and eleven or more subjects in grades 6 to 8 – in order to estimate the prevalence of timetable overload. The rule used for counting "subjects" or subject categories in official timetables is straightforward: how many separate lines or distinct subject labels were listed in a timetable for each grade level.¹⁴

¹³ Please note that this table does not include detailed data by grade level nor does it report the percentage of total instructional time set aside for optional subjects or electives.

¹⁴ As an aside, there are some interesting (cultural?) differences in the degree of detail (or conceptions of school-based knowledge and activities) employed in official curricula. In some cases, (e.g., Venezuela, Italy and South Korea), countries tended to define required subjects in large 'combined' categories: "Pensamiento, acción social e identidad nacional" or "Histoire, éducation civique et géographie" or "Integrated subjects." In other cases, countries followed a more conventional classification of subject disciplines with specific time allocations for each subject. In still other cases (e.g., Saudi Arabia), the official timetable provided detailed time allocations for specific themes (or skills) within conventional school subjects. Despite these different timetable "types", we applied the same coding rule to all timetables (in both time periods), thus enhancing data comparability.

(Table 12 about here)

The findings reported in Table 12 indicate that the phenomenon of timetable overload is limited in the lower grades of primary education but tends to increase in the grades of upper primary and lower secondary education. Grade 5 appears to be an important transitional grade in this regard, with about half of all countries requiring their 5th graders to take 10 or more subjects during the school year. The proportion of countries officially requiring more than 11 subjects to be taught in grades 6 to 8 is also high.¹⁵

Have official timetables become increasingly ‘overloaded’ with required subjects over the 1985-2000 period? Apparently not. With some minor regional exceptions, Table 12 shows that the proportion of countries with an ‘overloaded timetable’ has not dramatically changed during the past two decades. If anything, there are signs of a slight decline in the prevalence of this phenomenon. Future analyses will explore the factors that facilitate or hinder the overabundance of subjects in official timetables.

V. Concluding Remarks

The contemporary project of building up and expanding access to basic education permeates all national societies and the international community. The ideal and reality of ‘education for all’ has become part a well-organized international social movement, owing in no small measure to its perceived links to development and progress, the consolidation of the nation-state, and the creation of sovereign, rational individual-citizens (see Meyer et al. 1997; Boli 1989). This broad-based movement involves many actors and agencies – e.g., national governments, university academics, international consultants and advisers, and an extensive network of international governmental (and non-governmental) organisations – who have successfully turned education in its varied forms into a highly institutionalised reality (see Chabbott and Ramirez 1998; Boli 1997; Schafer 1999).

With the global legitimacy of public schooling firmly embedded, and enrolment expansion the norm, a new set of educational objectives are being constructed and debated (see, for example, Lockheed and Verspoor 1991). **The issue nowadays is not only whether young children are enrolled in school and remain there, but also the nature and ‘quality’ of their school-based learning experiences.** What kinds of educational experiences do countries organise for their students in public schools? How many hours of instruction do educational authorities mandate to achieve curricular objectives? How do countries structure intended instructional time during the typical school week -- according to which curricular categories and school subjects? What, and how much, do pupils actually learn as a result of their time in school? These, and similar, questions exemplify the newly emergent policy agenda in education.

The present report examined two key aspects of the structuring of children's school-based experiences: **first, the amount of instructional time countries expect pupils to be in school, and second, the organization of the school curriculum, which reflects official policies of how intended time should be organized according to curricular contents and school subjects.** Based upon an extensive compilation and systematisation of official reports

¹⁵ In unreported analyses we find that extent of cross-national variation remains fairly consistent across grade levels. : heterogeneity is slightly greater in the 1980s at the lower primary grades than in the 2000s period.

submitted by national ministries of education to the International Bureau of Education since the 1980s, this report focused on global, regional and longitudinal patterns of intended instructional time as well as the prevalence of, and relative emphasis on, curricular subject areas in primary and lower secondary education. An underlying objective of the report was to extend and revise earlier comparative and longitudinal studies of official curricular policies (Amadio 1997; Meyer et al 1992; Kamens, Meyer and Benavot 1996).

Key findings to emerge from the reported analyses include:

- It is estimated that most countries in the world allocate between 700 and 800 yearly hours of instructional time for pupils in grades 1 to 4 and between 800 and 900 yearly hours in grades 5 to 8. (These figures approximate, to the greatest degree possible, intended *instructional* time by deducting official time for non-instructional activities such as breaks, recesses, examinations and the like). Cross-national differences in intended time policies tend to be greater in primary education and more limited in secondary education. Despite expectations to the contrary, there is no conclusive evidence of a *worldwide* increase in intended instructional time between the 1980s and 2000s. Nevertheless, several divergent regional patterns were uncovered: over the past two decades many educational systems in Latin America, the Caribbean, Arab States and in parts of sub Saharan Africa expanded annual instructional time, while many systems in Southwest Asia, Central and Eastern Europe, and Western Europe reduced instructional time. Various economic, political and educational explanations are briefly discussed to account for these divergent tendencies.
- Most of the hours countries officially allocate for instructional purposes are structured around six core subject areas: languages, mathematics, sciences, social sciences, aesthetic education and physical education/sport. Language education and mathematics are universally required in all grade levels (1-8) and together comprise about half of all curricular time, more during the early grades of primary education than in subsequent grades. The other core subject areas are required in the school curriculum of the vast majority of countries, although aesthetic education receives greater emphasis in the lower grades while sciences, social sciences and physical education/sport become more prominent subjects in the upper grades. Trends for the four “non-core” subject areas – namely, practical education/vocational skills, religion/moral education, computer/technology and electives/optional subjects – vary to a greater extent by grade level, region and time. The findings show that the latter three subject areas are given greater curricular emphasis in the most recent period, while emphasis on practical education and vocational skills is weakening.
- ‘Official’ language instruction predominates all other forms of language education in grades 1 through 8. A vernacular’s official recognition in the school curriculum carries implications that go far beyond the language proficiencies achieved (or not achieved) by enrolled pupils -- for example, changes in minority group status, cultural diversity and long-term language viability. In addition, countries increasingly require students to learn (non-official) foreign languages and tend to introduce this requirement already in primary school curricula rather than secondary school curricula as in the past. The teaching of (non-official) local or regional vernaculars remains a relatively marginal part of the language component of the school curriculum.

- In contrast to previous studies, and despite the extensive attention mathematics receives in the popular press, the emphasis on this subject in the school curriculum has not increased worldwide during the 1985-2000 period. Some countries and regions have placed greater emphasis on the subject, while others have either made no changes or reduced the subject's emphasis.
- Several 'newer' subjects have enhanced their institutional status worldwide and become more prominent in the school curriculum. These include, for example, environmental studies/ecology, civics and citizenship education and technology-related subjects. Moreover, there has been a significant upward shift in the percentage of countries that include some elective or optional component in the school curriculum, indicative of the growing dominance of progressive pedagogies and child-centred curricular policies.
- Finally, there is a tendency for countries to 'overload' their official timetables with a large number of required subjects from about grade 5 onwards. There is little evidence that this pattern has become more prevalent worldwide in the past two decades.

Overall, the present study of intended instructional time and official school curricula -- global in scale and relatively detailed in design -- provides a more complete and variegated picture of the structuring of pupil's school-based learning experiences than previous analyses of national curricular policies. Although the reported evidence is primarily descriptive and exploratory in nature (leaving much room for additional analyses), it highlights on-going trends of stability and change in the organization of the school curriculum. For example, the analysis of curricular policies in lower secondary grades, in conjunction with those obtaining at the primary level, underscores how the structuring of subject areas cuts across grade levels. The detailed exploration of curricular policies in primary-level grades illustrates the significantly shorter school year, the predominance of literacy and numeracy subject matter, and greater heterogeneity of curricular models in grades 1 through 3 in contrast to grades 4 through 6. The study of longitudinal changes between the 1980s and the most recent period unearthed school subjects (and subject areas) that have gained institutional status, lost status or whose status has remained virtually unaltered. The growing importance of foreign language instruction in school curricula provided convincing evidence of the influence of globalisation processes on the selection and organization of school knowledge by nation-states; the expansion of greater pupil choice through options and electives exemplified the impact of educational ideologies placing children's needs and interests before those of academic disciplines and knowledge gatekeepers. Overall, these and other reported patterns provide a fresh perspective in which to address existing and newly emergent issues among educational scholars, policy-makers and curriculum developers concerning the official school curriculum.

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VII. Methodological Appendix

1. Intended Yearly Instructional Time

Intended instructional time was defined as the number of hours during the school year that educational authorities expect local schools to allocate for the teaching of all required (and optional) curricular subjects as well as other planned school activities. In practice this quantity refers to the number of hours that schools should devote to formal, school-based learning situations. Three components were taken into account:

- the duration of the 'working' school year, expressed as the number of days or weeks that schools are open and classroom instruction is taking place;
- the number of teaching 'periods' (lessons, or instructional 'hours') allocated to each subject in each grade level as specified in official curricular timetables or other curriculum-related documents; and
- the average duration of 'periods' (lessons or 'hours'), expressed in minutes.

The data sources listed below were examined for information on each of these components. Depending on the precision of the documents that were checked, school days and/or periods devoted to examinations, teacher in-service training, in-school holiday celebrations or extra-curricular activities were deducted from our estimates of yearly instructional hours. In

addition, whenever possible, we deducted daily or weekly hours set aside for breaks and recreational activities.

2. Data Sources

2.1 2000s period

In general, the data for this period refers to the years between 1996 and 2001, and derive from the following major sources:

(a) The 'National Reports on the Development of Education' presented by UNESCO Member States at the 45th session of the International Conference on Education (Geneva, 30 September—5 October 1996). In the framework of preparations for the 1996 ICE session, countries were requested to report information on the educational process in their national reports, and included data on the curriculum and the number of hours of teaching by discipline/subject at the pre-primary, primary and secondary levels. Additional information or further clarifications were received from ministries of education and UNESCO National Commissions in 1997, as the 1996 series of National Reports was used to prepare the 2nd and 3rd editions of the CD-ROM World Data on Education (IBE: UNESCO, Geneva, 1998 and 1999). Most recent information is drawn from the 2001 series of National Reports (Forty-sixth ICE session, Geneva, 5–8 September 2001) and was incorporated into the 4th and 5th editions of the CD-ROM World Data on Education.

(b) Replies to thematic questionnaires addressed to the ministries of education—mainly in connection with the ICE sessions—which in some cases include additional curricular information for the 1992–1996 period.

(c) Various recent documents and reports published by national ministries of education or national curriculum agencies, departments and units.

(d) For some European Union member states, information on instructional time was drawn from EURYDICE (The Information Network on Education in Europe), made available through Eurybase, The information database on education systems in Europe (EURYDICE, 1999 and 2001 editions). Summary sheets on European education systems were also used (EURYDICE, 2000 and 2001).

2.2 Data Sources – 1980s period

In general, the data for this period refers to the years between 1980 and 1985, and derive from the following major sources:

(a) The 'National Reports on the Development of Education' presented by UNESCO Member States at the thirty-ninth session of the International Conference on Education (Geneva, 16-25 October 1984). In the framework of preparations for the 1984 ICE session, countries were requested to respond to a questionnaire on the "The universalisation and renewal of primary education in the perspective of an appropriate introduction to science and technology." Among the questionnaire items were questions concerning the organization of curriculum and the length of the school year.

(b) Additional information was gleaned from national reports to a questionnaire that was circulated to countries prior to the fortieth session of the ICE (Geneva, 2-11 December 1986) entitled "The improvement of secondary education: objectives, structures, content and methods."

(c) Educational encyclopedia and published volumes in the area of educational policy and comparative education were also examined. These include Postlethwaite (1989), Kurian (1988), Cameron and Hurst (1983), Massialas and Jarrar (1983), Babs Fafunwa and Aisuku (1982), al-Misnad (1985), Postlethwaite and Thomas (1980) and Thomas and Postlethwaite (1983; 1984).

3. Calculation of Yearly Instructional Time

National documents and other sources varied in the level of detail they provided about the basic components needed to calculate annual instructional time. For example, in many instances, information on instructional time was not reported in relation to an official curricular timetable. When sources provided official timetables, the degree of precision varied: for example, some explicitly identified the amount of weekly time (or school periods) devoted to recreational activities, class breaks or extra-curricular activities, some did not. Figures for the number of 'working' days or weeks in a typical school year sometimes included days set aside for examinations and revisions and sometimes they did not. This lack of precision reduced cross-national comparability and longitudinal comparison. In general, data for the more recent period (2000s) are of higher quality, resulting in more precise estimates of total annual instructional time.

With respect to the 1980s period, there is a clear possibility that estimated values are inflated. In some cases, the inclusion of school holidays or examination weeks may have inflated the annual instructional time figures by 2-3 weeks. Given that the school year in over 80% of national education systems is between 33-40 weeks, the over-estimation would be 10% or less. A more significant problem involves national reports and official timetables that were not entirely clear as to the length of an instructional "hour". For such cases we may have calculated the instructional "hour" as 60 minutes, when in fact it may have only been 40, 45 or 50 minutes. The lack of precision here would inflate figures by 17-33%. We have checked and rechecked all our cases, and have excluded countries for which the likelihood of over-estimation was high. Thus, only cases with relatively 'precise' estimates were included in the tables found in this report.

Table 2: Yearly Instructional Time in Primary and Lower Secondary Education, Worldwide, circa 1985 and 2000, Constant Cases by Grade Level*

Period		Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Circa 1985	Mean	722	733	773	803	831	853	896	909
	Median	708	717	761	803	828	840	888	893
	25 percentile	620	623	675	712	750	765	831	833
	75 percentile	833	833	875	890	912	935	974	992
	S.D.	140	138	122	119	116	112	116	117
	C.V.	.194	.188	.158	.148	.140	.131	.129	.129
Circa 2000	Mean	722	732	769	790	819	831	902	907
	Median	741	743	784	798	809	813	900	900
	25 percentile	595	630	674	720	733	755	809	833
	75 percentile	810	815	850	862	900	903	972	990
	S.D	134	129	124	114	112	109	129	120
	C.V.	.186	.176	.161	.144	.137	.131	.143	.132
Constant Cases		88	88	88	88	86	82	73	71

* All figures have been rounded off. S.D. refers to the standard deviation of the reported mean and C.V. refers to the coefficient of variation, which is calculated as the standard deviation divided by the mean.

Table 3: Median Yearly Instructional Hours in Grades 1 to 8, circa 1985 and 2000 (constant cases), by UNESCO Region*

UNESCO Regions	Period	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Number of Cases
SSA	1985	800	800	847	884	908	908	918	918	9-14
	2000	761	795	870	888	925	939	1013	1013	
AS	1985	708	725	731	756	791	808	827	855	14
	2000	768	768	788	813	813	813	888	888	
EAPA	1985	657	674	784	797	863	901	875	875	9-10
	2000	676	711	817	821	821	830	867	867	
SWA	1985	675	675	793	884	884	972	972	972	3-5
	2000	630	630	734	734	734	900	900	900	
LAC	1985	726	730	748	758	790	790	922	922	13-18
	2000	786	786	796	796	800	800	945	945	
NAWE	1985	813	813	859	859	867	860	893	915	13-17
	2000	770	770	808	808	840	840	900	900	
CEE	1985	617	631	666	709	761	785	825	825	10
	2000	561	587	627	645	729	782	818	853	
Global Medians	1985	708	717	761	803	828	840	888	893	71-88
	2000	741	743	784	798	809	813	900	900	

* Figures in **bold** indicate an increase in intended instructional time over the 1985-2000 period.

Key to UNESCO-EFA Regions:

SSA: Sub-Saharan Africa; **AS**: Arab States; **EAPA**: East Asia and the Pacific; **SWA**: South and West Asia; **LAC**: Latin America and Caribbean; **NAWE**: North America and Western Europe; **CEE**: Central and Eastern Europe.

Table 4: Which Subject Areas are Taught Worldwide? The proportion of all countries requiring instruction in major curricular subject areas in Grades 1-3, 4-6 & 7-8, in the 1980s and 2000s

	Grades 1-3		Grades 4-6		Grades 7-8	
General Subject Areas	1980s	2000s	1980s	2000s	1980s	2000s
All Language Instruction	100	100	99	100	99	100
Mathematics	99	100	98	100	97	98
Sciences	76	71	87	93	95	96
Computers & Technology	5	19	5	26	16	41
Social Sciences*	78	81	94	97	95	100
Religion & Moral Education	60	59	66	62	61	52
Aesthetic Education	97	90	97	94	90	89
Sport/ Physical Education	93	90	91	94	82	97
Skills & Competencies	72	56	85	71	77	67
Electives, Options & Other Subjects	37	50	46	56	43	56
Number of Countries	(76)	(108)	(67)	(109)	(74)	(106)

* Social Sciences includes social studies, history, geography, civics, citizenship education and environmental studies.

**Table 5: Relative Emphasis on Subject Areas in Official Timetables:
Percentage of total instruction time allocated to subject areas for Grades 1 to 8, Worldwide, 2000s only**

General Subject Areas	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
All Language Instruction	40.9	40.7	38.6	36.4	34.9	33.5	30.7	29.4
Mathematics	19.8	20.2	19.4	18.8	17.6	14.7	14.2	13.9
Sciences	3.7	3.8	5.3	6.3	7.4	8.8	12.1	14.1
Computers & Technology	0.8	0.8	1.0	1.2	1.5	1.9	2.4	2.6
Social Sciences*	5.8	5.9	7.3	9.3	10.4	11.5	13.5	13.1
Religion & Moral Education	4.6	4.4	4.3	4.1	3.9	3.7	3.5	3.3
Aesthetic Education	9.4	9.2	9.0	8.7	7.9	7.4	6.3	5.5
Sport/ Physical Education	7.0	6.8	6.7	6.4	6.0	5.8	5.9	5.7
Skills & Competencies	3.3	3.3	3.7	3.5	4.5	4.4	5.4	5.6
Electives, Options & Other Subjects	4.9	5.0	4.9	5.0	5.2	5.1	5.5	6.4
Number of Countries	(121)	(121)	(122)	(121)	(123)	(121)	(110)	(107)

* Social Sciences includes social studies, history, geography, civics, citizenship education and environmental studies.

**Table 6: Worldwide Emphasis on Official Language Instruction, by Grade Level and Time Period:
Percentage of total language instruction time allocated to ‘official’ languages and literature***

Grade Level	Historical Period		Number of Countries	
	1980s %	2000s %	1980s	2000s
1	97.8	93.9	82	119
2	97.7	93.2	83	120
3	94.0	90.3	84	123
4	90.4	86.5	83	122
5	85.0	79.6	80	124
6	80.1	78.4	76	122
7	67.3	66.6	81	119
8	65.3	65.2	79	116
9	63.2	64.7	68	88

* See text for details about the classification of languages into ‘official’ and ‘non-official’ categories.

Table 7: The Prevalence and Relative Emphasis on Different Types of Language Education, Worldwide, by Grade Level, Circa 1985*

% of Countries Allocating Instructional Time to Language Instruction and, Of Those, Mean Instructional Time Allocated to Language Type

Types of Language Education		Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9
Official Language(s)	% of countries that teach Official Language(s)	100	100	100	100	100	100	100	100	100
	Of those, Mean Instructional Time	37.0	36.4	32.2	28.4	25.5	23.7	19.3	17.6	17.6
	Standard Deviation	11.8	11.0	10.9	9.8	10.1	10.4	8.9	7.8	7.7
Local/Regional Language(s)	% of countries that teach Local Language(s)	4	4	5	4	5	5	9	7	6
	Of those, Mean Instructional Time	16.5	16.5	13.7	13.6	10.1	8.1	7.0	7.2	6.5
	Standard Deviation	9.1	9.1	1.3	1.5	4.5	2.8	2.2	1.2	0.8
Foreign Language(s)	% of countries that teach Foreign Language(s)	4	5	12	21	34	46	72	79	78
	Of those, Mean Instructional Time	12.2	10.2	13.7	15.5	14.3	13.4	12.1	12.0	12.9
	Standard Deviation	1.8	4.4	9.1	9.7	7.3	6.8	4.6	4.9	5.6
Literature	% of countries that teach Literature	5	4	6	8	7	7	7	9	11
	Of those, Mean Instructional Time	6.6	4.3	8.3	8.8	5.2	4.6	8.0	8.6	8.8
	Standard Deviation	4.9	2.3	9.9	8.7	3.3	2.6	4.2	3.4	3.3
Number of Countries		(83-85)	(84-86)	(84-86)	(83-85)	(80-83)	(76-80)	(82-85)	(80-83)	(69-72)

* See text for details about the classification of languages into 'official' and 'non-official' categories.

Table 8: The Prevalence and Relative Emphasis on Different Types of Language Education, Worldwide, by Grade Level, Circa 2000*

% of Countries Allocating Instructional Time to Language Instruction and, Of Those, Mean Instructional Time Allocated to Language Type

Types of Language Education		Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9
Official Language(s)	% of countries that teach Official Language(s)	100	100	100	100	100	100	100	100	100
	Of those, Mean Instructional Time	35.9	34.7	31.2	28.4	24.7	23.5	18.0	16.9	16.5
	Standard Deviation	10.5	10.9	9.5	9.4	9.3	9.6	6.8	6.6	6.2
Local/Regional Language (s)	% of countries that teach Local Language(s)	6	6	7	7	6	5	5	6	7
	Of those, Mean Instructional Time	11.7	11.4	11.0	10.2	10.4	10.0	7.8	6.4	6.0
	Standard Deviation	5.1	5.2	4.5	4.3	4.5	3.6	2.7	2.3	2.3
Foreign Language(s)	% of countries that teach Foreign Language(s)	16	18	24	36	50	54	80	83	83
	Of those, Mean Instructional Time	12.9	14.5	14.6	12.9	13.4	13.0	12.7	12.2	11.9
	Standard Deviation	5.3	8.6	8.3	7.8	6.6	6.4	3.9	3.7	3.5
Literature	% of countries that teach Literature	14	14	15	14	21	21	25	26	27
	Of those, Mean Instructional Time	21.5	20.9	18.6	17.6	11.8	10.6	7.9	7.6	8.0
	Standard Deviation	12.1	11.6	10.1	9.0	6.3	5.2	3.3	3.3	3.6
Number of Countries		(123-125)	(123-126)	(123-125)	(124-126)	(125-128)	(123-126)	(121-123)	(117-120)	(91-93)

* See text for details about the classification of languages into 'official' and 'non-official' categories.

Table 9: Mathematics Education: Mean Percentage of Total Instructional Time Allocated to Mathematics Instruction in Grades 1 to 8, circa 1985 and 2000 (constant cases), by UNESCO Region*

UNESCO Regions	Time Period	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Number of Cases
SSA	1985	20.8	20.2	19.6	18.6	20.3	20.5	16.6	16.1	8-12
	2000	19.2	19.2	19.0	18.2	18.1	17.7	16.5	16.0	
AS	1985	18.1	17.9	17.4	16.9	15.3	16.3	14.4	14.0	12-13
	2000	17.6	18.5	17.1	17.0	16.8	16.6	14.2	14.0	
EAPA	1985	17.5	20.5	19.8	19.6	18.3	15.9	13.8	14.2	5-7
	2000	21.0	22.5	17.9	17.1	15.5	15.9	13.3	13.2	
SWA	1985	17.8	17.8	16.5	16.4	15.9	15.9	12.4	12.4	2-4
	2000	19.1	19.8	15.7	16.4	16.4	12.0	11.0	11.0	
LAC	1985	17.7	17.7	18.0	17.5	16.5	17.1	15.4	14.3	12-14
	2000	23.4	23.4	23.3	21.8	21.6	21.1	14.6	14.5	
NAWE	1985	18.4	18.2	18.0	16.6	16.0	15.1	14.0	12.8	7-11
	2000	17.7	17.6	16.8	16.7	15.9	15.4	13.8	13.0	
CEE	1985	22.3	21.9	20.0	20.0	18.3	16.4	14.5	13.8	8-9
	2000	19.3	19.0	17.8	17.4	15.2	14.2	13.4	13.0	
Global Means	1985	19.1	19.2	18.5	17.9	17.3	17.0	14.8	14.1	57-65
	2000	19.4	19.7	18.4	17.9	17.3	16.9	14.3	13.9	
Coefficients of Variation	1985	.281	.253	.249	.253	.280	.269	.267	.258	
	2000	.279	.256	.237	.221	.219	.229	.175	.181	

* Figures in bold refer to an increase in the emphasis on mathematic education between the 1980s and 2000s.

Table 10: Global Trends in the Prevalence of “New” Subjects: Percentage of Countries Requiring Instruction in Selected School Subjects in Grades 1 to 8, Worldwide, circa 1985 and 2000 (non-constant cases)

School Subjects or Curricular Areas	Time Period	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Number of Cases
Hygiene/ Health Education	1980s	26.2	29.4	31.8	35.3	31.7	32.9	25.9	24.1	72-85
	2000s	25.0	25.0	26.4	25.0	27.6	27.2	21.3	23.7	93-127
Environmental Science/ Ecology	1980s	17.9	17.6	15.3	12.9	9.8	7.6	1.2	1.2	72-85
	2000s	24.4	26.0	25.6	23.4	16.5	11.2	7.4	5.1	93-127
Civics/ Citizenship Education	1980s	13.1	14.1	17.6	21.2	26.5	34.1	40.2	45.9	73-85
	2000s	21.0	21.8	25.6	28.2	31.5	35.2	39.3	38.7	93-127
Social Studies	1980s	31.3	33.3	40.0	43.5	46.9	43.0	43.5	42.2	72-85
	2000s	32.0	31.2	39.7	46.0	42.5	43.7	49.6	46.7	94-127
Moral or Values Education	1980s	25.0	25.9	23.5	24.7	25.6	20.3	16.7	18.3	72-86
	2000s	24.2	25.0	26.4	26.6	27.6	27.2	23.8	21.0	94-127
Technology & related subjects (excl. computers)	1980s	4.8	5.9	5.9	5.9	6.1	5.1	14.1	15.7	72-86
	2000s	16.1	16.1	18.4	21.0	25.2	27.2	35.0	35.8	95-127
Vocational Education/Skills	1980s	21.4	21.2	22.4	21.2	22.0	26.6	32.6	38.6	72-86
	2000s	17.1	17.1	17.7	19.5	21.4	23.4	30.6	28.8	93-126

**Table 11: The Prevalence of Electives and Optional Subjects in Official Primary and Lower Secondary Curricula:
The Percentage of countries that allocate curricular time to electives or optional subjects by
historical Period and UNESCO region (number of countries in parentheses)**

UNESCO region	1980s	2000s
LAC	10	50
	(20)	(14)
EAPA	27	60
	(11)	(15)
SSA	5	6
	(20)	(16)
AS	0	11
	(14)	(18)
SWA	0	25
	(5)	(4)
CEE	36	100
	(11)	(13)
NAWE	33	80
	(18)	(15)
CA	0	50
	(0)	(6)
Global Percentages		
	16	48
	(99)	(101)

Table 12: The ‘Overloaded Timetable’: Proportion of Countries in Which the Official Curriculum Timetable Includes More than 9 subjects (Grades 1 to 5) or More than 10 subjects (Grades 6 to 8), circa 1985 and 2000, by UNESCO Region*

UNESCO Regional Classification	Time Period	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Number of Cases
LAC	1985	21	21	21	21	32	22	39	50	18-19
	2000	7	7	13	20	31	6	7	7	15-16
EAPA	1985	11	20	0	30	30	14	78	75	7-10
	2000	6	6	12	29	47	24	31	31	16-17
SSA	1985	20	27	56	69	60	43	71	69	14-17
	2000	17	17	39	44	48	30	45	42	19-23
AS	1985	14	14	36	43	62	43	36	43	13-14
	2000	5	5	20	45	70	45	63	63	19-20
SWA	1985	0	0	0	0	0	50	50	60	4-5
	2000	0	0	0	0	0	20	40	40	5
CEE	1985	9	9	9	56	89	100	100	100	9-11
	2000	0	0	5	22	84	84	95	95	19
NAWE	1985	12	6	18	18	41	41	56	71	14-17
	2000	13	13	19	25	50	35	44	50	16-18
CA	1985	-	-	-	-	-	-	-	-	0
	2000	7	7	17	30	55	40	51	52	7
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% Countries in World with ‘Overloaded Timetable’	1985	14	15	24	35	47	42	59	60	83-90
	2000	7	7	17	29	55	40	51	50	116-124

Key to UNESCO-EFA Regions:

LAC: Latin America and Caribbean; **EAPA:** East Asia and the Pacific; **SSA:** Sub-Saharan Africa; **AS:** Arab States; **SWA:** South and West Asia; **CEE:** Central and Eastern Europe; **NAWE:** North America and Western Europe and **CA:** Central Asia

Appendices

Table A1: Mean Yearly Instructional Time in Primary and Lower Secondary Education, circa 1985, Non-Constant Cases, by Grade Level and UNESCO Region*

UNESCO Regions	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Number of Cases
SSA	822	822	854	913	944	973	1001	991	1020	14-21
AS	715	737	748	782	811	823	861	876	877	13-14
CA	-	-	-	-	-	-	-	-	-	0
EAPA	704	723	782	815	864	908	968	1001	1020	7-12
SWA	787	787	865	914	914	1095	1095	1105	1138	2-6
LAC	774	776	810	815	843	860	977	993	1026	17-19
NAWE	746	758	813	840	863	868	925	930	905	14-19
CEE	685	708	744	783	848	898	924	948	934	6-11
Total	753	764	804	837	870	900	954	968	970	73-100
S.D.	151	147	138	143	142	140	146	149	188	
C.V.	.20	.19	.17	.17	.16	.156	.15	.15	.19	

Table A2: Mean Yearly Instructional time in Primary and Lower Secondary Education, circa 2000, Non-constant cases, by Grade Level and UNESCO Region

UNESCO Regions	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Number of Cases
SSA	755	775	812	847	872	871	951	946	965	16-18
AS	725	732	752	792	813	820	862	868	880	17
CA	533	575	620	647	740	754	798	812	830	9
EAPA	704	710	764	784	814	826	911	918	918	14
SWA	646	646	730	769	771	856	885	890	907	5-7
LAC	761	764	781	783	792	796	921	928	943	17-18
NAWE	743	748	790	799	845	847	894	906	933	23
CEE	549	597	624	658	734	773	811	830	855	20
Total	689	705	742	766	804	819	883	891	908	122-125
S.D.	139	128	133	125	110	107	122	115	118	
C.V.	.20	.18	.18	.16	.14	.13	.14	.13	.13	

Table A3: Relative Emphasis on Major Subject Areas in Official Curricula, Worldwide, by Grade level, 1980s
 Percentage of total instruction time allocated to major subject areas (number of cases in parentheses)

General Subject Areas	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
All Language Instruction	38.4	37.6	34.5	32.6	31.4	30.7	29.2	28.7
Mathematics	19.4	19.4	18.7	17.8	17.3	16.7	14.2	13.3
Sciences	4.3	4.6	6.4	7.3	7.9	8.8	11.5	12.3
Computers & Technology	0.3	0.4	0.4	0.3	0.4	0.3	1.2	1.5
Social Sciences	6.1	6.4	7.9	9.7	11.0	11.7	12.6	13.0
Religion & Moral Education	5.7	5.8	5.5	5.4	5.2	4.9	4.1	4.1
Aesthetic Education	9.8	9.9	9.5	9.3	8.6	7.6	7.0	6.4
Sport/ Physical Education	7.1	7.1	7.1	6.6	6.1	5.7	6.0	5.3
Skills & Competencies	5.6	5.6	6.4	7.0	7.7	8.7	9.5	10.0
Electives, Options & Other Subjects	3.4	3.3	3.5	3.1	3.5	3.9	2.9	3.4
Number of Countries	(83)	(84)	(83)	(83)	(81)	(77)	(74)	(70)

Table A4: Extent of Cross-National Variation in Mean Percentage of Instructional Time Allocated to Subject Areas by Grade Level, 2000s

Figures refer to standard deviations around global means (number of cases in parentheses)

General Subject Areas	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
All Language Instruction	10.4	10.5	10.4	9.8	9.2	9.0	6.9	7.0
Mathematics	5.6	5.1	4.7	4.1	4.3	4.3	3.8	3.6
Sciences	4.9	4.9	5.1	5.1	4.9	4.9	5.1	6.0
Computers & Technology	2.4	2.2	2.3	2.6	3.0	3.4	3.6	3.6
Social Sciences	5.8	6.0	6.0	5.9	5.2	5.1	4.3	4.0
Religion & Moral Education	7.2	6.8	6.7	6.2	5.7	5.6	5.1	5.0
Aesthetic Education	5.0	4.8	4.9	4.3	4.3	4.0	3.8	3.8
Sport/ Physical Education	4.0	3.8	3.6	3.1	2.7	2.7	2.4	2.3
Skills & Competencies	5.1	5.1	5.4	5.0	5.1	4.8	5.4	6.6
Electives, Options & Other Subjects	8.6	8.6	7.2	7.1	7.6	7.3	8.9	9.7
Number of Countries	(108)	(108)	(108)	(108)	(110)	(110)	(108)	(105)