Resumo: em pesquisa recente sobre as características de práticas docentes em ciências humanas no primário, nos questionamos sobre o lugar e o papel que os materiais didáticos ocupam nas práticas de ensino implementadas pelos futuros professores em contexto de estágio. Quais materiais didáticos são privilegiados? Como são utilizados? Quais são as razões que justificam a escolha de tais materiais? Dados provenientes de entrevistas semiestruturadas e de observações diretas em sala de aula revelam que os futuros professores recorrem principalmente ao livro didático, que serve tanto como suporte na fase de planejamento como fonte de informação e apoio visual na fase interativa da intervenção educativa. Eles recorrem também ao livro de atividades do aluno e às folhas de exercícios produzidas por eles mesmos como uma fonte de exercícios para o desenvolvimento da aprendizagem do aluno. Além disso, esses materiais seriam escolhidos - e seu uso considerado satisfatório - especialmente pelo seu potencial para motivar e despertar o interesse dos alunos.


This article identifies the importance of teaching materials and determines the role future primary-school teachers - who currently are trained according to the new primary school curriculum - attribute to these materials in their practive of teaching human sciences. In our definition, teaching materials are all material resources used directly in the teaching of a course (human sciences in this case) and that support its teaching and learning. These materials can be book series that vary...
from studentbooks and teacher pedagogical guides, to student activity handbook, maps, world globes and atlases, timelines and chronological axes, games, and different types of illustrations. Therefore, it is the set of material resources that will be made available to students to help teachers reach the learning outcomes established. As a result, teaching materials are education tools necessary and indispensable to the teaching intervention and are closely associated with the didactic and pedagogical mediation characteristics of the teacher.

Given the outdated underlying guidelines of the school-curriculum implemented in 2001, the Québec Government moved to re-define the concept of teaching materials and to revise the criteria used to assess and approve these to introduce stronger scientific rigour and to propose more dynamic learning strategies (GOUVERNEMENT DU QUÉBEC, 2007). Currently, the Ministry of Education of Québec expects teaching materials to perform five major roles: interpret the study program; support both teaching and learning processes; serve as a reference to the students and to those who assist them in their socio-familiar environment; provide a means to transfer culture; and, provide a means to promote social and cultural values.

In addition, many studies conducted in the past twenty years suggest that teachers place great emphasis in teaching materials and use these frequently in their teaching intervention (ARAÚJO-OLIVEIRA, et al, 2006; LEBRUN, 2001; LEBRUN e LENOIR, 2001; LENOIREt al., 2007; SPALLANZANI et al, 2001). This abundant use of teaching materials in teachers’ teaching intervention is based not only on the “great promises of providing stimulus and support to students’ learning process,” as noted by Van den Akker (2007, p. 136), but moreover on the “support they provide to teachers when these are faced with curriculum changes”.

Teaching materials are tools that cannot be dissociated from educational interventions. On the one hand, they perform an important mediatory role between the prescribed curriculum and the teachers, and on the other hand, between the students and the objects of their study (D’ÁVILA, 2001; GOUVERNEMENT DU QUÉBEC, 2007; LEBRUN, 2002; SPALLANZANI et al., 2001). Planning, explaining, reading, giving examples, illustrating ideas or a historic event, seeking information, answering exercises—these are examples of some of the ways in which teachers and students use these tools in the classroom.

However, it is important to empathize that regardless of how indispensable it may be, teaching materials do not hold in and of themselves
any particular power. First and foremost, it is the teacher’s reference framework, their appropriation, and the role attributed to the teaching material by those involved in the teaching-learning process that will determine the teaching materials’ real role, and consequently, the influence these will have on the teaching and learning of a course. For example, if in his or her human sciences teaching practise a teacher favours the use of a traditional tool such as “explaining-applying” (Rey, 2008), the teaching material will be used either to present an element of knowledge (e.g., telling a historical event, describing the physical characteristics of a landscape, etc.) or as a tool containing a series of questions or problems to which the student should apply his or her acquired knowledge and information (e.g., an activity sheet with questions, an exercise he or she must complete, etc.)

On the other hand, if the teacher resorts to using a constructivist tool of the type “problem-comprehension-application” (Ibid.), this teacher will use the teaching material in a very different way. In this case, the teaching materials may support both the identification of the problem around learning (e.g., identify the parameters around a problem to be resolved, ask questions, develop hypothesis, etc.), but, just in the same manner, aid in the planning of an investigation, the gathering of the information required, the questioning of the information gathered, and the development of a summary that follows. In this case, teaching materials no longer perform the role of controlling the learning process (as traditionally seen), but first and foremost, it performs the role of regulating, supporting, guiding the cognitive process that students will establish regarding a certain object of knowledge.

Although a large number of studies have focused on analyzing the inherent characteristics of this type of teaching tool—noting their strengths and limitations when it comes to teachers’ intervention and to the cognitive processes performed by students (LEBRUN, 2002; LEBRUN, LENOIR e DESJARDINS, 2004; SPALLANZANI et al., 2001), one must recognize that the actual use of teaching materials in the classroom remains rather undocumented by the education scientific community, particularly in the field of human sciences. What do future teachers use teaching materials for in their human-sciences classes? How are these materials used and for what? Based on what criteria do future teachers choose these materials? Are they satisfied with their choices? What are the main challenges they face when using such materials?
Methodology

To answer these questions, even if in part, we followed the school activities developed by nine future-teachers undergoing the 4th and last year of training in a francophone university in Québec to teach primary-school students. The sampled teachers are primarily made up of eight women aged 22 to 27 years-old with college education (two years of training between high-school and university education) in human sciences. This is a convenience non-random sample made up of subjects who freely and voluntarily agreed to participate in this study (voluntary sample).

Data samples were collected in three consecutive and interlinked moments. First, the future teachers participated in an individual interview (planning interview), in which they presented a teaching-learning activity they had planned. This interview was followed by a direct in-class period of observation of this same activity (video recorded). After the in-class observation, a second interview (retrospective reflection) that touched on the actions was held with each participant.

Once the interviews and observations were finalized, we first proceeded to prepare a corpus of data, i.e., the transcription of the planning interviews, the retrospective reflection on the actions, the words used by the participants in the classroom, all verbatim, and then the conversion of the recorded audiovisuals to a format compatible with the software used to process the images and sound. Second, we read the verbatim of the recorded activities several times to immerse ourselves with the material collected and perform a preliminary data analysis. Last, we coded the text data of the interviews using the software Nvivo and the audiovisuals using Trasana. This coding stage was concluded by compiling the numbers of the different theme categories used to generate a general list of converging elements found in the verbatim recorded and in the actions carried out by the future teachers. These are the converging elements that will be presented and discussed in the remainder of this article.

Results and Interpretation

Teaching Material Used

Regarding the use of teaching materials by future teachers teaching human sciences in primary schools, the analysis of the results indicates, first, that basic materials prevail in usage, among which we highlight
the extensive usage of teaching books and teacher’s pedagogical guides. As previously indicated, the basic teaching materials are teaching series produced by publishers (which normally include the teacher’s teaching guide, the student handbook, and one or several activity handbooks) as well as currently used reference materials such as dictionaries, grammar books, and atlases. Such materials are used by future teachers both in the preparatory stage (e.g., to provide pedagogical tips and guidance in preparing classes), in the interactive stage of the intervention (e.g., giving examples, asking questions, illustrating ideas or an information presented to students, etc.) as well as by the students during class (e.g., reading a text, seeking answers to the proposed questions, completing exercises, observing illustrations, analysing maps, etc.).

These results are similar to those of investigations carried out in the past 20 years (ARAÚJO-OLIVEIRA et al., 2006; LEBRUN, 2001; 2002; LEBRUN; LENOIR, 2001; LENOIR et al., 2007; SPALLANZANI et al., 2001). These studies, which from a longitudinal perspective, bring to light the relationship that teachers and future teachers establish with the teaching materials, suggesting that they attach great importance to different support materials to teaching books in a very particular manner, and that they frequently use these books in the context of their educational intervention.

However, although teaching books are an important source of mediation - on the one hand between curricula and teachers and, on the other hand, between students and the knowledge they are confronted with in their learning, it is important to keep in mind that these materials have serious limitations, such as rigid learning procedure, decontextualized knowledge that lacks in problem identification, conceptualization, knowledge production process - which often times presents information as absolute truths, etc. (LEBRUN, 2002; SPALLANZANI et al., 2001). As we indicated in a previous publication:

*The teaching books, which normally follow a rigid structure that the student must follow to acquire the so-called essential knowledge, the teaching books approved by the Ministry of Education of Québec to teach human sciences in primary school are, as a whole, little adapted to the currently proposed approach to teach human sciences—which is based on the construct of knowledge by the students themselves* (LEBRUN; ARAÚJO-OLIVEIRA, 2009, p. 248).
As a result, even though teaching books go through a robust evaluation and approval process by the Ministry of Education - which, in association with mass publicity campaigns by books publishers could lead to the belief that these were developed according to the guidelines and basic principles of the primary education curriculum - teaching books and teachers’ pedagogical guides that accompany, as several recent analyses indicate, these books are almost always disconnected from the prescribed guidelines for the primary education curriculum (LEBRUN, LENOIR E DESJARDINS, 2004; LEBRUN, 2001; 2002; 2009). Therefore, the use of teaching books only without thinking critically about its content can, to a certain extent, significantly limit the impact of the educational intervention to the students’ intellectual building of their human and social realities.

The results suggest, in the same way, that the didactic resources built by future teachers are used to a lesser but also significant extent (e.g., posters, information sheets, exercise sheets, etc.). In fact, several future teachers stated that to avoid remaining “glued to” teaching books on an on-going basis—which according to them would not be very stimulating and interesting to the students—, often times they chose to build their own teaching materials. But why do future teachers resort to building their own teaching materials? Would it be because they recognize, to a certain extent that books on human sciences have several gaps, as noted by different studies mentioned above? Would it be a consequence of the lack of resources to teach this course (as indicated by the future teachers who participated in the interview)? Or, perhaps, the outcome of the practical training in the school environment?

It is hard for us to unequivocally state whether the choice made by future teachers to produce their own teaching material is the result of one or another of these hypotheses or of all three of them. However, as this type of material does not undergo any type of third-party evaluation, the fact that they are abundantly used raises several questions relating to their adequacy to the teaching-learning process in human sciences. Are the materials produced by the future teachers in line with the learning objectives and competencies that must be developed in human sciences in primary school? Are they in line with the proposed learning strategies? To what extent do these materials become subject of reflection and analysis at the core of the teachers’ training at the university level?
Teaching Material Mode of Use

Second, our analyses revealed that the nature of the teaching material used by future teachers is of little importance (basic or built by themselves); the way in which this material is used in the teaching of human sciences is essentially the same. To perform educational interventions in human sciences, future teachers resort, on the one hand, to the school manual, which works as both an important source of information to be transmitted to students or discovered by them, and as visual aids to activities based on the observation and analysis of images and illustrations; on the other hand, future teachers often resort to student activity handbooks and exercise sheets they developed themselves. These two tools were used as an important source of exercises to promote and control student learning.

In fact, the dyad teaching book-exercise handbook/exercise sheet set the pace of most of the activities we observed in the classrooms. The teaching book is used primarily in the introductory stage to recall previously acquired knowledge and express preconceived ideas relating to the subject at hand; it is also used during the execution stage to present information on the subject matter (the corpus of knowledge to be acquired) and to observe and describe different images. On the other hand, exercise sheets or activity handbooks come into play particularly during the stage of integration and relate to actions that aim at proposing different exercises to check the student comprehension of an element that was explained by the teacher or read directly from a teaching book.

The fact that future teachers use teaching materials at key teaching stages support, to a certain extent, the findings of previous research conducted by us (ARAÚJO-OLIVEIRA et al, 2011) which demonstrate that the knowledge acquired through the activities conducted by future teachers in primary schools is of a superficial nature. These activities resort much more often to a teaching methodology that resembles much more the traditional approach “explanation-application,” or from a behaviourist perspective, the type “observation-comprehension-application,” having very little similarity with a constructivist-type approach, in which an elaborate discussion of an aspect of the true-human and true-social represents the cornerstone of the entire learning process (REY, 2008). In this sense, teaching materials, particularly teaching books, have an essential role in the application of these approaches.
Reasons behind the choosing of the material

Third, it was also possible to observe that the materials are chosen, on the one hand, based on their potential to serve as a source of inspiration to the planning and practice of future teachers (e.g., offer suggestions for activities, learning examples and evaluation of situations, illustrate an idea, historic event, etc.) and, on the other hand, on their capacity to interest and stimulate students (e.g., be interesting to the students, be stimulating, pleasant, beautiful, etc.). In fact, few of the reasons presented to justify choosing such materials relate to the importance these would have as mediating agents among students and a facet of the human and social realities set as the object of learning. Therefore, we are led to infer that materials are seldom chosen for their characteristics and nature that is appropriate to the knowledge to be acquired in the planned teaching-learning situations.

According to our findings after the post-observation interviews, the retrospective reflection made by future teachers about the materials used during activities also brings to light that little mention was made about the knowledge involved in the planned activities. A posteriori, future teachers emphasized in particular the potential that the chosen materials have to motivate and interest primary school students; to those who declared being satisfied with the material used, to a great extent this satisfaction relates to the positive characteristics that pertain to the materials themselves (e.g., beautiful, attractive, colourful, fun, etc.) and to their capacity to spark students’ interest and motivation. Similarly, according to our findings, the teachers who demonstrated a level of dissatisfaction with the material used did so mainly because the materials inherent characteristics did not spark the interest and motivate students to participate in the proposed activities and tasks in an active manner.

The importance of using materials that are beautiful, attractive, fun to explore, etc. - as indicated by future teachers - and that drive teachers to choose certain materials and disregard others is, to a certain extent, associated with the findings of our previous study Relationship Between the Practises Adopted By Future Teachers of Primary School and School Materials: Practices of Appropriation or Determination of Practices? The findings regarding the criteria for choosing teaching books indicated that the choices are based on aspects that we can classify as “formal attributes or characteristics of a teaching book.” In fact, more than half of the segments identified in the explanations of 348 future teachers from
four francophone universities in Québec refer mainly to the attractive presentation of this type of material (quality paper, pictures, attractive drawings, stimulating to students, colourful, etc.). The criteria relating to the materials’ contribution to the learning and teaching processes came up as an added attribute and can be found in the explanations of only 25 percent of the future teachers who participated in this study.

This finding is in line with other studies that assessed also the analysis of the practices of teachers and future teachers of primary school (DESSUS e CARPANÈSE, 2003; GERVAIN, 2005; LEBRUN e LENOIR, 2001; SPALLANZANI et al., 2001). It highlights, among others, the fact that when describing their teaching practice, future teachers rarely make reference to knowledge; in fact, they dedicate most of their classroom time to the social, affective, organizational, and psycho-pedagogical dimensions of the educational intervention, and that their daily practice suggest that there is an implicit paradigm according to which the constructivist approach would be limited to placing students at the core of the teaching-learning process to motivate and ensure their active participation in the classroom; however, at the end of the day, that leads to the transmission of a corpus of pre-existing knowledge that does not depend on the students’ existence or actions in and around the world.

To this effect, a teaching intervention centred exclusively on teaching materials (particularly on teaching books), chosen mostly because of their deemed positive intrinsic characteristics, and, to lesser extent, because of the important role they play in supporting the mediatory process-to be established between the students and the knowledge that will be developed—can also contradict the very reason for this course: to build the human and social realities. Regarding this, we can highlight at least three reasons that would explain such a contradiction.

First, the use of teaching books during the preparatory stage of the educational intervention to develop the teaching-learning situations that will be lived in human-sciences classes can predefine and crystallize teaching actions and, therefore, limit the important mediatory role that teachers perform in the cognitive process that is established between the student and the object of knowledge. According to Borne (1998), given that teaching books offer “apparently, all elements required to build knowledge, it could replace the teacher given that it contains not only the knowledge, its development, and even the verification of its appropriation” (p. 15).

Second, given that the practices in human sciences are widely centred on the transmission of a corpus of factual knowledge about society
and the culture of the students, resorting to a model that oscillates between “transmission-application” and “observation-comprehension-application” by using almost exclusively this type of material could lead students to consider knowledge, first and foremost, as data that pre-exists the human subject and that bears no relationship with his or her existence and cognitive actions. Consequently, students believe that this data must be “ingurgitated” and not built from an intellectual perspective.

Third, the emphasis placed onto the teaching book as “the” teaching tool may also limit the cognitive work of students - a work that is essential to the building of his or her world, as proposed by the primary school human-science curriculum - as they must take ownership of a prefabricated world-view conveyed by the teaching book, without necessarily immersing him or herself in the process of conceptualizing the human and social reality.

However, once again it is important to highlight, at this point that the fact that teaching materials (particularly teaching books) are submitted to a rigorous assessment by the Ministry of Education could lead teachers to believe that these materials are built according to the current guidelines for teaching human sciences, and therefore, that they are pertinent in both significant content and learning strategies. Given that this belief appears to be shared by future teachers who participated in this research, the little reference made to the knowledge to be built would, consequently, be somehow justified. That because if one starts from the premise that the proposed content is pertinent and appropriate, future teachers can make their choices focused on the “formal” aspects of such materials without having the impression that the learning aspect is being neglected.

Challenges relating to the use of the material

Despite the fairly high level of satisfaction, several future teachers indicated that they have encountered certain challenges when using the chosen materials. Some of these challenges relate to the materials’ inadequacy to the level of student cognitive development (e.g. texts that are too long and challenging to grade 6 students, maps of Canada or Québec that are difficult to understand, etc.), and some to the limited availability of materials for teaching this course; however, the most relevant of the challenges relates to the competency of the future teachers themselves and to their lack of familiarity and/or skill to use the material chosen - or made available to them by the practicing teachers.
who take them in as interns and follow them in the training practice, in a convenient and relevant fashion.

In fact, it is interesting to note that no important measure has been taken to prevent or overcome the challenges faced by future teachers. On the other hand, future teachers indicated that they intend to become more attentive to the challenges relating to the use of technical materials when the time comes, and that when it comes to human sciences, they have to plan their future teaching-learning situations.

Although such indication may be evidence of a raised awareness and, to a certain extent, of a reinvestment in their future actions based on the retrospective analysis, these results lead us to question, among others, the capacity that future teachers have to look at teaching materials used in the classroom as well as the role of those who train future teachers (university professors, but also teachers in the school environment) with a critical eye when it comes to the selection and use of these materials.

Conclusion

As we conclude this discussion, it seems important to us to highlight the indispensable role of teachers and future teachers when it comes to selecting and using teaching materials in educational interventions in human sciences. As previously noted, if teaching materials are an indispensable tool to teachers’ educational intervention - a mediation, guidance, regulation, support tool - in and of itself, when it comes to teaching human sciences they carry no specific powers, particularly if we take into account the fact that teaching materials rarely ever are in line with the curriculum guidelines and basic principles.

In our opinion, the teaching book is nothing but a tool for teachers, just as knives are to butchers. The latter uses the knife to cut meat in different styles (French cut, thick cut, steak-like cut, striploin, etc.). The knife is nothing but a work tool. It is the way the butcher uses the knife that sets the tone and determines how the meat will be used. Just as, according to the prescriptions and guidelines of the human-science curriculum of primary schools, the selection and use of teaching materials require some rethinking, the same applies to the role that the trainers of future teachers should perform, particularly given that, as demonstrated in a previous publication relating to knowledge and use of teaching books by future primary teachers in Québec (ARAÚJO-OLIVEIRA et al., 2006), according to future teachers their university trainers have very limited influence on
them when it comes to choosing and using teaching materials in their daily practice. Do future teachers conduct, before class, an analysis of the teaching resources to be used and identify their limitations to introduce required changes aiming to adapt these resources to the concrete reality of their classes and to the level of social-cognitive development of their students? How have teachers’ initial training, particularly their training in teaching human sciences, contributed to developing a critical eye when it comes to teaching and using these resources?

The results presented here and their analysis are far from allowing us to answer these questions in a satisfactory and definitive way. It is worth highlighting the importance of keeping these results in mind for future research, because at the core of these questions lies the central reason for teaching human sciences, for determining where it stands, and what is its role in the educational process of human beings, and consequently, for the important mediatory role teaching materials perform between the prescribed human sciences curriculum-and the teachers who must put this curriculum into action in their daily practice- and between students and the knowledge of the courses they will be confronted with in their school-learning journey.

USAGE OF TEACHING MATERIALS TO TEACH HUMAN SCIENCES IN PRIMARY SCHOOL

Abstract: In a recent study that investigated the characteristics of the teaching techniques applied to teaching human sciences to primary school students, questions were raised regarding the place and role of teaching materials in the practise of teaching used by future teachers during their internship. What are the preferred teaching materials used? How are these materials used? Why are these materials chosen? Data from semi-structured interviews and direct classroom observations indicate that future teachers resort mainly to teaching books, which are used both to support the planning of the teaching stage, by providing future teachers with a source of information, and as a source of visual support during classes. Future teachers also resort to student activity books and to work sheets they develop to guide the exercises to further student learning. Also, these materials are supposedly chosen mostly because of their potential to motivate and spark the interest of the students, and to this end they were considered satisfactory.

Keywords: Teaching material. Human sciences. Primary teaching. Future teachers.
References


LEBRUN, J.; LENOIR, Y; DESJARDINS, J. Le manuel scolaire réformé ou le danger de l'illusion du changement: analyse de l'évolution des critères d'évaluation des manuels.

