

Curriculum flexibility policies expressed in school timetables in Portugal: from prescribed curriculum to practiced curriculum

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Abstract

In Portugal, like in other European countries, the curricular policies developed since the 1980s and 1990s have been highlighting the role of the school as a central space for educational action and the role of the teacher as the main actor in this process. In this sense, measures for curricular contextualization have been implemented since the introduction of the Curriculum Flexible Management Project in 1997 and the introduction of the National Curriculum in 2001.

Twenty years after the introduction of the Curriculum Flexible Management Project and as the Portuguese Ministry of Education is now resuming previous policies for curricular flexibility, it is important to think about the National Curriculum recontextualization in a country that was strongly centralized until 2001.

As a central object of this study, the prescribed curriculum was analysed, focusing on the political guidelines and how schools/teachers incorporated them, taking as analysis basis a sample of school timetables of grade 5 (ISCED 1). The timetables show how time is being managed during compulsory education in terms of subjects/disciplinary areas and which knowledge is being selected for the curricula implemented by the different schools – the curriculum in action.

Key words: Sociology of curriculum; Curricular flexibility; prescribed curriculum; curriculum in action; school timetables

Introduction

By the end of the 1980s and during the 1990s, there was a trend in the definition of *core* curriculum by international curriculum theories (Skilbeck, 1990; OECD, 1991; 1993; 1994; 1998; 1999). This definition assured that core curricular areas would be taught and articulated with various specific curricular projects

adapted to schools' contexts. Therefore, in countries with a tradition of decentralization, a national curriculum was implemented, which replaced the curricular management by the local authorities and communities close to the schools (for example, England in 1998 and Norway in 1987), while in countries where there was a more centralized tradition with a normative national curriculum, schools were given more autonomy for managing it (e.g., Portugal in 2001, France in 2013, Spain in 1990) (Almeida & Roldão, in press).

Considering the Portuguese case, curricular autonomy was mainly translated into the number and nature of the subjects that compose the curriculum of elementary and secondary school; organization of compulsory instruction time, mainly in terms of the distribution of time among subjects, starting from a total instruction time per disciplinary area; the selection of knowledge for the curriculum; extra classes for students identified by the schools as having learning difficulties in certain subjects; and, in 2012, the possibility of choosing the teaching time unit. These are the reasons why timetables seemed to be a good source of information to analyse how schools recontextualize the measures designated by the Ministry of Education.

Therefore, the study focuses on the flexibility that schools have to organize compulsory instruction time (prescribed curriculum) and how they manage the curriculum (curriculum in action), considering the weekly timetable of students in Portuguese public schools¹.

In Portugal, the Curriculum Flexible Management Project was implemented within a curricular reform that started in 2001. This project reflects the shift in the curricular paradigm that has been a trend in education systems of western societies and that aimed the articulation between the teaching and learning of core areas and their adaptation to the context. Therefore, twenty years after the introduction of the Curriculum Flexible Management Project, it is important to think about the consequences of such structural changes on curriculum management at school level, especially now that current political authorities in Portugal are resuming policies on curricular flexibility.

In the Portuguese education system, for each level of education, there has been the same set of compulsory subjects or disciplinary areas and the difference between the different levels is related to the extent to which these have been integrated with the various disciplinary components. According to Bernstein (1999), the curriculum for 2nd (ages 10-11) and 3rd (ages 12-14) cycles of elementary and secondary school (ages 15-17) is regulated by a collection code, with well-defined boundaries between the different subjects and, generally, with a different teacher for each subject. In the 1st cycle (ages 6-9), the curriculum is eventually regulated

¹ The study presented is part of a broader investigation developed by the Portuguese National Council of Education in collaboration with the Curriculum Monitor Project developed in the Interdisciplinary Centre of Social Sciences (CICS.NOVA)

by an integrated code, mainly because there is only one teacher for most of the subjects of the curriculum.

In this study, we chose to analyse the timetables of grade 5 (ISCED 1) as in Portugal this is the year of transition for students from having classes with just one teacher to classes with a teacher for each subject, i.e., the year of transition from an integrated code to a collection code. In addition, this level of education is an intermediate year of the nine years that constitute what is considered elementary education in Portugal.

The study places the following research question: How do schools recontextualize the guidelines established by the Ministry of the Education, considering the curricular autonomy they are eligible within the prescribed curriculum, in a country that until 2001 was a strongly centralized educational system? To answer this question, the following research questions were established and guided the analysis of the timetables of grade 5: (1) Which time units are selected by the schools?; (2) How do they distribute time among subjects?; and (3) What knowledge is selected for the curriculum?;

Thus, the prescribed curriculum is the central object of analysis of this study in terms of political guidelines and their appropriation by schools/teachers (curriculum in action) considering the school timetables that express the organization of compulsory instruction time in grade 5 (ISCED I – 10-year old students).

The theoretical approach adopted to analyse how schools turn the prescribed curriculum into curriculum in action implies a synthesis of the “curriculum as fact” and “curriculum as practice” theories, argued by Young (1998), and Bernstein’s theory of pedagogic discourse (1990, 2000).

Conceptual definition: where does the curriculum begin and finish?

Since the 1970s, there has been a consensus in various studies from sociology and curricular studies regarding the general definition of curriculum as resulting from an historical and social construction and as an arena for interests and pressures by diverse groups (Young, 1971; Bernstein, 1999; Goodson, 1995; Apple, 1979; Gimeno, 2000). Nevertheless, there has been no consensus regarding the extent to which curriculum should be designed or negotiated.

Literature considers that the curriculum includes the process that ranges from its design at political level to its implementation in schools and in the classroom. Goodson (1995) mentions the preactive curriculum, which includes decision-making at political level and establishes the requirements for the interactive curriculum, meaning the interactive action and negotiation in the school or the classroom.

Other authors unfold these levels of curricular development. Gimeno (2000) proposes an explanatory model for curricular development that includes different

and interrelated curricula resulting from the action of different actors. The prescribed curriculum set at political-administrative level acts as a framework for the curriculum content; the presented curriculum is the school textbooks and other support resources for teaching practice; the adapted curriculum translates into the teachers' planning to put in practice the prescribed curriculum; the practiced curriculum is the curriculum practiced in schools' reality; the evaluated curriculum relates to the evaluations performed by the teacher.

All this literature that refers to curriculum as a process considers an integrative view that requires a combined approach, an analysis of the prescribed curriculum construction that combines the decision-making at political level and its implementation, the practiced curriculum ("as practice", "interactive"), directed at the dialectic relation between both. This study uses also this approach by looking at the curriculum from the stage of its design at political level to its appropriation by schools and teachers in the classroom, going through several adaptations that should be considered by theory and curricular analysis.

Setting the curriculum in this type of critical and constructive approach implies that the curriculum is recognized as a permanent social construction and, consequently, that such analysis requires that each situation is identified and analysed, using theories not for the abstract, but to provide an explanatory context.

The dichotomy "curriculum as fact" vs. "curriculum as practice"

Until the 1960s, curricular studies approached the "curriculum as fact" and from the 1970s on, radical education experts started to see the "curriculum as practice" (Young, 1998). From the 1990s onward, some sociologists, among them Young (1998, 2011) and Goodson (1995), argued for the importance to combine these two approaches in curricular theories in order to enhance the curriculum implementation process at schools. We refer to Young's analysis (1998), who one decade after the introduction of the National Curriculum in England, argued for the need of a "modified social constructivist view of knowledge" (Young, 1998, P. 22) that would focus on different views about school knowledge, instead of focusing on specific contents of the curriculum. This view highlights the need for teachers to interpret an external structure, such as the National Curriculum, as it is from this process of interpretation that teachers would be able to reach professional autonomy.

In the English case, after the National Curriculum revision of 1998, prescriptive guidelines for schools were reduced. According to Young, teachers needed more elaborated knowledge and curriculum theories than the ones provided at teacher training courses, which focused mainly on school contents' specificities.

Young describes two views on curricular knowledge: "curriculum as fact" and "curriculum as practice", which he considers as not helping teachers and schools to interpret the National Curriculum. The "curriculum as fact" describes the dominant vision of the first theories of Curriculum or Sociology of the Education (Durkheim to Parsons) that view curriculum as a structure of a prescribed

knowledge, socially external to teachers and students, who should master and incorporate it in textbooks. This vision, according to Young, has deep implications in the conceptions of education and learning. The teacher is a facilitator of a set of knowledge that is not his/hers, which implies that he/she has no role on the curriculum construction within the process of pedagogic transmission. Young (2016) also argues that curricular knowledge is independent of the context, contrarily to the knowledge based on experience that students bring to school, which is directly connected to the contexts they live in. Along the same lines, when Bernstein (1999) makes the distinction between horizontal and vertical discourses (daily knowledge and school knowledge, respectively) he is drawing attention to the risk of horizontal discourse features being transformed and introduced in the contents of various subjects as part of the movement to make specialized knowledge more accessible to students. However, the teacher's role regarding the construction of the school curriculum is to allow students to become involved with the curriculum and move beyond their experiences. What rarely happens when one views "curriculum as fact".

The assumption that knowledge is external to teachers and students involves conceptions not only about what is considered valid knowledge, but also about the way knowledge relates with different occupational areas. Therefore, Young stated that the notion of "curriculum as fact" expresses relations of power between teachers/students, teachers/society in general. From the beginning, teachers are "designed to reproduce knowledge produced elsewhere by others" (Young, 1998, P. 27). As Bernstein also argues (1990), the pedagogic discourse displaces a certain discourse from its original context, according to its own principles. In this sense, the concept of "privileging text" appears as fundamental: the text that, in a certain moment, is valued by schools and society.

The "curriculum as fact" reflects the thoughts of the first theorists (in 1998) that still prevail in schools', teachers' and policy decision-makers' assumptions. This shows that teachers have theories about knowledge, teaching and curriculum and that these are often similar to the ones curriculum theorists' have, and for this reason teachers are so resistant to curricular change. Teachers keep on holding to these conceptions because they are aligned with notions of curriculum that society in general have and because, in part, they make sense in their current situation (Young, 1998). In fact, the notion of "curriculum as fact" does not enhance teachers' ability to be aware of the possibilities they have for changing and for understanding the conditions of their practice. The only possible explanations for the failure of students vary between cultural insufficiency, lack of basic students' abilities or the inefficacy of the way of transmission. Among these explanations, the curriculum remains unquestionable.

The "curriculum as fact" perspective was broadly criticized by the "curriculum as practice" perspective, namely by radical educationalists, such as Paulo Freire (1971). For Young, when radical curriculum theories try to confer a role to teachers and students in the construction of the curriculum, they are denying the external essence of the curriculum by focusing excessively on the subjective intentions of

teachers and students as if they were not always acting in a curriculum that is, in part, external and surpasses them. Along these lines, to view “curriculum as practice” does not allow an historical perception of the curriculum and limits the development of alternative conceptions, besides the ones that include a utopian rejection of the traditional curricula. The implication of such perception implies that if teachers would submit the underlying assumptions about their practice to a critical examination, they would understand better how to construct the curriculum. Such theory, as it is argued by Young, has quite valid assumptions when one thinks critically about the “curriculum as fact” and when the active role of teachers and students in the learning process is claimed. The same happens when knowledge is considered as not being “a kind of private property handed down from the academic ‘discoverers’ for the teacher to distribute or “transmit” (Young, 1998, P. 28).

However, this perspective is illusory when it comes to curricular change as it gives teachers an apparent sense of their power, autonomy and independence regarding their broader contexts. Therefore, this view does not offer them means to understand the lacks in their practices, except in terms of personal inadequacies. Radical attempts for curriculum change based on the notion of “curriculum as practice” will quickly understand that the curriculum is far from being just a product of the practices of teachers and students. It is also a product of the conceptions about what education should be for political administrations, parents, employers and education communities. As Young states, if a group of teachers starts analysing critically and reformulating their educational practices radically, there are two possible outcomes: first, they would face external restrictions from the government or local authorities or, second, their attempts to implement alternative practices would be considered outside the context of classroom and discussed with local employers and parents.

According to Young, “curriculum as fact” means that this is not only a theory produced by academics, but the basis upon which our educational system is organized. In other words, it represents part of the circumstances in which any researcher/professional worried about changing educational practices must work. This way, this perspective cannot be treated as a mere illusion, but as an irrelevant product of the bureaucratic/academic ivory tower imposed to teachers. Thinking this way is the major weakness of the “curriculum as practice” perspective.

For these reasons, Young proposes the development of a theory that goes beyond the dichotomy of “curriculum as fact” *versus* “curriculum as practice” and that operates as a kind of combination of both:

If the curriculum is located solely in the classroom practice of teachers and pupils, it becomes impossible to understand the historical emergence and persistence of particular ways of organizing curricula and of how individual teachers and schools can ‘make a difference’ (Young, 1998, p. 23).

If Young developed a theory that argues for the importance of teachers/schools to interpret the National Curriculum Framework, Bernstein conceived a model that allows us to understand how this process of interpretation

works, as well as the processes of recontextualization that might occur at some levels of the pedagogic device.

Theory of pedagogic discourse

To understand how the pedagogic discourse is produced and reproduced, Bernstein (1990, 2000) developed a model of the official pedagogic discourse in developed contemporary societies. The model includes three fundamental fields of analysis: generation, recontextualization and transmission and stresses that the pedagogic discourse is determined by a complex set of relations that involve the intervention of different fields and contexts. The first two fields of analysis are related with the production of the pedagogic discourse and the third level with its reproduction.

The pedagogic discourse reflects the dominant principles of a society that constitute the general regulative discourse (GRD). However, the pedagogic discourse is not an automatic result of these principles as, at some levels of the official pedagogic device, some recontextualizations may occur. When this happens, the discourse that is reproduced may not correspond exactly to the produced discourse.

The GRD is generated in the State field as a result of the influence of the international field, the economy field (physical resources) and the field of symbolic control (discursive resources). It appears expressed in legal and administrative texts, such as political constitutions and political diplomas. Later, this discourse is recontextualized to some levels of the education system, namely by the Ministry of Education and its agencies, being then produced the Official Pedagogic Discourse (OPD). The OPD is expressed in the curricula, syllabuses and in a set of norms about school organization and management, such as the curricular frameworks and their guidelines for implementation, analyzed in this study. As Bernstein states (1990), "official pedagogic discourse is always a recontextualizing of texts, and of their generating social relations, from dominant positions within the economic field and the field of symbolic control" (p.196).

Various studies developed by the ESSA Group (Sociological Studies of the Classroom, Institute of Education, University of Lisbon) stressed the presence of recontextualizations within the official recontextualization field. For example, the studies of Calado, Neves and Morais (2013) and Ferreira and Morais (2013), that focused on the educational reform implemented in Portugal in 2001 for elementary school, evidenced the presence of recontextualizations in the official recontextualization field. These studies analysed the sociological message transmitted by the OPD in Natural Sciences curriculum, taking into account specific aspects related with the *what* and the *how* of the educational processes: construction of science, intradisciplinarity, level of conceptual demand and evaluation criteria. The results show that there are recontextualization processes that have occurred within the curriculum, when passing from the general to the specific guidelines, and which refer to the intradisciplinarity between scientific knowledge and to the complexity of this knowledge, towards decreasing the level of these characteristics. As a consequence, science teachers will receive two

contradictory messages and, if they follow the specific guidelines, they may be led to devalue intradisciplinarity and complex scientific knowledge in their pedagogic practices, and consequently to lower the level of conceptual demand.

Another study on the processes of official recontextualization, but with a focus on the curriculum of Biology and Geology of secondary education, was conducted by Ferreira and Morais (2014). The authors analysed the practical work in science education and concluded that there are disruptions between the two curriculum components – Biology and Geology – and for both components, there were recontextualization processes when going from the general to the specific guidelines. These recontextualizations were expressed, generally, also by a decrease of the level of conceptual demand in practical work.

The OPD can also be object of a second process of recontextualization in the pedagogic recontextualising field, for example, at university departments of education, teacher training centres and institutions that produce pedagogic resources and materials. The pedagogic discourse of reproduction (PDR) is formed in this process. When the PDR is introduced in the contexts of pedagogic reproduction it might be subject to a recontextualization dependent on the specific context of a specific school, namely in the timetables analysed in this study. This situation allows a potential space for change. This change will be as great as the level of recontextualization of the official pedagogic discourse (Neves & Morais, 2001). For this reason, the theory of Bernstein, by identifying potential spaces for change, is not just a theory of cultural reproduction.

Curriculum Flexible Management and new curricular policies – the case of Portugal

The education reform of elementary education in 2001 kept the disciplinary structure of each cycle, but there was a curricular reorganization (Decree 6/2001, 18th January). This reorganization aimed to implement the curriculum flexible management project, one of the guiding principles considered in the Basic Education Act (1986) of the Portuguese Education System. The principle of curricular flexibility is defined as following (DEB, 1999): “The Curriculum Flexible Management Project aims [...] to assure that all students learn more and in a more significant way” (p.6) and

Flexible Management of the Curriculum means the autonomy that each school, within the limits of the national curriculum, has to organize and manage all the teaching/learning processes. This process should be adapted to the specific needs of each school context, so that it is possible to integrate local and regional components in the curriculum (p.7).

Within this curricular reorganization, besides the disciplinary curricular areas, three non-disciplinary curricular areas were introduced: project area, assisted study and civic education. As it is referred in the 5th article of the previously mentioned legislation, the project area aims “the design, implementation and evaluation of projects through the articulation of knowledge of various curricular areas around intervention and research problems or topics that take into account students’ needs and interests”. The aim of oriented study is mainly that the student

learns methods of study and in civic education students are educated for citizenship.

In 2012, a new curricular revision took place (Decree 139/2012, 5 of July) and changed the national curriculum framework (set of compulsory subjects or disciplinary areas and their weekly instruction time) and set a definition of the principles that allowed schools to have more autonomy in the organization of academic activities. The flexible management of timetables remained and it was established a minimum instruction time per subject or disciplinary area and a compulsory total instruction time. In 2nd and 3rd cycles of elementary education, schools were no longer obliged to organize classes in 45 minutes slots, as teaching time unit. In the case of the 2nd cycle, where the grade 5 is included, the minimum instruction time per week is 1350 minutes for the compulsory disciplinary areas as shown on the curricular framework of Table 1

Table 1. Weekly instruction time of the 2nd cycle of elementary education for the various curriculum components

	Curriculum components	Weekly instruction time (a)		
		Grade 5	Grade 6	Total
Disciplinary area /Subjects	Languages and Social Studies Portuguese English History and Geography of Portugal	500 (b)	500 (b)	1000
	Sciences Mathematics and Natural Sciences	350 (c)	350 (c)	700
	Artistic and Technological Education Visual Education Technological Education Musical Education	270(d)	270 (d)	540
	Physical Education	135	135	270
	Religious and Moral Education (e)	(45)	(45)	(90)
	Compulsory time	1350 (1395)	1350 (1395)	2700 (2790)
	Complementary offer	(f)	(f)	
	Extra classes study (g)	200	200	400

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- (a) Weekly instruction time in minutes. Each school can decide how to distribute time, within the limits established – minimum per disciplinary area and total per grade or cycle.
 - (b) From the total instruction time, at least 250 minutes for Portuguese.
 - (c) From the total instruction time, at least 250 minutes for Mathematics.
 - (d) From the total instruction time, at least 90 minutes for Visual Education.
 - (e) Optional subject, as stated in article 15, final part, with fixed time of 45 minutes.
 - (f) Compulsory subject for all students, as long it was created by the school and according to the time credit available as stated the article 12.
 - (g) School must offer it, for students it is optional unless the council of class indicated the students and obtained the agreement of the parents (or legal tutors), as stated in article 13.
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Source: Appendix II Decree-Law 139/2012, 5 July

The Complementary Offer presented in Table 1 can be offered by schools and should contribute to the integral promotion of students in the areas of citizenship, artistic, cultural, scientific and others, with flexible instruction time (article 12). In addition, it is also compulsory for schools to provide Extra Classes Study, so that students have more support in their study (article 21).

Schools have flexibility to distribute time per subjects of each disciplinary area, within the established limits. They have 95 minutes, which result from the difference between the compulsory total time plus the minimum instruction time per week of each disciplinary area. The “Social Studies and Languages” area must respect a minimum time of 500 minutes, from which at least 250 minutes should be devoted to Portuguese subject; 350 minutes for the “Mathematics and Sciences” area, from which at least 250 should be for the subject of Mathematics; 270 minutes for the “Artistic and Technological Education” area, from which at least 90 correspond to the subject of Visual Education; “Physical Education” should have a minimum instruction time of 135 minutes. Moral and Religion Education, which is an optional subject, has a fixed instruction time of 45 minutes. In case this optional subject is chosen by the parents or legal tutors, the weekly instruction time can go up to 1395 minutes.

The fact that schools can have autonomy contracts should also be highlighted:

Contract of autonomy is an agreement between the school, the Ministry of Education and Science, the city council and, eventually, other community stakeholders. This contract sets the goals and conditions that make possible the development of the educational project presented by the administration bodies of a school or school cluster (article 57, Decree 137/2012, 2 July).

Schools with autonomy contracts are obliged to respect the instruction time per week equal or superior to the total established in the national curriculum framework for each year, cycle, level and type of education and training, being only allowed: (a) to manage the academic time for each subject or disciplinary area as long as the total instruction time of the subjects of Portuguese and Mathematics is not inferior to 75% of the expected minimum time referred in the national curriculum framework; (b) to offer, within the total curricular time per year, other subjects or disciplinary areas, according to the educational project; and (c) to manage the distribution of the different subjects in each year throughout the cycle, except for the subjects of Portuguese and Mathematics (Order 44/2014, 20th February).

Methodology

This study was applied to a representative sample of the school clusters offering the 2nd cycle of Elementary Education of Portuguese public schools (Mainland) in the school year of 2015/2016, from a confidence break of 95% and a margin of error of 5%. The sample is composed by 231 clusters, selected from strata that cross variables about the nature of the clusters (schools with and without autonomy) and about the geographical regions (NUTS III²). This resulted in a total of 178 clusters without autonomy and 53 with autonomy (Table 2). The nature of the cluster can indicate if it is only the schools with autonomy contracts that manage the curriculum in a more differentiated way or not. It should be mentioned that clusters that belonged to *TEIP (Education Territories of Priority Intervention)* were not considered due to specificities of their educational contexts.

Table 2. Characterization of the school clusters sample of Elementary Education of Portuguese public schools (Mainland) in the school year of 2015/2016.

NUTS III	School clusters without autonomy		School clusters with autonomy	
	N	%	N	%
Alentejo Central	4	2.25	-	-
Alentejo Litoral	3	1.69	1	1.89
Algarve	10	5.62	1	1.89
Alto Alentejo	4	2.25	1	1.89
Alto Minho	7	3.93	-	-
Alto Tâmega	3	1.69	-	-
Área Metropolitana de Lisboa	37	20.79	12	22.64
Área Metropolitana do Porto	24	13.48	9	16.98
Ave	6	3.37	5	9.43
Baixo Alentejo	4	2.25	1	1.89
Beira Baixa	2	1.12	-	-
Beiras e Serra da Estrela	6	3.37	3	5.66
Cávado	6	3.37	4	7.55
Douro	4	2.25	1	1.89
Lezíria do Tejo	7	3.93	1	1.89
Médio Tejo	6	3.37	2	3.77
Oeste	8	4.49	1	1.89
Região de Aveiro	7	3.93	2	3.77

² "The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU" (Eurostat, n.d.).

Região de Coimbra	de	8	4.49	2	3.77
Região Leiria	de	4	2.25	4	7.55
Tâmega Sousa Terras	e de	8	4.49	1	1.89
Trás-os-Montes		4	2.25	-	-
Viseu Lafões	Dão	6	3.37	2	3.77
Total		178	100	53	100

The timetables of the selected clusters were collected from the websites of the schools or, in case they were not available online, requested via email by the researchers. Only the timetables for regular education were analysed, for instance the timetables belonging to specific classes of artistic education were not considered. The data collection followed the following criteria: (1) the clusters with biweekly subjects were counted per week with half of the respective time; (2) support to students with special educational needs were not considered; (3) In the cases with subjects happening simultaneously, we opted for the first subject of the compulsory curriculum (e.g., Mathematics, Extra Classes, Moral and Religious Education).

The quantitative descriptive analysis of school timetables was done with the software IBM SPSS, version 25. Besides, for information analysis, a documental analysis of the Portuguese legislative indications for curriculum management was made

Results: from prescribed curriculum to curriculum in action

The results of this study are shown taking into account the nature of the school clusters, i.e., with and without autonomy contracts. Furthermore, we have considered the set of timetables analysed as a whole by school cluster and individually by class. Below we present the results according to the research questions that guided the analysis of the timetables for grade 5 regarding the 2015/2016 school year.

Instruction time units

Within the scope of their autonomy, school clusters may organize instruction times around the time units that are more convenient for them as long as they respect the weekly instruction times foreseen in the curricular matrices for elementary education. In the case of the analysed school clusters (SC), instruction times are organized around 45-, 50-, 60- and 70-minute slots, besides differentiated instruction times as well (Table 3).

In 72.7% of the school clusters, the weekly instruction time is organized around 45-minute slots, while in 25.5% of them it is organized around 50-minute slots. The other forms of organization are residual (0.9% chose 60-minute slots, and 0.4% chose 70-minute slots or differentiated time units). Table 4 illustrates an

example of a timetable of a grade 5 class with the most frequent time unit and Table 5 shows an example of a class with differentiated time units.

Table 3. Instruction time units per SC and class.

		Instruction time units									
		45 minutes		50 minutes		60 minutes		70 minutes		differentiated	
		N	%	N	%	N	%	N	%	N	%
SC	Without autonomy contract	128	71.91	47	26.40	2	1.12	0	0	1	0.56
	With autonomy contract	40	75.47	12	22.64	0	0	1	1.89	0	0
Classes	Without autonomy contract	725	72.43	261	26.07	13	1.30	0	0	2	0.2
	With autonomy contract	190	72.24	70	26.62	0	0	3	1.14	0	0

Source: CNE, 2017

Table 4. Example of a grade 5 school timetable with 45-minute time units.

Times	Monday	Tuesday	Wednesday	Thursday	Friday
8.15am - 9am	Mathematics	Visual Education	Mathematics	HGP	Mathematics
9am - 9.45am					
10.15am - 11am	Physical Education	Natural Sciences	Portuguese	Portuguese	Technological Education
11am - 11.45am					
12pm - 12.45pm	Portuguese	English	Civic Education	Physical Education	Musical Education
12.45pm - 13.30pm			Religious and Moral Education	English	
13.40pm - 14.25pm					
14.35pm - 15.20pm	Oriented study: Mathematics	HGP		Natural Sciences	
15.20pm - 16.05pm		Oriented study: English		Oriented study: Portuguese	
16.15pm - 17pm		Oriented study: Mathematics			

Source: CNE, 2017

Table 5. Example of a grade 5 school timetable with differentiated instruction time units.

Times (start)	Monday	Dur.*	Tuesday	Dur.*	Wednesday	Dur.*	Thursday	Dur.*	Friday	Dur.*
8.30am	Portuguese	50	Mathematics	50	Musical Education	45	Mathematics	50	Physical Education	45
9.25am	Portuguese	50	Mathematics	50	Musical Education	45	Mathematics	50	Physical Education	45
10.25am	HGP	40	English	40	Portuguese	50	Portuguese	50	Natural Sciences	40
11.20am	HGP	40	English	40	Portuguese	50	English	45	Natural Sciences	40
12.15pm					Mathematics	50				
13.10pm	Natural Sciences	45	Technological Education	40			Visual Education	45	Civic Education	45
14.05pm	Physical Education	45	Technological Education	40	Study Room: Port/HGP	50	Visual Education	45	HGP	45
15.00pm			Technological Education	40	Study Room: Maths/Nat. Sciences	50	Visual Education	40		
15.55pm			Study Room: English	50			Study Room: Maths/Nat. Sciences	50		

*The duration of each instruction time unit is indicated in minutes in the column headed "Dur.". In subjects that have two consecutive time slots, teachers may allow for a break in the middle of these time slots or teach both slots providing a longer break at the end.

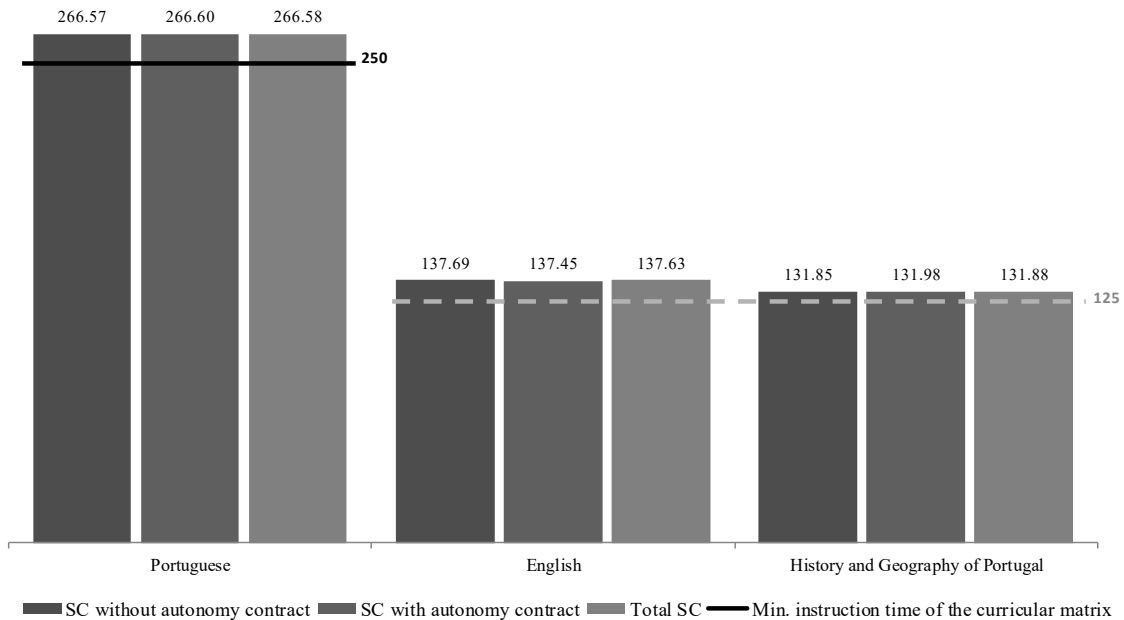
Source: CNE, 2017

Instruction times per subject

School clusters are given the necessary flexibility to distribute instruction times per subject within each disciplinary area as long as they comply with predefined time limits (Table 1). There are 95 minutes that result from the difference between those time limits and the sum of the minimum weekly instruction times per disciplinary area, which are allocated pursuant to the educational project of the SC.

As seen in Figures 1 to 4 below, the differences between the average total instruction times of the several subjects that comprise grade 5 are not very relevant when we compare SC with and without autonomy contracts. Accordingly, the significance of the difference between the average total instruction times of the subjects that comprise the curricular matrix of grade 5 classes in SC without autonomy contracts (1,001 classes from 178 SC) and with autonomy contracts (263 classes from 53 SC), which was assessed using the t-Student test for independent samples, has shown that, except for the average total instruction times of Natural Sciences ($t(1262) = -4.613363$; $p < 0.001$), the averages of the other subjects do not present statistically significant differences. We also assessed whether instruction times were managed by each class within each school cluster (the average of the instruction times of the subjects taught in that SC compared with the standard deviation), which has proved to be virtually non-existent.

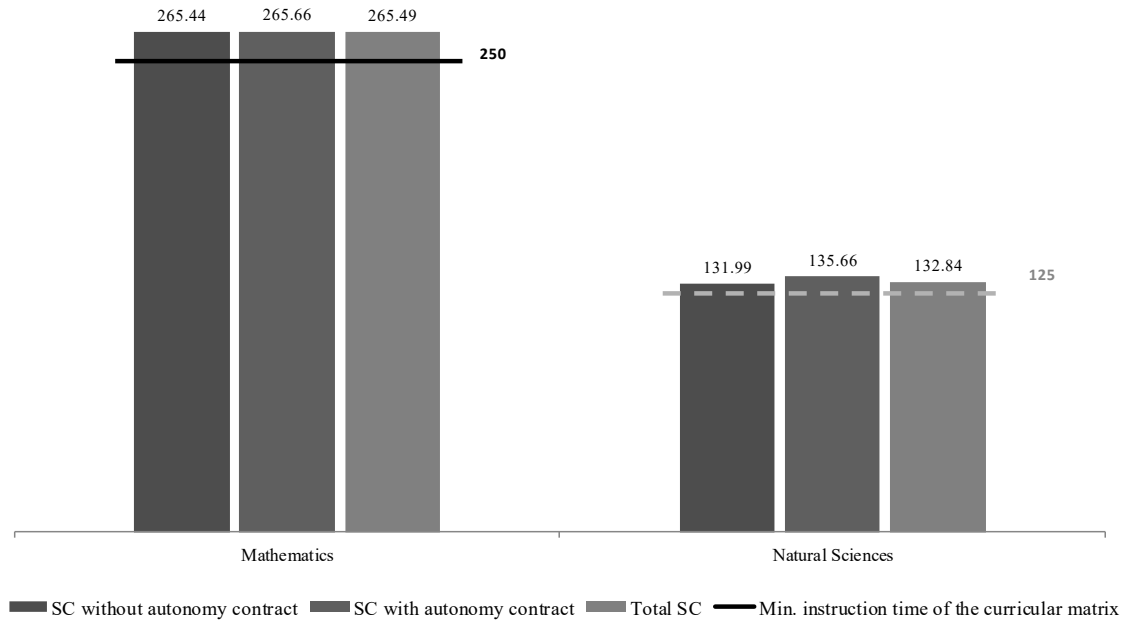
In the disciplinary area of “Languages and Social Studies” (Figure 1), Portuguese has an average weekly instruction time of 266.58 minutes per SC, with 16.58 minutes besides the 250 minutes defined in the matrix. English has an average weekly instruction time of 137.63 minutes. History and Geography of Portugal is the subject within this area that has the lowest average weekly instruction time, with 131.88 minutes per SC.



N.B.: The dotted line corresponds to half the amount of the difference between the minimum weekly instruction time of the disciplinary area and the subject of Portuguese as defined in the curricular matrix.

Figure 1. Average weekly instruction time (in minutes) of the subjects that comprise the “Languages and Social Studies” disciplinary area in SC with and without autonomy contracts (adapted from CNE, 2017).

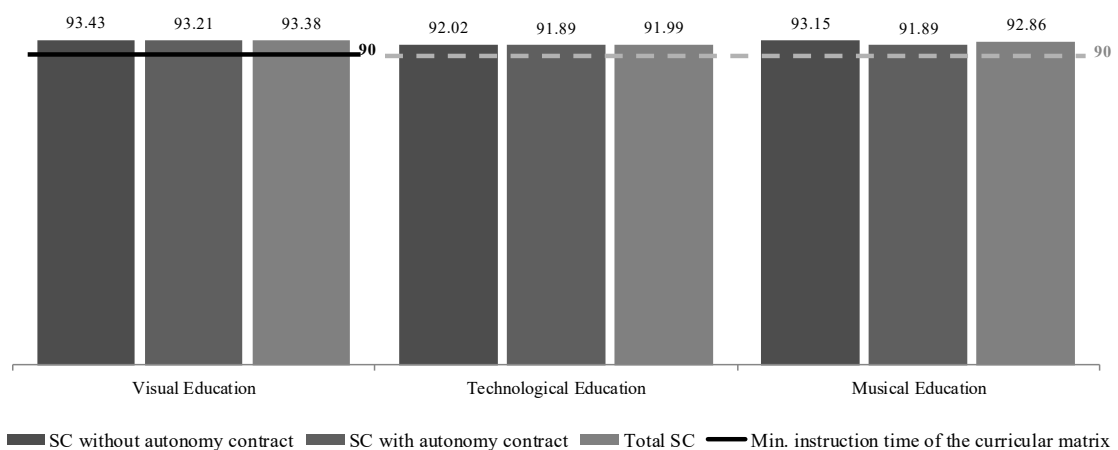
Regarding the disciplinary area of “Mathematics and Sciences” (Figure 2), Mathematics accounts for an average weekly instruction time of 265.49 minutes per SC, with 15.49 minutes besides the 250 minutes defined in the matrix. Natural Sciences has an average weekly instruction time of 132.84 minutes.



N.B.: The dotted line corresponds to half the amount of the difference between the minimum weekly instruction time of the disciplinary area and the subject of Mathematics as defined in the curricular matrix.

Figure 2. Average weekly instruction time (in minutes) of the subjects that comprise the “Mathematics and Sciences” disciplinary area in SC with and without autonomy contracts (adapted from CNE, 2017).

As regards the “Artistic and Technological Education” disciplinary area (Figure 3), Visual Education has an average weekly instruction time of 93.38 minutes per SC, with 3.38 minutes besides the 90 minutes defined in the matrix. Technological Education has an average weekly instruction time of 91.99 minutes and Musical Education has 92.86 minutes.



N.B.: The dotted line corresponds to half the amount of the difference between the minimum weekly instruction time of the disciplinary area and the subject of Visual Education as defined in the curricular matrix.

Figure 3. Average weekly instruction time (in minutes) of the subjects that comprise the “Artistic and Technological Education” disciplinary area in SC with and without autonomy contracts (adapted from CNE, 2017)

Regarding the “Physical Education” disciplinary area, the average weekly instruction time of this

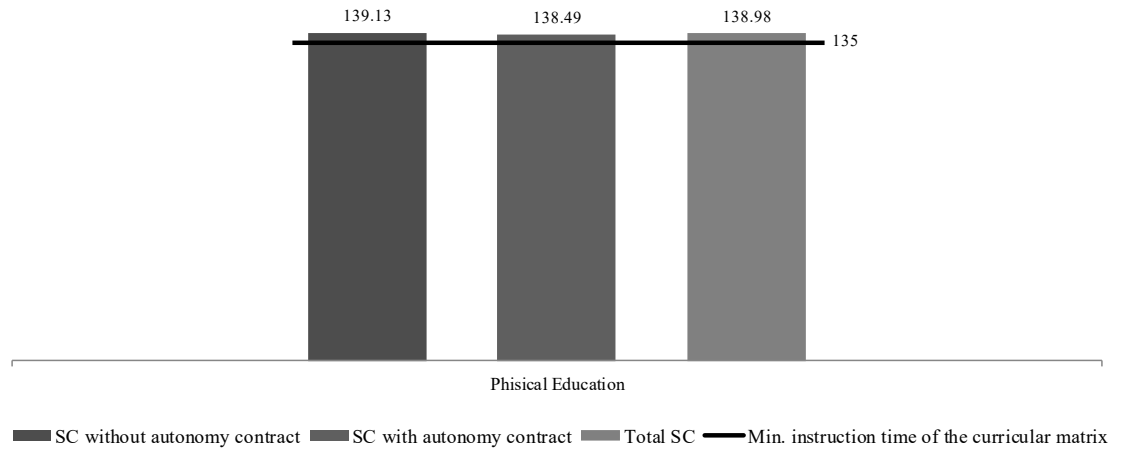


Table 6. Distribution of the extra minutes besides the minimum compulsory weekly instruction times by disciplinary area and instruction time in SC and classes.

	Languages and Social Studies				Mathematics and Sciences			Artistic and Technological Education				Physical Education		Total extra minutes	Compulsory weekly instruction time	Deviation from the minimum instruction time	UO N	Classes N
	Portuguese	English	HGP	Extra minutes*	Mathematics	CN	Extra minutes*	EV	ET	EM	Extra minutes*	EF	Extra minutes*					
45	270	135	135	20 + 20	225	135	10	90	90	90	0	135	0	50	1305	-45	0 (+1)	1
	270	135	135	20 + 20	270	135	20 + 35	90	90	90	0	135	0	95	1350	0	159 (+1)	871
	270	135	135	20 + 20	270	135	20 + 35	90	45	135	0	135	0	95	1350	0	2	7
	270	180	90	20 + 20	270	135	20 + 35	90	90	90	0	135	0	95	1350	0	6	31
	270	180	135	20 + 65	270	135	20 + 35	90	90	90	0	135	0	95	1395	45	1	5
50	250	150	100	0	250	100	0	100	100	100	10 + 20	150	15	45	1300	-50	2	4
	250	150	100	0	250	100	0	100	100	100	10 + 20	150	15	95	1350	0	1	8
	250	150	100	0	250	100	0	150	100	100	60 + 20	150	15	95	1350	0	1	7
	250	100	150	0	250	150	0 + 50	100	100	100	10 + 20	150	15	95	1350	0	10	48
	250	150	100	0	250	150	0 + 50	100	100	100	10 + 20	150	15	95	1350	0	18	115
	250	150	150	0 + 50	250	100	0	100	100	100	10 + 20	150	15	95	1350	0	17	100
	300	100	150	50 + 0	250	100	0	100	100	100	10 + 20	150	15	95	1350	0	2	9
	300	150	100	50 + 0	250	100	0	100	100	100	10 + 20	150	15	95	1350	0	2	12
	250	150	150	0 + 50	250	150	0 + 50	100	100	100	10 + 20	150	15	145	1400	50	2	8
	300	150	150	50 + 50	250	100	0	100	100	100	10 + 20	150	15	145	1400	50	1	6
60	300	200	100	50 + 50	250	100	0	100	100	100	10 + 20	150	15	145	1400	50	1	3
	300	150	100	50 + 0	300	150	50 + 50	100	100	100	10 + 20	150	15	195	1450	100	1	7
	300	100	150	50 + 0	300	150	50 + 50	150	50	100	60 - 30	150	15	195	1450	100	1	4
	270	150	120	20 + 20	270	120	20 + 20	90	90	90	0	150	15	95	1350	0	2	13
70	280	140	140	30 + 30	280	140	30 + 40	140	70	70	50 - 40	140	5	145	1400	50	1	3
differentiated	250	125	125	0	250	125	0 + 25	130	120	90	40 + 30	135	0	95	1350	0	1	2

(+ 1) corresponds to a SC that has been counted twice because it has classes with different weekly instruction times.

* No. of minutes added to weekly instruction times as defined in the curricular matrix. The first figure corresponds to the extra time added to the subject with the minimum instruction time within the area and the second figure corresponds to the extra minutes that result from the difference between the minimum instruction times of the curricular area and of that subject.

Source: CNE 2017

Selection of knowledge for the curriculum in action

Taking into consideration all the school clusters included in this study, 91.3% offer the complimentary curricular component, in a total of 1,146 classes, where Civil Education is the predominant offer. In the SC without autonomy contracts, the Complimentary Offer encompasses only one area in 98.1% of the classes and in the remaining classes it includes a mix of two areas. In the SC with autonomy contracts, in 91.9% of the classes only one area is encompassed, in 4.8% a mix of two areas are, and in the remaining ones the offer includes a mix of three areas (Figure 5).

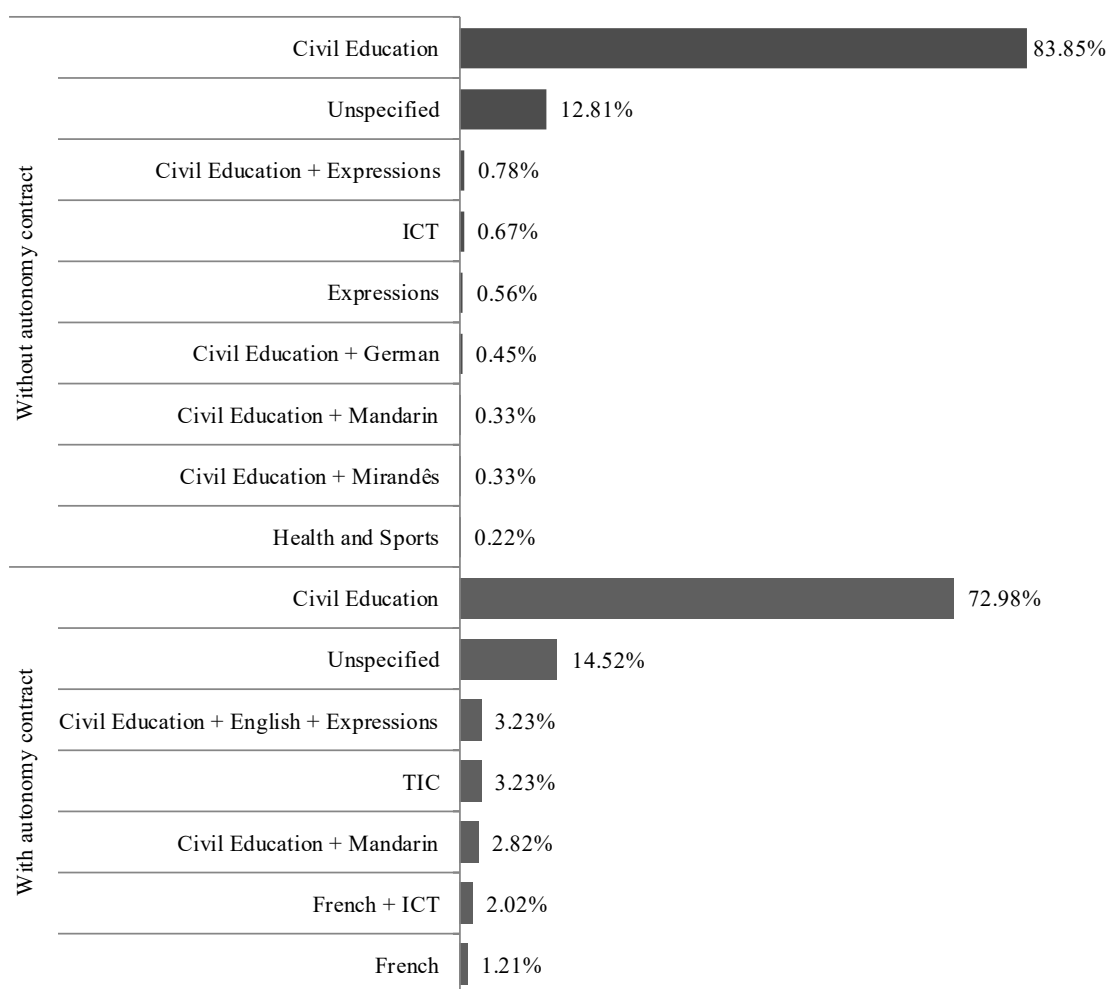


Figure 5. Combination of Complimentary Offers in classes by area and in SC with and without autonomy contracts (adapted from CNE, 2017).

Assisted Study, which in the 2nd cycle is an obligatory offer for the school but is optional for students, has a weekly instruction time of 200 minutes. This offer – which is managed by each cluster pursuant to their own educational project – considering all the clusters in the study, is indicated in the timetable as an unspecified area (47.9% of the classes in SC without autonomy contracts, and 35.4% of the SC with autonomy contracts) or as a mix of several specific subjects as illustrated in Table 6. Where the subjects that are the focus of the

oriented study are actually specified, the predominant ones are Portuguese and Mathematics.

Table 6. Combination of the offer of Oriented Study in SC with and without autonomy contracts.

SC	Combination of the Oriented Study Offer	Classes %
Without autonomy contracts	Unspecified	47.92
	Unspecified + Portuguese + English + Mathematics	14.14
	Unspecified + Portuguese + Mathematics	9.25
	Portuguese + Mathematics	8.11
	Portuguese + English + Mathematics	7.69
	Portuguese + English + History and Geography of Portugal + Mathematics + Natural Sciences	3.33
	Portuguese + English + Mathematics + Natural Sciences	1.56
	Unspecified + Portuguese + English + Mathematics + Expressions	1.35
	Unspecified + Mathematics	1.14
	Unspecified + Portuguese	0.94
	Portuguese + English + History and Geography of Portugal + Mathematics	0.83
	Unspecified + History and Geography of Portugal + Mathematics	0.73
	Portuguese + History and	0.73

Geography of Portugal + Mathematics + Natural Sciences	
Portuguese and English + History and Geography of Portugal + Mathematics and Natural Sciences	0.62
Portuguese + History and Geography of Portugal + Mathematics	0.42
Portuguese + English + History and Geography of Portugal + Mathematics and Natural Sciences	0.42
Unspecified + English + Mathematics	0.21
Unspecified + Portuguese + History and Geography of Portugal + Mathematics	0.21
Mathematics	0.1
Portuguese and History and Geography of Portugal + English + Mathematics and Natural Sciences	0.1
Portuguese and History and Geography of Portugal + English + Mathematics + Mathematics and Natural Sciences	0.1
Unspecified + Portuguese + English + Mathematics + Natural Sciences	0.1
Unspecified	35.43

Portuguese English Mathematics	+ +	14.57
Unspecified Portuguese English Mathematics	+ + +	12.99
Unspecified Portuguese Mathematics	+ +	11.02
Portuguese Mathematics	+	10.63
Portuguese English + History and Geography of Portugal Mathematics Natural Sciences	+ + + +	4.72
Portuguese English + History and Geography of Portugal Mathematics	+ + +	3.54
Portuguese Portuguese and History and Geography of Portugal + English + Mathematics	+ + + +	1.97
Portuguese English + History and Geography of Portugal Mathematics Expressions	+ + + +	1.18
Unspecified Mathematics	+	0.79
Unspecified Technologies	+	0.79
Unspecified Portuguese History and Geography of Portugal Mathematics	+ + + +	0.79
Portuguese English	+	0.39
Portuguese History and Geography of Portugal Mathematics	+ + +	0.39

Portuguese + English + Mathematics + Natural Sciences + Expressions	0.39
English + History and Geography of Portugal + Mathematics + Natural Sciences + Expressions	0.39

Source: CNE, 2017

Discussion and conclusions

The present study intended to appreciate the way in which Portuguese schools recontextualize the guidelines of the Ministry of Education, taking into account the elaboration of their school timetables for grade 5. The results show that, in general, the schools have little contextualized management of the time of instruction and the selection of knowledge for the curriculum. Furthermore, the schools that have more autonomy, through the contract made with the Ministry of Education, do not differ from the schools with no autonomy in this matter.

Thus, although curricular policies in the Portuguese context do not allow schools, in general, a substantial level of autonomy, the analysis of the weekly timetable of public schools suggests that they do reduced contextual management of the instruction time and the selection of knowledge to the curriculum.

In a country with a tradition of a strong centralized management, schools tend to follow political guidelines, putting in practice the Ministry of Education guidelines with a lower degree of recontextualization. The Official Pedagogic Discourse, when inserted in contexts of pedagogical reproduction, such as schools, seems to have been subject to a small level of recontextualisation processes, judging by the analysis of school timetables. This situation limits the potential space for educational change, due to the low degree of recontextualization suffered by the pedagogical discourse. It should be noted that the relations between the Ministry of Education and schools tend to be characterized, in a centralized model of curricular management, by strong classifications and framings regarding the *what* and the *how* of the Official Pedagogic Discourse. However, in a centralized model with curriculum flexibility, it is possible to consider situations of strong classifications and weak framings in some aspects of the relation, that is, some control is given to the school agents (Morais, Neves & Ferreira, in press; Neves & Morais, 2006).

The analysis of school timetables seems to show that the contextual management of the curriculum by the schools is not very clear. The predominant time unit that is selected by the schools is the 45 minutes. This time unit was the

one that was imposed in the prescribed curriculum in Portugal until 2012. From then on the schools can choose the unit of time. However, there are a residual number of schools that select other units or units of time differentiated by subject/disciplinary area.

Schools have flexibility to distribute time per subjects of each disciplinary area, within the established limits. However, the 95 minutes left over from the compulsory time of the prescribed curriculum is distributed, in particular, to equitably match the load of each discipline in multiple of the defined unit of time. This is a demonstration of the tenuous flexible management of the curriculum. Although in a reduced number of schools, Portuguese (mother tongue) and English (second language) are the privileged disciplines in terms of allocation of time, however they still follow the prescribed guidelines.

Portuguese, as well as Mathematics, have been valued knowledge in the prescriptive curriculum, since the Basic Education Act (1986) of the Portuguese Education System in terms of instructional time. That curricular weight was kept with the introduction of the Program for International Student Assessment (PISA) and with the introduction of the national external assessment focusing on these two subjects, from 2005 in the 9th grade and from 2012 in the 4th and 6th grades (Justino & Almeida, in press). English was made compulsory in the 1st cycle of elementary education, with the curricular changes of 2006 in Curriculum Enrichment Activities. In 2012, this subject begins to be compulsory in the 2nd cycle of elementary education, extending in a minimum of five years, and from 2014 the 9th grade students take the Preliminary English Test for Schools, designed and certified by the University of Cambridge. Thus, the "exam preparation" pressure has been steadily increasing in these three subjects.

The Extra Classes Study allows in some way to reinforce the knowledge of the prescribed curriculum, especially in the areas that have been most valued in terms of external assessment, such as Portuguese (as mother tongue) and Mathematics. In any case, national and international external assessments play a role of induction and valorization of Portuguese, Mathematics and English, with little space for other areas of knowledge to be decided "voluntarily" by schools. It should be noted, however, that the existence of an external school assessment system is particularly important in the context of a flexible curriculum management model, especially as a mechanism for regulating curriculum implementation (Morais, Neves & Ferreira, in press).

Schools have the possibility to select, within certain limits, some knowledge for the curriculum. This selection takes place from the non-disciplinary area of the Complementary Offer that may be applied to any scientific area or other. As evidenced by the results of the study, the overwhelming majority of schools offer civic education. In those cases, it seems that there is not a contextualizing of school knowledge to the characteristics of students and educational communities. These data reveal yet another aspect. Since the 80s of the twentieth century, the prescribed curriculum of Portuguese elementary education contains guidelines for the implementation of civic education with a transversal

character in all disciplinary areas but also operationalized in a disciplinary way. These guidelines varied throughout the curricular changes. In 2012, this non-disciplinary area was eliminated from the elementary education curricular framework. Thus, the Ministry of Education intended to reinforce the interdisciplinary dimension of civic education in the prescribed curriculum. In any case, there is a need in most schools to teach Civic Education in the scope of the Complementary Offer, which to a certain extent, reveals, as in other countries, the inability of Portuguese schools for disciplinary integration (Roldão & Almeida, in press, Morris & Chan, 1997).

The present study, centered on the analysis of school timetables, seems to reveal that curricular flexibilization policies are not yet implemented in school practices. The curricular autonomy allowed by the prescribed curriculum, although limited, has been little implemented by schools in the elaboration of school timetables. In future studies, it is important to characterize the relations of power and control in the relations between the Ministry of Education and schools, in a context of flexible management of the curriculum.

References

- Apple M., W. (1979). *Ideology and curriculum*. London: Routledge & Kegan Paul.
- Calado, S., & Neves, I. P. (2012). Currículo e manuais escolares em contexto de flexibilidade curricular: Estudo de processos de recontextualização. *Revista Portuguesa de Educação*, 25(1), 53-93.
- Calado, S., Neves, I. P., & Morais, A. M. (2013). Conceptual demand of science curricula: A study at the middle school level. *Pedagogies: An International Journal*, 8(3), 255-277.
- Bernstein, B. (1990). *Class, codes and control: Volume IV, The structuring of pedagogic discourse*. London: Routledge.
- Bernstein, B. (1999). Vertical and horizontal discourse: An essay. *British Journal of Sociology of Education*, 20(2), 157-173.
- Bernstein, B. (2000). *Pedagogy, symbolic control and identity: Theory, research, critique* (rev. ed.). London: Rowman & Littlefield.
- DEB (1999). *Gestão flexível do currículo*. Lisboa: Ministério da Educação.
- Eurostat (s.d.). *NUTS – Nomenclature of territorial units for statistics*. Retrieved from <<http://ec.europa.eu/eurostat/web/nuts>>.
- Ferreira, S., & Morais, A. M. (2013). The nature of science in science curricula: Methods and concepts of analysis. *International Journal of Science Education*, 35(16), 2670-2691.
- Ferreira, S., & Morais, A. M. (2014). Conceptual demand of practical work in science curricula: A methodological approach. *Research in Science Education*, 44(1), 53-80.
- Freire, P. (1971). *Pedagogy of the Oppressed*. Harmondsworth: Penguin.
- Gimeno, S. J. (2000). *O currículo. Uma reflexão sobre a prática*. Porto Alegre: Artmed Editora.

- Goodson, I. (1995). *The making of curriculum: collected essays*. (2.^a ed.). Washington: Falmer Press.
- Justino, D., & Almeida, S. (in press). International assessment, curriculum policy induction and instruction time management: lessons from Portuguese experience. *European Journal of Curriculum Studies*.
- Morais, A. M., Neves, I. P., & Ferreira, S. (in press). O currículo nas suas dimensões estrutural e interacional: Perspetiva de Basil Bernstein. In M. C. Roldão, J. Pacheco M. T. & Estrela (Orgs). *Estudos de Currículo*. Porto: Porto Editora.
- Morris, P., & Chan, K. K. (1997) Cross-Curricular themes and curriculum reform in Hong Kong: policy as discourse. *British Journal of Educational Studies*, 45(3), 248-262.
- Neves, I. P., & Morais, A. M. (2001). Texts and contexts in educational systems: Studies of recontextualising spaces. In A. Morais, I. Neves, B. Davies & H. Daniels (Eds.), *Towards a sociology of pedagogy: The contribution of Basil Bernstein to research* (pp.223-249). New York: Peter Lang.
- Neves, I. P., & Morais, A. M. (2006). Processos de recontextualização num contexto de flexibilidade curricular – Análise da actual reforma das ciências para o ensino básico. *Revista de Educação*, XIV(2), 75-94.
- Organisation for economic co-operation and development (1991). *Environnement, école et pédagogie active*. Paris: OECD/CERI.
- Organisation for economic co-operation and development (1993). *La réforme des programmes scolaires: l' évaluation en question*. Paris: OECD, CERI.
- Organisation for economic co-operation and development (1994). *The curriculum redefined: schooling for the 21st century*. Paris: OECD, CERI.
- Organisation for economic co-operation and development (1998). *Making the curriculum work*. Paris: OECD, CERI.
- Roldão, M. C., & Almeida, S. (in press). Conhecimento e currículo: Como se seleciona o conhecimento “relevante”? In M. C. Roldão, J. Pacheco M. T. & Estrela (Orgs). *Estudos de Currículo*. Porto: Porto Editora.
- Roldão, M. C., & Almeida, S. (in press). Avaliação de projetos curriculares numa rede de escolas portuguesas. Contextualização curricular: promessa ou oportunidade perdida? *Estudos em Avaliação Educacional*.
- Young, M. (2016). Por que o conhecimento é importante para as escolas do século XXI? *Cadernos de Pesquisa* (46)159, 18-37.
- Young, M. (2011). Curriculum Policies for a Knowledge Society? In Yates, Lyn & Grumet, Madeleine (Eds). *World Yearbook of Education 2011: Curriculum in Today's World: Configuring Knowledge, Identities, Work and Politics* (pp. 125-138). London: Routledge.
- Young, M. (1998). *The Curriculum of the Future. From the 'New Sociology of Education' to a Critical Theory of Learning*. London: Falmer.
- Young, M. (1971) (Ed.). *Knowledge and Control: New Directions for the Sociology of Education*. London: Collier Macmillan.