

GROUP WORK AS A FACTOR ENHANCING CURRICULUM INTEGRATION IN PRIMARY EDUCATION

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Abstract

In the current educational system, the 1st cycle of basic education (1st CBE) [year 1-4] is characterised as providing a comprehensive education, with the aim of achieving integrated and interdisciplinary knowledge, capable of developing basic skills in Portuguese, mathematics, science and social studies and artistic expression (Ministry of Education, 2004).

According to decree-law, n.º 241/2001 of 30 August, the 1st CBE teacher develops the respective curriculum, mobilising and integrating the scientific knowledge of the areas upon which it is based and the skills required to advance student learning. Therefore, strategies to motivate integrative activities, where students have the opportunity to share ideas, opinions, and experiences as well as possible solutions, should be sought.

The aim of this paper is precisely to understand whether methodology of group work can be an enabling strategy of 1st CBE curriculum integration. To this end, we sought to ascertain the opinion of teachers with regards to group work – whether they consider it important, if it is a common practice in implementing the curriculum and in which curricular areas it is used most often. We also wanted to examine whether teachers use group work as a strategy for curriculum integration in the classroom as well as the main difficulties they felt.

Empirically, we carried out descriptive research with a survey by questionnaire which was prepared for this purpose. It was applied to 1st CBE teachers working in a school group in the municipality of Viseu schools (central region of Portugal). This was a convenience sample of 43 mostly female (90.7%) teachers, aged between 30 and 59 years.

The data obtained showed that teachers attach great importance to the methodology of group work, but use it with variable frequency in their classroom teaching practice. They also indicate that group work, including pair work is a widely used strategy for curriculum integration in the 1st CBE. Nevertheless, some obstacles to this practice are identified as the

vast syllabus of the 1st CBE, importance given to preparing for exams and the excessive number of students per class.

These findings may be important to help envisage changes to the organisation of schools and teaching activities, counteracting the compartmentalised organisation by subjects which tends to persist in the 1st CBE.

Keywords: curriculum integration, group work, 1st cycle of basic education (1st CBE), teachers

1 Introduction

Schooling, under the Portuguese Educational System, unfolds in three levels: *i) basic education* – includes three sequential cycles, the 1st lasting four years, the 2nd two, and the 3rd three; *ii) secondary education* – includes one cycle of three years (10th, 11th and 12th grades) and; *iii) higher education* – includes education in universities and polytechnics.

The 1st CBE is marked by a global teaching approach aimed at developing basic skills, such as in the fields of Portuguese, Mathematics, Environmental Studies and Art, of universal and mandatory nature (Article 6 of Law n.º 46/86 of October – Bases Law of the Educational System).

The 1st CBE is based on education provided by only one teacher, using teachers specialized in given fields, as is currently the case of English Language. The teacher of the 1st CBE plays a paramount role in the development of a comprehensive view of knowledge, it being implied that it must allow for significant, socialization-oriented, and integrated learning covering varied subjects, as well as enable globally-oriented education, as noted by the ME/DEB¹, in *curriculum organization and programs: 1st cycle* (commonly known as *program of the 1st CBE*). In order to achieve this, it is important that the teacher manages the curriculum in an integrated manner.

1.1 The teacher and curriculum integration in the 1st CEB

As outlined in the specific profile of professional performance (Decree-Law no. 241/2001, of August 30th), the teacher of the 1st CBE develops the corresponding curriculum, within the scope of an inclusive school, mobilizing and incorporating the scientific knowledge of the domains that support it and the skills required to promote student learning, as well as

¹ Ministério da Educação/Departamento de Educação Básica (Ministry of Education/Basic Education Department)

develops learning, mobilizing in an integrated manner scientific know-how regarding the fields and curriculum content and individual and context-based constraints which influence learning. In addition, the teacher promotes learning of socially relevant skills, within the scope of an active and responsible citizenship, under the options of educational policy that are a part of the different dimensions of the integrated curriculum of this cycle.

Literature, considered as a whole, points toward the benefit of curriculum integration during student learning, as students share their own life experiences, thus establishing a connection between theory and practice, without segmentation, enabling integrated and interdisciplinary knowledge.

The *integrated curriculum* is, according to Beane (2002), a curriculum focused on covering the possibilities of social and personal integration, by means of the preparation of the curriculum revolving around important problems and issues, identified by teachers and the youth at school, without taking into account the borders of subjects.

Curriculum integration seeks to arrange the curriculum and knowledge in a way that they become more easily accessible and important to students, helping them to understand themselves and the world around them (Beane, 2002, 2003; Alonso, 2002). This integration presupposes that all areas of the curriculum, as well as other types of knowledge belonging to the personal and social spheres, are approached simultaneously, giving priority to the student for the construction of his own know-how.

Within the scope of schooling, the approach of problems, situations and events intrinsically contributes to a greater motivation of the student while benefits the internal task which promotes the establishment of connections among the types of learning, enabling the development of a meaning of knowledge while stimulating understanding and practice when new situations take place.

Therefore, the teacher is responsible for managing the curriculum, providing students with all resources necessary for the latter to develop know-how and skills which will turn them into active, critical and reflective people, able to fit in the current society, which is increasingly demanding.

Nonetheless, several difficulties must be pointed out in this regard. The arrangement of school textbooks by subject areas is one of the critical aspects, just as the segmentation of the current programs of the different subject areas of the 1st CBE which do not promote the establishment of connections between the various branches of knowledge.

In truth, although the relevance of curriculum integration is acknowledged, it is important to bear in mind that this is a comprehensive approach which involves significant changes in the pedagogic activities that the teacher is not always willing to perform. Implementing the curriculum integration implies changes in terms of the interaction between teachers and students, where democracy and collaboration have a place of prominence.

1.2 Group work and its relevance for curriculum integration

One of the educational strategies accepted as promoting learning of students in the 1st CBE is group work (Niza, 1998; Pato, 1995). Its fulfillment implies a preparation of the teaching/learning process different from traditional pedagogic models, highlighting the active participation of the student (Pato, 1995).

Group work is a type of cooperative work which is structured carefully, so that all students interact, share information and may be assessed by their work on an individual basis (Fathman & Kessler, 1993). It must be properly structured and enable that all participants “work with each other to make certain that everyone in the group has mastered the concepts being taught” (Slavin, 1995, p. 2).

Group work offers excellent benefits for participants, as it enables students which are ill at ease to set themselves free and cut loose, socializing with the other elements of the group. Students also learn to accept and/or respect the opinion of their classmates, enriching the work with the different points of view, making use of the talents of each one, where interest in research is stimulated (Slavin, 1995).

A work group may be formed spontaneously and quickly, or using techniques such as sequences, shared characteristics, specific themes, among other criteria, in order to create democratic, functional and cooperative groups (Castro & Ricardo, 1998). For that purpose, the teacher must be given theoretical and technical training, as well as constantly reflect on his/her experience, with the resulting readjustments.

Beside the formation of groups and supervision of functioning thereof, the preparation of learning requires the teacher to make a special effort and have a particular imagination, “implementation imposes varied roles on him/her and the field of assessment broadens and deepens” (Pato, 1995, p. 60).

Groups may be homogeneous or heterogeneous, have a varying number of elements, depending on the total number of students, their age and the nature of the tasks to be performed (Pato, 1995; Castro & Ricardo, 1998). The teacher must often use differentiated

work strategies and always in accord with the features of the group, so that group work is a means for learning for all participants therein (Reis, 2011).

Another aspect to take into account for group work is the necessary material conditions required for a successful performance of tasks. To start with, the classroom must have minimum conditions which make work possible. Tables must be arranged in a way that enables seating four or five students around each table, in order to allow the existence of a good intergroup dynamics (Pato, 1995).

There are also some physical obstacles to communication that must be overcome, such as the classroom's acoustics, the distribution of seats, the duration of the gathering, ventilation, temperature and lighting of the classroom, as well as the time of the day in which the class takes place. These obstacles are often the main cause for lack of motivation and disinterest (Johnson & Johnson, 2009).

Therefore, we can see that the methodology of group work, involving a group of people who work toward reaching a common goal, requires material conditions necessary for a beneficial operation and subsequent acquisition of knowledge and development of values on the part of students. Without proper resources that suit the required task, the outcome may not be the one which is expected.

Usually, research conducted points toward the benefit of group work for the motivation of the student in the acquisition of knowledge and the development of social skills, as it enables them to share ideas/opinions/interests and mobilize their life experience, and in this way it can contribute to curriculum integration.

Therefore, we drew up a research around the following problem: Is group work a strategy that is a catalyst for curriculum integration in the 1st cycle of basic education?

In order to answer this question, we also set some goals:

- i) Finding out the importance given to group work by teachers in the 1st CBE;
- ii) Checking if group work is used frequently by teachers of the 1st CBE during the implementation of the curriculum;
- iii) Identifying the subject areas in which group work is more used;
- iv) Analyzing the importance of group work for curriculum integration from the teacher's perspective;
- v) Learning the main difficulties perceived by teachers for curriculum integration in the classroom.

2 Methodology

2.1 Type of research

This research is aimed at finding out if group work is used by teachers of the 1st CBE as a catalyst of for curriculum integration, as well as the way in which it is used. To this end, a cross-sectional descriptive study (Fortin, 2000) was conducted, by means of the collection of the opinion and perception of the said teachers.

The implementation of this study was performed in two phases: the first was marked by the performance of a literature analysis, which enabled understanding what curriculum integration and group work are and to what extent group work can be used as a strategy to promote curriculum integration. In the second phase, we carried out data collection, by means of a questionnaire (Ghiglione & Matalon, 2005) administered to teachers, which enabled answering the problem mentioned above.

2.2 Sampling and corresponding characterization

Empirical research took place in a group of schools in the municipality of Viseu, being aimed at teachers of the 1st CBE (State Education), selected on the basis of easy access to the participants. It consists of a non-probability or convenience sample (Hill & Hill, 2000).

Questionnaires were handed over to all teachers of the said Group, totaling sixty-five forms. Nevertheless, we did not obtain an answer to all questionnaires delivered, and the sample that was formed included forty-three teachers.

The overwhelming majority (90.70%) of respondents are female, aged between 30 and 59 years, in which age groups between 40 and 49 years and between 50 and 59 years predominate (both with 46.51%). The vast majority of teachers (81.40%) has 20 or more years of service and holds a bachelor's degree as academic qualification.

2.3 Data collection tool

Given that we did not find any tool within the scope of this subject, a questionnaire aimed at teachers in the 1st CBE was prepared for that end, including open-ended questions and closed-ended questions of multiple choice, one using a Likert scale, in order to gather the essential answers to meet the goals previously set (Pardal & Lopes, 2011).

The tool we prepared is divided into two parts: the first is composed of five closed-ended questions on personal and professional data of respondents; the second part is composed of nine questions, including six multiple-choice questions and three open-ended questions.

For questionnaire monitoring and subsequent authorization of its implementation at schools, we submitted the tool to the Directorate-General for Education (DGE). The request was promptly accepted, including the information that it “meets the technical and methodological quality requirements for that purpose”.

2.4 Procedure

Beside the authorization request to the DGE mentioned above, permission was requested to the Management of the Group of Schools for the execution of the empirical study, with clarification of the context of the research project, as well as the corresponding goals. Teachers were also asked to give their informed consent during completion of questionnaires.

Following several measures, a specific date and time were set with one member from the management of the said Group, coinciding with a general meeting of the 1st CBE teachers. This facilitated the delivery and collection of questionnaires, which were answered and returned the same day.

2.5 Data analysis and processing

Following the data collection's conclusion, a work of systematization, analysis and interpretation of data, according to the questions arising from the research problem and respective lines of analysis was performed (Afonso, 2005).

Quantitative data was subject to a descriptive statistical analysis, through the calculation of absolute and relative frequencies expressed as a percentage, using the computer software program *Statistical Package for the Social Sciences* (SPSS) version 21.

For the analysis of qualitative data, resulting from open-ended questions, we used content analysis (Vala, 2001; Bardin, 2004). Following the guidelines of the quoted authors, we initially performed an exploratory reading of answers, so that we could afterwards create categories, in accordance with the recommended coding standards, and distribute the respective indicators.

3 Presentation and analysis of results

3.1 Importance attached to the group work methodology

Teachers have a quite positive opinion in terms of group work in the 1st CBE: 41.86% of the respondents find group work very important, 34.88% assess group work as being important

and 23.26% consider it extremely important. We also observed that none of the teachers surveyed marked the options little importance or unimportant.

This means that teachers are aware of the relevance of group work in the 1st CBE, taking into account its benefits in the development of interaction in the classroom (Slavin, 1995). Nevertheless, it is important to understand if this is a frequent practice in daily educational activities.

3.2 Frequency of use of group work

When surveyed on the use of group work in their educational activities, we verify that all teachers mention including group work in their classroom practice, although the frequency of its use varies: 44.18% mention that they use group work 1 to 2 times per week; 27.91% admit using this methodology 2 times per month and 18.60%, 1 time per month. Only three teachers (6.98%) state that they use group work every day.

Given the above, we can infer that there is still a reduced use of group work as a regular pedagogic strategy in some cases. Whereas some teachers use group work often (1 to 2 times per week), others use it sporadically, one to two times per month, choosing a pedagogic interaction focused on the teacher and on the class group.

This data makes us question if teachers have an in-depth knowledge of the steps which are deemed fundamental to implement group work in the classroom (Lopes & Silva, 2009), since there is empirical data showing the opposite (Guedes, Cardoso, & Rocha, 2014).

3.3 Curricular areas in which group work is used the most

Environmental Studies is the curricular area in which group work is used the most, being pointed out by 90.70% of surveyed teachers. It is followed by Portuguese, mentioned by over half of the respondents (55.81%), and then Mathematics, indicated by less than a third (30.23%) of teachers. Only a small percentage marked Artistic Expression and Education (13.95%) and Physical-Motor Expression and Education (9.30%) as fields in which they often use group work. Musical Expression and Education and Drama Expression and Education are areas in which respondents state they do not use the group work methodology.

This may be explained by the fact that Environmental Studies is a domain of experimental nature, in which it is important to resort to experience and practical experiences of students, in which it is easier to mobilize different branches of knowledge.

On the contrary, Musical Expression and Education and Drama Expression and Education were not identified as being approached through this methodology, perhaps due to the fact

that these subjects are not generally taught by teachers or that they are usually used to provide support to other subject areas, at least in the Portuguese context (Lameira, Cardoso, & Pereira, 2012).

3.4 Use of group work as a strategy for curriculum integration and substantiation

The vast majority of teachers (95.34%) mentions using group work as a strategy for curriculum integration, and only one teacher (2.33%) states not doing so.

Table 1
Reasons which account for the importance of group work for integration

Categories	Indicators	N	%
Development of learning	Autonomy	1	1.25
	Mentoring	3	3.75
	Interdisciplinarity	2	2.50
	Research	1	1.25
	Enrichment of learning	2	2.50
	Individual strategies	1	1.25
	Brainstorming	4	5.00
	Sharing	20	25.00
	Motivation	3	3.75
Subtotal		37	46.25
Personal and social development	Cooperative work	1	1.25
	Mutual respect	3	3.75
	Integration into a group	3	3.75
	Development of citizenship (acquisition of rules, knowing how to act at the right moment and adopt the right attitude)	5	6.25
	Promotion of socialization	10	12.50
	Mutual help	12	15.00
	Group spirit	1	1.25
	Social interaction	4	5.00
	Promote self-esteem and confidence of students which have more difficulties	3	3.75
	Improvement of relationships between good and less good students	1	1.25
Subtotal		43	53.75
Total		80	100.00

When asked to account for the relevance of group work for curriculum integration, teachers mentioned several reasons, which were classified through content analysis. Teachers account for the importance of group work by invoking two main types of reasons, the development of learning it enables and the personal and social development of students.

The category regarding *personal and social development* was mentioned by 53.75% of the surveyed teachers, being divided into the following indicators: Mutual help (15%), promotion of socialization (12.5%), development of citizenship (acquisition of rules, learning how to act at the right moment and adopt the right attitude) (6.25%) and social interaction (5 %).

The category regarding the *development of learning* covers 46.25% of the indicators, out of which sharing of knowledge (25%), brainstorming (5%) and mentoring (3.75%) are the most mentioned benefits (cf. Table 1).

As appears from the above, teachers mainly associate the importance of group work for curriculum integration to the personal and social development aspects of the student (sharing, mutual help, promotion of socialization, acquisition of rules, etc.), which is in line with what is advocated by the ME/DEB (2004), in the document “Curriculum Arrangement and Programs for Basic Education – 1st Cycle (Program for the 1st CBE).

3.5 Strategies to perform curriculum integration

Approximately half of the teachers (46.43%) point out group work (including work in pairs) as the most used strategy to implement curriculum integration. Nevertheless, other strategies are identified such as research (28.57%), reading, use of audiovisual material and project work (each with 7.14%) and problem solving in an interdisciplinary manner (3.57%).

This result may be easily understood if we consider that work in pairs does not affect the arrangement of the classroom (the traditional arrangement of school tables is maintained), as well as by the fact that it is easier to work with groups composed of two students and provide individual support to the group. Despite of the importance attached to group work, teachers point out other strategies, such as research which is an inclusive activity which enables students to develop contextual and meaning learning (Alonso, 2002).

3.6 Difficulties in performing curriculum integration

A large proportion of the surveyed teachers agrees (41.86%) or totally agrees (23.26%) that the comprehensive curriculum of the 1st CBE is an obstacle to the implementation of curriculum integration.

On the contrary, a large proportion of teachers totally disagrees (41.86%), or disagrees (25.58%), stating that the lack of appropriate training is an obstacle to the materialization of curriculum integration (cf. Table 2).

Table 2
Difficulties in performing curriculum integration

Difficulties	Totally disagree		Disagree		Neither agree or disagree		Agree		Totally agree		Did not answer	
	N	%	N	%	N	%	N	%	N	%	N	%
The comprehensive curriculum of the 1st CBE	2	4.65	1	2.33	10	23.26	18	41.86	10	23.26	2	4.65
Lack of appropriate training	18	41.86	11	25.58	7	16.28	3	6.98	1	2.33	3	6.98
Distribution of the number of hours, per subject areas	1	2.33	5	11.63	12	27.91	15	34.88	7	16.28	3	6.98
Heterogeneous classes	1	2.33	7	16.28	6	13.95	16	37.21	9	20.93	4	9.30
Excessive number of students per class	1	2.33	3	6.98	9	20.93	16	37.21	10	23.26	4	9.30
Importance attached to the preparation for exams	0	0	4	9.30	8	18.60	16	37.21	12	27.91	3	6.98
Lack of resources	0	0	10	23.26	13	30.23	15	34.88	3	6.98	2	4.65
Other												

In general, and with similar percentages, teachers agree that the importance attached to the preparation of exams (65.12%), an excessive number of students per class (60.47%), heterogeneous classes (58.14%) are obstacles to their implementation of curriculum integration.

The lack of resources gives rise to some divergence of opinion, where part of the teachers agree (34.88%), another part is undecided (30.23%) and another part disagrees (23.26%) that this is an obstacle that must be taken into account when it comes to carrying out curriculum integration (cf. Table 2).

Data show, therefore, that there are various constraints to the implementation of curriculum integration, out of which the comprehensive curriculum of the 1st CBE stands out. Nevertheless, when provided with the data shown above, a significant percentage of surveyed teachers claim to totally disagree with the lack of appropriate training.

4 Conclusion

Curriculum integration is a topic which is worthy of note, given its importance for the quality of the teaching/learning process, in particular in the 1st CBE which presupposes socialization-oriented, significant and integrated learning covering varied subjects (ME/DEB, 2004). At this level of education, in particular, the teacher must have a greater concern in developing inclusive activities able to create conditions which increase the activities of the student and promote his/her personal and social development.

In this study we sought to find out the perception of teachers of the 1st CBE on group work and its relevance for curriculum integration. We verified that teachers have a positive opinion regarding group work and that it is a strategy which they use, although the frequency of its use varies, in the classroom, and none of the respondents mentioned not using it.

Regarding the issue on which this study is focused, if group work is a strategy that serves as a catalyst for curriculum integration in the 1st CBE, we were able to observe through the analysis of the data collected that group work is considered important by nearly all surveyed teachers as a strategy that serves as a catalyst for the implementation of curriculum integration. Nonetheless, not all teachers implement it with the same frequency nor attach it the same importance.

This suggests the existence of a mismatch between the notions of teachers and their practices, which may be partly understood for reasons identified at work, such as the comprehensive curriculum of the 1st CBE, the importance attached to preparation for exams, the excessive number of students per class, the distribution of the number of hours per subject areas and heterogeneous classes.

It should be highlighted that all difficulties pointed out by teachers are external to the teacher, and the majority of them disagrees that the lack of training is a difficulty to the implementation of curriculum integration.

Nevertheless, it remains important to invest in training enabling a greater exploration of the theme regarding curriculum integration and its potentialities, as well as deepening the use of

group work, reflecting on its advantages, possibilities and care in terms of its implementation in the classroom.

It would also be important to introduce changes in school organization in order to strengthen the collaborative action of teachers, in particular when developing common projects, enabling the promotion of inclusive activities which mobilize knowledge from the various subject areas of the 1st CEB.

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References

- Afonso, Natércio (2005). *Investigação naturalista em educação: Um guia prático e crítico*. Porto: Edições Asa.
- Alonso, Luísa (2002). Para uma teoria compreensiva sobre a integração curricular: O contributo do projeto "Procur". *Infância e educação: Investigação e Práticas*, Revista do GEDEI, 5, 62-88.
- Bardin, Laurence (2004). *Análise de conteúdo* (3.^a ed). Lisboa: Edições 70.
- Beane, James A. (2002). *Integração curricular: A concepção do núcleo da educação democrática*. Lisboa: Didáctica Editora.
- Beane, James A. (2003). Integração curricular: A essência de uma escola democrática. *Currículo sem Fronteiras*, 3 (2), 91-110.
- Castro, Lisete, & Ricardo, Maria Manuel (1998). *Gerir o trabalho de projecto: Um manual para professores e formadores* (5.^a ed.). Lisboa: Texto Editora.
- Fathman, Ann K., & Kessler, Carolyn (1993). Cooperative language learning in school contexts. *Annual Review of Applied Linguistics*, 13, 127-140.
- Fortin, Marie-Fabienne (2000). *O processo de investigação: Da concepção à realização* (2.^a ed.). Loures: Lusociência.

- Ghiglione, Rodolphe, & Matalon, Benjamin (2005). *O inquérito: Teoria e prática* (4.^a ed.). Oeiras: Celta Editora.
- Guedes, Carla, Cardoso, Ana Paula, & Rocha, João (2014). The methodology of group work in Environmental Studies: Perceptions and practices of teachers and students of the fourth grade of basic education. In Feliciano Veiga et al. (Orgs), *Atas do I Congresso Internacional Envolvimento dos Alunos na Escola: Perspetivas da Psicologia e Educação* (pp. 1161-1170). Lisboa: Instituto de Educação da Universidade de Lisboa. ISBN: 978-989-98314-7-6.
- Hill, Manuela, & Hill, Andrew (2000). *Investigação por questionário*. Lisboa: Edições sílabo.
- Johnson, David, & Johnson, Frank (2009). *Joining together: Group theory and group skills* (10th ed.). Boston: Allyn and Bacon.
- Lameira, Rosa, Cardoso, Ana Paula, Pereira, João (2012). Perceção dos professores sobre o lugar e a presença da Expressão Plástica na Escola do 1.º Ciclo do Ensino Básico. *Revista Portuguesa de Pedagogia*, 46 (2), 49-67.
- Lopes, José, & Silva, Helena Santos (2009). *A aprendizagem cooperativa na sala de aula. Um guia prático para o professor*. Lisboa: Lidel.
- ME/DEB (Ministério da Educação/Departamento de Educação Básica) (2004). *Organização Curricular e Programas do Ensino Básico – 1.º Ciclo*. Mem Martins: Departamento da Educação Básica.
- Niza, Sérgio (1998). A organização social do trabalho de aprendizagem no 1.º CEB. *Inovação*, 11, 77-98.
- Pardal, Luís, & Lopes, Eugénia (2011). *Métodos e técnicas de investigação social*. Porto: Areal Editores.
- Pato, Maria Helena (1995). *Trabalho de grupo no Ensino Básico: Guia prático para professores*. Lisboa: Texto Editora.
- Reis, Pedro (2011). *Observação de aulas e avaliação do desempenho docente*. Cadernos do Conselho Científico para a avaliação de professores - 2. Lisboa: Ministério da Educação.
- Slavin, Robert (1995). *Cooperative learning theory, research and practice* (2nd ed.). Boston: Allyn and Bacon.

Vala, José (2001). A análise de conteúdo. In Augusto Santos Silva & José Madureira Pinto (Orgs.), *Metodologia das Ciências Sociais* (11.ª ed.) (pp. 101-128). Porto: Edições Afrontamento.