

Jean Simonneaux and Alain Legardez

The Epistemological and Didactical Challenges Involved in Teaching Socially Acute Questions. The example of Globalization.

Teachers are being asked to manage a specific didactic situation which falls into the category of what we have proposed to call “socially acute questions (SAQs)”. A SAQ is a question which is acute in society, in background knowledge and in knowledge taught. Thus, teaching SAQs demands socio-epistemological reflexivity in the processes of knowledge production and in the social conditions in which this knowledge emerges; teaching SAQs will give priority to interdisciplinary, scientific and ethical reasoning. The split between ideology and science can certainly be examined when considering a socially acute question which is the subject of debate in society. In the example of the globalization taught: the diversity of analysis in the economic domain gives rise to great uncertainty because it justifies practically opposing policies; within a transdisciplinary framework, the globalization includes concepts, ideologies or social practices in a double movement of standardization and differentiation. By way of SAQs, we have attempted to show that learning stakes are numerous. However didactic choices must be supported by socio-epistemological survey, the identification of an epistemological posture and the definition of a didactic strategy.

Les enseignants sont appelés à gérer une situation didactique spécifique dans l’enseignement des «questions socialement vives (QSV) ». Les QSV sont des questions qui donnent lieu à débat dans la société, dans les savoirs scientifiques et dans l’enseignement. Ainsi, l’enseignement des QSV nécessite une réflexivité socio-épistémologique dans le processus de production du savoir et dans les conditions sociales d’émergence de ces savoirs; l’enseignement des QSV donnera la priorité au raisonnement interdisciplinaire, scientifique et éthique. La scission entre l’idéologie et la science peut être examinée lors de l’examen d’une QSV qui fait l’objet d’un débat dans la société. Dans l’exemple de l’enseignement de la mondialisation: la diversité des analyses économiques donne lieu à une grande incertitude en justifiant des politiques quasi-opposées; dans un cadre transdisciplinaire, la mondialisation recouvre des concepts, des idéologies ou des pratiques sociales dans un double mouvement d’uniformisation et de différenciation. Nous avons tenté de montrer que les enjeux de l’apprentissage sont nombreux dans les l’enseignement des QSV. Les choix didactiques doivent être soutenues par une enquête socio-épistémologique, l’identification d’une posture épistémologique et la définition d’une stratégie didactique.

Keywords

Socially Acute Questions, education, globalization, transdisciplinarity, epistemological posture, didactic strategy

Introduction

Over the years, globalization, has been interpreted in many, sometimes very different, ways and has generated heated debate. Media coverage of socio-political events (the G20, the Annual Meeting of the World Economic Forum in Davos, the World Social Forum, the hunger riots...) or economic events (Chinese imports, factory closures...) rekindle the issues connected to globalization. When faced with the current social-economic questions, different groups offer differing opinions and solutions. For example, in France recently, the introduction of a carbon tax caused a huge debate which was relayed by the press. Likewise, and for a lot longer, issues linked with globalization have given rise to many, sometimes very different, interpretations and fuelled heated discussions (e.g. on the problems of offshoring or the recent financial crisis). When it comes to teaching about these socio-economic issues, feedback from students can be just as

varied as the reactions observed in society, because they often feel directly concerned. Which educational goals can be pursued by teachers? How can a teaching activity, on a subject such as globalization, be analysed? We assume that teachers are being asked to manage a didactic situation which falls into the category of what we have proposed to call “socially acute questions (SAQs)”. Integrating SAQs in education leads to analyse competencies expected from the citizens in a specific way: to participate into the public debates, to argue an opinion or to take a position about social issues. The priority is then often given to a literacy in which social science is necessary but not sufficient for making choices. Teaching SAQs aims to combine school knowledge with social facts, and thus with the complexity of current events. The issue is to develop a social science literacy to promote competencies to empower students about controversial topics.

We will present the theoretical issues pertaining to SAQs, we will then propose a socio-epistemological approach to the globalization process before going on to outline the didactic possibilities for teaching the issues related to this process.



1. Theoretical issues

1.1 SAQs

In recent years didactic works have appeared grouped together under the term “Socially Acute Questions (SAQs)” (Legardez, Simonneaux, 2006). These questions are defined in reference to an analytical grid for the production of knowledge taught, inspired by the work of Y. Chevallard (1985) on didactic transposition.

A “socially acute question (in two senses)” is a question which is adapted (or which is required to be adapted) so as to be taught in school and has the following characteristics:

- it is a question which is *acute in society*: this type of question challenges the social practices of all the actors in the school (inside and outside the institution) and reflect their social representations; society considers it to be an important matter (globally or in one of its components) and it stirs up debate (from disputes to conflicts); it often gets media coverage so the majority of the actors in school are familiar with it. Its social production in society renders it an ‘acute’ question in the first sense
- it is a question which is *acute in the background knowledge*: debate (controversy) exists among specialists in the disciplinary fields or among experts in the professional fields. Within a large proportion of disciplinary knowledge relating to human and social sciences (or even in certain areas of the so-called exact sciences), several paradigms are in competition. Moreover, the references are often to be found in social cultural and political practice which are also the subject of debate (often controversy). Some of these practices result in certain explicit or implicit background references in the knowledge taught in school. The social production in scientific or professional spheres, in social, political and cultural movements renders this type of question ‘acute’ in the second sense.
- it is an *acute question in knowledge taught*: the question becomes all the more “potentially acute” in what is learned in school because it is acute on the other two levels of knowledge (social and background).

SAQs are often “hot questions” because they have not yet been backed up or stabilized from a scientific point of view. They may remain acute for long periods and change intensity over time and in the different parts of society; we describe these questions as “potentially socially acute”. “The social question” which runs through modern history, “the question of revenue” (distribution and redistribution) the “question of nationality” all fall into this category.

1.2 SAQs and SSIs

Today, SAQ constitute a recognised line of research which is expanding in France in the area of didactics (Legardez, Simonneaux 2006; Simonneaux, Simon-

neaux 2009); it can be linked to what the Anglo-Saxons refer to as Socio-Scientific Issues (SSIs).

In science education the notion of ‘socio-scientific issues’ has been introduced as a way of describing social dilemmas impinging on scientific fields (Kolsto 2001; Sadler, Zeidler 2004; Sadler *et al.* 2004; Zeidler *et al.* 2002).

SAQs may be *socio-sociological* issues like globalization, immigration, unemployment or *socio-scientific* issues including genetically modified organisms, cloning, and cellular phones. These questions have implications in one or more of the following fields: biology, sociology, ethics, politics, economics or the environment. SAQs are subject to controversies and they are marked by doubts in the scientific knowledge and in the social implications. SAQs are the subject of controversies between specialists from the disciplinary fields or between experts from the professional fields. SAQs challenge social practices and reflect social representations and value systems; they are considered by society to be an issue and give rise to debate; they attract so much media coverage that the majority of students have, at least, a superficial knowledge of them (Legardez 2006). To be able to deal with this type of issue, students have to know how to recognize and interpret data, to understand how different social factors can have different effects and to understand that stakeholders often have diverging opinions (Sadler *et al.* 2004). There is no single valid and rational solution. This does not mean that all solutions are equal.

1.3 SAQs and teaching

Such questions enter schools in several different ways. Sometimes, current affairs are used as a reference to ‘motivate’ students: e.g. terrorism, war, social unrest, the environment...At other times, social demand (coming from politicians, parents, unions, associations, intellectuals and other social groups involved in these matters) leads to the integration of such and such an issue into the school sphere: nationality, religion, sexuality, road safety, the environment, sustainable development... Finally, the institution modifies the syllabuses, creates new disciplines; society ‘passes’ these questions on to schools, which results in their transformation into an “academic form”.

Nevertheless, socially acute questions do not always appear in the form of “questions” in the school curricula. They are often topics to be taught which refer to acute questions and/or social knowledge. They are not, however, presented as problematized school content. They may no longer resemble social questions because of their transformation, by the didactic processes, into “neutral” school topics. The teacher has then to find a way of maintaining the correct distance between what he is teaching and scientific knowledge, as well as with the social practices used as references; he can activate (“heat up”) or neutralise



“play down”) the acuteness of the issue. When teaching issues which generate very cut and dried opinions, there lies a risk of losing the real significance of what is learned because of the constant “playing down” or “heating up” of conflicting values in the class. An examination of the “institutionalized knowledge taught” (the syllabuses and instructions) and the “knowledge vectors” (the textbooks) allow us to pinpoint and compare the level of problematization offered to teachers for the teaching of these issues... and therefore also issues related to globalization.

Consequently, deciding on the teaching content as far as SAQs are concerned is a particularly delicate task. The goal may be to foster an adherence to certain points of view or simply to encourage future citizens to form informed opinions. For over forty years French agricultural education was used as an instrument for explaining and promoting French and European agricultural policies. The teaching was both “played down” and clearly biased as it was used to serve a political project. It was not until 2000 that the agricultural policies were called into question. Schools are caught between political instrumentation and their goal of producing free-thinking citizens. Analysis of the references on which the knowledge taught is to be based is essential to understanding the educational project being set up.

When we analyse the teaching of an SAQ we need both to find out the level of the students’ social knowledge, e.g. by carrying out a survey on their representations-knowledge of the socio-economic issues which have been given an “academic form” (Legardez 2001; Legardez, Simonneaux 2008), and we also need to work on the didactic transposition of knowledge produced within the disciplinary fields of reference and which circulate in society, in particular by carrying out a socio-epistemological survey. We will develop here, the latter line of analysis.

1.4 From didactic transposition to the socio-epistemological survey

Didactic transposition (Chevallard 1985) allows us to examine the process of constructing knowledge taught; knowledge is thus considered from an anthropological point of view, as a subject which is in circulation and under construction in society. The transposition of knowledge is therefore analysed in different stages taking us from the scholarly body of knowledge to the knowledge to be taught (in the curricula, the textbooks), then on to the knowledge taught (in practice by the teacher) and finally to the knowledge learned by the students. Martinand (2001) introduced social practices of reference into the process of constructing knowledge taught because education also has a position in society.

The theoretical framework of SAQs leads us to acknowledge the existence of debates in the scientific

spheres, media and more widely in society, and also leads us to consider these debates within the context of school education. SAQs are complex questions which cannot be simplified to the extent that we forget the uncertainties and controversies. During these debates the different social and economic actors including lobby groups can express their diverging interests.

Teaching SAQs demands socio-epistemological reflexivity in the construction of the knowledge taught (Simonneaux L.). It is a question of examining the characteristics of the knowledge but also the processes of knowledge production and the social conditions in which this knowledge emerges. This analysis is not a matter of simple selection; it must also anticipate and clarify the optimum conditions for and the potential barriers to learning, paying particular attention to the coherence and inconsistency that exist between different analytical frameworks. This initial scientific and socio-media-related investigation seems essential to the didactic processing of a socially acute question because it will enable the teacher to put together a (inter)disciplinary and or SAQ specific problematic. When the educational challenge relates to a discipline, what prevails is the way knowledge is structured according to the logic of that particular discipline and each of the disciplinary concepts is examined in turn, whereas when the challenge is more educational or oriented towards citizenship, the focus of the didactic construction is on the socially acute question which will give priority to interdisciplinary, scientific and ethical reasoning. It seems to us that the latter approach, complementary to the disciplinary approach, is however necessary when teaching complex and controversial topics because it helps to avoid exaggerated disciplinary reduction since science is the reconstruction of reality. We must not forget that “*scientific research chooses its subjects from the world “artefacts”, that is to say in the artificial world, created in the laboratory precisely because these subjects are easier to study and easier to experiment with*” (Larochelle, Desautels 1992, 112).

Within this socio-epistemological reflexivity, the scientism of human sciences, particularly of the social sciences, is regularly questioned in terms of its methods – between modelling and empiricism – and in terms of the links between economic theory and ideology. Within the teaching of social sciences in high school, the importance placed on an empirical approach has been acknowledged: “*theories within the social sciences make use of facts and, in particular, important economic and social events*” (Guesnerie 2008, 8).

The world as it is observed by the social sciences is a world which changes rapidly: socio-economic events (political or social events, financial crisis ...) evolve faster than the analytical tools that are available to us; the description of the world changes more



quickly than the tools used to describe it. Presenting a vision of globalization before or after September 11 results in the presentation of two completely different worlds. The same is true if you present globalization before or after the 2008 financial and economic crisis. History deals with world changes in the long term; to be relevant, social sciences have to analyse events in the short term or while they are actually happening. Dealing with social sciences in school means dealing with current affairs while taking into account the interest and risk involved in the immediate processing of events. It also encourages a projection into the future with all its uncertainties. Making use, in the classroom, of documents produced by the media, illustrates this situation very well. What is it, then, that distinguishes the work of the teacher, the scientist and the journalist? The work of the social science teacher is a cross between the interpretation of current affairs and scientific analysis.

Isabelle Stengers (1993), examines the dialectic between empiricism and theory when studying what she calls "field science". Field science is not concerned with demonstration or proof but with a continuous confrontation with the reality, which may possibly contradict but more often modify, improve or complete existing theories or models. The "field" has specific and very different characteristics to a theoretical construction; it pre-exists, is only relatively sound and is the support for interdisciplinary practices. *"The time for proof, which in the laboratory used to be solely dependant on scientific temporality, is in fact associated here with the very time spent on the diagnostic processes, with the time which will possibly transform a doubtful factor into a quantifiable but perhaps irreversible process. In this respect, for those in power, field scientists are troublemakers not allies because they are interested in exactly what, when referring to the theoretical and experimental sciences, those in power make us disregard "in the name of science" (Stengers 1993, 164). Since the year 2008, the economic crisis has raised questions about economic theory and policies and offers a perfect illustration of this "field science" that Isabelle Stengers referred to. This invasion by the "field" modifies scientific activity. The intrusion changes the evidence "what one "field" allows us to confirm, another "field" can contradict without the evidence being false and without being able to consider the situations as intrinsically different" (ibid, 159). At this point the approach becomes a "narrative" one where the selection and uncertainty of the clues combine with the variations in the simulation models used in the construction of controversies. "Scientists are no longer the ones who provide us with sound evidence instead they offer us uncertainty". (ibid, 163).*

Moreover, the inconsistencies in analysing social phenomena persist according to the paradigms, the emergence of a new paradigm does not necessarily lead to

the refutation of a former paradigm as Kuhn (1962) suggests in the so-called "experimental" sciences. Faced with the multiplicity of social science paradigms, knowledge is rebuilt to ensure a coherence in the school discipline (Chatel, 2002). Social science education's intent to foster critical citizenship contributes to this coherence. "Thus not one but a whole range of possible answers are expected, coupled with acceptable and logical reasoning" (Chatel 2002, 43).

We can go one step further with this critical view of the sciences. According to Gérard Fourez (1996) all theories serve an ideology: *"Not only do the sciences never completely distinguish themselves from the ideological, but we can also propound that the statement "such and such a result is scientific" is deeply ideological. In fact the aim is, above all, to render the result in question socially legitimate by referring to the abstract notion of scientism rather than having a specific debate on the matter"* (ibid, 82). Using different wording, which implies that the sciences should abandon their pretensions, Jean-Paul Fitoussi's position can be considered similar when he states that everything is based on hypotheses which reflect the convictions of individuals rather than an objective and scientific knowledge of social and economic realities (Fitoussi 2004).

The phenomena linked to globalization can be broached in a scientific manner or through personal value systems. This separation of ideology and science has not always existed. The so-called human sciences were defined, for many years, as moral sciences and the split between ideology and science can certainly be examined when considering a socially acute question which is the subject of debate in society. Where education is concerned, it is even more important to consider the value systems because school is also a place where values are transmitted (Simonneaux 2008). Accepting this principle means accepting that the references cannot be limited to scientific productions.

Regarding the teaching of an SAQ, a socio-epistemological reflexivity is therefore structured by examining the different possible theoretical references and their paradigms, and the links which can be established with empirical descriptions, social facts or ideologies. An SAQ is then, a question which has an interdisciplinary focus and constitutes a "rationality island" (Fourez 1997), i.e. an interdisciplinary modality of reasoning, shared by a group of individuals who are confronted with a real situation. A rationality island is built according to a human situation and not centred on a particular discipline. The teaching of SAQs is based, from a scientific point of view, on interdisciplinary reflection and is completed by studying the actors involved, what is at stake and the debates which are very much alive in society on the SAQ in question.



2. A socio-epistemological approach to globalization

Beyond identifying the heterogeneity of knowledge, there is the matter of qualifying the uncertainties and controversies arising from different theoretical approaches. There is an excess of scientific production on the subject of globalization which encourages us to attempt to offer a global and synthetic vision.

2.1 Globalization: a recent notion with semantic and lexical inaccuracies

The term “international” has been used since the end of the 18th century following the emergence of the Nation-State. However, the term “mondialisation” only made its appearance in France at the beginning of the 60s, a few years after the Anglo-Saxon term « globalization » (Dagorn 1999). The term, which appeared first in the press, describes the global spread of local phenomena. The Anglo-Saxon notion of a “global village” was introduced at the end of the 60s to conjure up the image of a rapid communication system, common to everyone all over the world (Mc Luhan). Twenty years later, the economists were the first to develop and use the notion, chiefly in an article by Théodore Levitt, now considered to be emblematic (Levitt 1983). The triad concept was first described by a Japanese economist (Kenichi Ohmae) in 1985; it is a concept which was then taken up and widely reused by geographers. The economic dimension continued to be associated to the term and gradually replaced the word “internationalisation”.

The English term “globalization” can be translated into French in several different ways: “la globalisation” refers more to the financial dimension when used in an economic context but in a cultural and sociological context it has the connotation of unity “global village”. Other terms have also appeared sometimes with a very specific meaning because of the link to a particular author “le mondialisme” (Passet 2001), “l’universalité” (Serres 2001), “la mondialité” (Zarifian 2004)... -or to a socio-historical context (alter-globalization linked to protest movements – Seattle, Genoa, ATTAC...). This polysemy of the notion of globalization is without doubt a primary source of confusion. The term can be used (and taught) according to a variety of different meanings depending on whether the dominant aspect is economic, social or political.

2.2 Multiple references in the social sciences

Several paradigms are at the basis of various “schools of thought” but, to simplify matters, the economic approaches fall into two categories:

– Firstly, the standard theory of international trade (Ricardo’s theory, HOS model – Heckscher, Ohlin, Samuelson) and the “New Trade Theory” for which Paul Krugmann (1998) is recognised as the key figure. These theoretical approaches are based on the

notions of resources, production factors, comparative advantage, market, imperfect competition, differentiated products, externality and development poles.

– Secondly, the development economy. François Perroux then Amartya Sen (1992) are considered to be the founders of this category which makes very little use of modelling. They have based themselves on the concepts of unequal trade, international division or again on development analyses which integrate the institutional regulation of the cultural dimensions. The indicators are varied: trade terms, direct foreign investment, human development index... They are interested in the relations between North and South but also in the rise in exclusion and of poverty in the North.

This diversity of analysis in the economic domain gives rise to great uncertainty because it justifies practically opposing policies. From an empirical perspective, studies into the evolution of inequality are contradictory or questioned in terms of the indicators or methodologies retained (Laïdi 2002). The controversies concern, therefore, both the plurality of the analytical frameworks used and the effects of globalization.

From an historical and geographical perspective, Fernand Braudel and Immanuel Wallerstein’s (2002), « world systems theory” is reinvested. Jacques Le Goff uses an historical approach to demonstrate that globalization today is merely a new form of a concept of globalization which dates back to the 16th century to the emergence of capitalism and the pre-eminence of the economy (Le Goff, 2001). Guy Bois (2003) analyses globalization as the result of imposing a neo-liberal « new world vulgate » (a dogmatic ‘pensée unique’ or conformity of thought) referring to a technological utopia and the exaltation of an exacerbated form of individualism. The fact that geographers took up the triad concept has led to an evolution in the way the world is analysed; moving from a dichotomous model (North-South or pre-1989 East-West bloc) to a cluster model (NAFTA, EU, ASIAN, Mercosur...) which links regionalisation and globalization in terms of economic flows. Political analysis examines the “governance” aspect by observing the role and power that has been devolved to the Nation-States in the face of increasing pressure from multinational companies and the possible need for supranational-regional entities. Olivier Dollfus (1998), bases his spatial analysis on the link between networks and territories because the spatial and social distances have been modified resulting in a concentration of power and populations.

From a sociological perspective, Dominique Wolton (1998), focuses on the multicultural aspects in his analysis of globalization; exchanges in the “global village” do not lead to cultural standardization but should be based on the acknowledgement of multiculturalism in order to avoid withdrawals into communitarism.



Huntington (2000) uses a cultural approach through religion which defines the civilisations considered as being more relevant than the Nation-States. Recent political events (September 11 2001, the wars in Iraq and Afghanistan) have struck a chord with the theory of an ideological clash between the West and its enemies (Huntington, 2004) which, however for some people, is drifting dangerously towards a dichotomous, or even racist vision.

Within a transdisciplinary framework, globalization is analysed as a breakdown in the ways we function, an upheaval which requires a new mode of regulation (Michel Beaud, 1999) or as the latest embodiment of the age-old process of westernizing the world which is leading to its downfall (Serge Latouche 2000).

2.3 Social practices between neo-liberalism and humanism

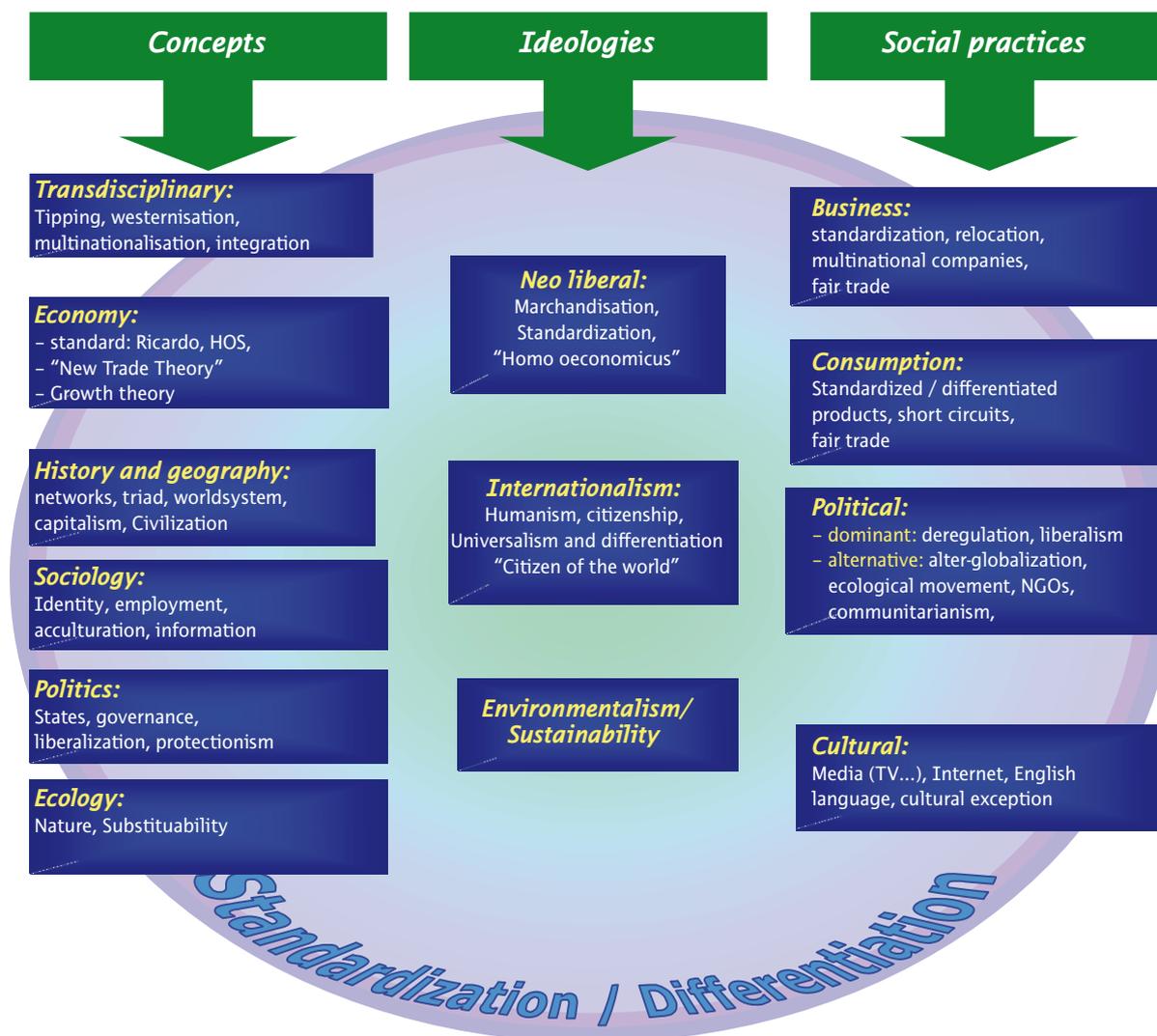
In the debate surrounding globalization we can identify two opposing systems of values which serve as a reference: neo-liberalism and "mondialisme" (globalism) (all the other positions are located somewhere between these two poles). "Neo-liberalism" is the ideology underlying market globalization. This ideology is based on the commodification of trade, which it justifies in return, and the standardisation of products while at the same time exploiting the differences. It postulates that the market is the most efficient means regulating trade with the pre-eminence of the individual (or of the individual's theoretical model, the homo economicus). In contrast, "mondialisme" (Passet 2001) refers to a form of humanism. Recognition of the collective is complementary to the acknowledgement of its individual members; it is a balance between uni-

versalism –all individuals are equal – with a respect for differences. The reference to global citizenship is in line with this school of thought which can be considered similar to alter-globalization (Simonneaux, Legardez 2006).

Still without claiming to be exhaustive, we can group together the social practices connected to globalization as follows:

- corporate practices which in the majority take neo-liberal ideology as a reference (offshoring, financial globalization, multi-nationalisation...) or more rarely a "social" ideology (fair trade); the practices of consumption mediated by the market by means of highly standardised and uniform products (Coca-Cola, Nike...) or on the contrary products which differ greatly, short supply chains or fair trade;
 - political practices whether they are dominant (deregulation, opening borders and markets, a global mode of governance –WTO..., neo-imperialism...) or whether they are dissenting or anti-authority like the alter-globalist protesters (Genoa, Porto Alegre...), the activities of associations such as ATTAC or the actions of NGOs, and also the practice of communitarian withdrawal;
 - cultural practices, whether in the media (television, Internet...) or the leisure sector (Disney...) participate in either creating uniformity within the "global village" or in reinforcing cultural exception by way of practices based on cultural differentiation.
- Thus the process of globalization can be analyzed and taught including concepts, ideologies or social practices in a double movement of standardization and differentiation.

Table 1: Concepts, ideologies and social practices about globalization's references



2.4 Interpretations of globalization in the light of crises and current affairs

One method of uncovering the problematics linked to globalization is to draw on current socio-economic events which (potentially) debrief controversial situations. These situations may emphasize specific actors and what is at stake but they will also challenge the tools used to analyse the situations thus transcending the usual disciplinary divisions.

Gaining awareness of a global environmental crisis (climate change, pollution, depletion of resources...) only confirms the economic and cultural interdependence traditionally associated with globalization. This environmental crisis justifies the setting up of new modes of regulation and global governance: not only does the WTO's mode of economic regulation have to take environmental constraints and resource depletion into account, but the environment also becomes such a global challenge in itself that specific political regulation (Rio, Kyoto, Copenhagen...) or even regulation by a “scientific governance” (IPPC pro-

moted by the UNO) is required. Many environmental issues are both international and global matters: the effects of Chernobyl were not limited by national borders. It is claimed that anthropogenic global warming (itself a matter of dispute) has an effect on populations which have not necessarily caused it, since it is felt in all the continents and will have an affect on future generations: the top polluters are not the ones who suffer most from the consequences. Realization has perhaps come a bit late but has had a big impact because firstly, the changes are due to human activity and secondly not everyone will suffer the impact and consequences to an equal extent.

The 2006/2008 food crisis occurred at a time when the world believed itself to be protected from famine. It led to a heavy increase in the basic agricultural raw materials (wheat, rice, corn...) on world markets and caused the famous “food riots” in developing countries (The Ivory Coast, Senegal, Haiti...) but also in richer countries (Egypt, Argentina, Mexico...). These events not only raise the economic question of world

market regulation, but also provoke questions on economic development, poverty, North – South relations, the disappearance of food producing crops in favour of a global market system based on export crops...The food crisis raises other more sociological questions like the standardization of eating habits and, more generally, cultural uniformity.

More recently but in a very brutal fashion, the banking crisis, triggered by the collapse of Lehman Brothers, had repercussions on the global banking system and developed into a financial crisis (2008), which in turn contributed, to a large extent, to today's lasting economic crisis. This crisis illustrates perfectly the interdependence of the world's different economic systems and shows the changes in the relations between rich nations and emerging markets like China and India.

These different approaches to globalization seen from the angle of the environmental, food or financial crises may constitute a didactic choice in which understanding the world takes precedence over the disciplinary concepts. When we use current issues as a starting point, the disciplinary questions take second place and disciplinary content serves a citizenship goal which is considered to be of greater importance. The three pillars of sustainable development (the economy, society and the environment) are therefore present in the interdisciplinary issue of globalization. This convergence of SAQs and interdisciplinary issues (globalization, sustainable development, the economic and environmental crisis...) must be highlighted because it enables us to introduce into school, the major challenges facing society and current affairs.

3. Didactic perspectives

3.1 The socio-epistemological survey

A "socio-epistemological survey" seems essential and is worth carrying out with the teachers. Indeed it will help define the learning stakes by means of their participation in structuring the references without however defining the teaching goals or methods. This attempted summary will lead to an identification of the learning stakes, both for the institutional heads and the teachers. It is also true that the uncertainty and differing positions circulating on the subject of globalization are not all of the same nature or intensity and this leads us to put their "acuteness" into perspective. Beyond the notions and concepts it seems important to us to identify the elements giving rise to debate, or may even be at the origin of the protests, the controversies.

We must emphasize here, how difficult it is to find consistency in the set of references that can be used to help us describe the globalization aspects of SAQs. Indeed, we cannot avoid handling these debates or controversies as part of our education on globalization: not only do we find these oppositions outside school, in the media but they also have to be dealt

with by the students. Should ideology be kept out of education because, in principle, it is absent from scientific discourse or on the contrary should it be included with a view towards citizenship education following the line of thought "Science and Techniques in the Experimental Sciences"? (Latour 1987). By examining the ideologies and social practices according to theoretical approaches, we are able to define teaching SAQs as a method used in citizenship education which associates knowledge acquisition with social and ethical debates. Handling debates and controversies is part of scientific and citizenship training; refutation and reasoning are scientific activities. Furthermore, the analysis raises questions about the message conveyed to students concerning science, the social sciences and the relationship between the sciences and society. Citizenship education involves acquiring cognitive, social and ethical abilities (Audigier 1999) and illustrates the sometimes contradictory objectives assigned to schools concerning knowledge acquisition and the assimilation of a system of values.

3.2. Epistemological postures

An overview of the knowledge, the debates, the uncertainty and the actors concerned shows a multiplicity of learning stakes involved with globalization or SAQs in general. We can analyse the didactic choices made by means of the epistemological postures which can be identified and retained. The perception of the sciences will also condition the way in which the teaching is designed, whether in respect of the perception possibly encouraged in the syllabus or the teachers' perception. The epistemological posture reveal the perceptions, an adherence to or a rejection of different values, the validity associated with the sciences. Several epistemological postures are possible regarding SAQs.

The first posture is positivist and scientific inspired by Auguste Comte. Science is considered to be an essential element leading to progress. Disciplinary and academic construction is the basis of this posture. The confidence placed in the scientific approach becomes almost a fundamental belief which plays a part in sacralising science; the researcher is the essential actor. The didactic choices give priority to an analysis according to the disciplines and their various concepts. The disciplinary content, and the way it is divided up, constitutes the basis of all learning. An education in globalization will base itself on the different economic or sociological theories to explain the globalization phenomenon. The theoretical concepts prevail over the characterization of globalization.

Utilitarianism constitutes a second posture, which could assert both the utilitarianism of John Stuart Mill and the pragmatism of Dewey. In this case, knowledge takes on meaning through the actions it helps to produce, the operational dimension is paramount, and the value of knowledge lies in the power to act



on reality. We look upon knowledge as a resource from a productive perspective. The expert, engineer or administrator who makes the right decisions is the emblematic figure targeted by this posture. This utilitarian posture when it is applied to globalization, will favour using, as a starting point, the opinion of one of the specific actors (the entrepreneur, the consumer, the politician...or even the trader) with his tools and his scope for action in the context of globalization.

Critical realism, which could be linked to the works of Jürgen Habermas (1987) and Ulrich Beck (2001) or to the "Sciences, Techniques and Societies" line of thought, constitutes a third posture which is often proposed in the framework of SAQs. Events, of more or less catastrophic impact, occurring in the 80s (Chernobyl, Bhopal, HIV infected blood, BSE...) have shaken our confidence in scientific progress and the gap between scientists and society is widening. The sciences produce breakthroughs but also controversies and risks. It is necessary to develop a "scientific reflexivity" (Beck 2001) to confront the risks produced by scientific activity. The scientists' questions and doubts are no longer confined to research but fuel public debate. On the subject of the economic and financial crises it is not only the speculative practices that are criticised but also the uncertainty and consequences of the use of certain management tools which is under debate, particularly concerning those tools used in sectors of finance management which generated spin-offs and speculative bubbles. The educational goal will be to try to give priority to training citizens to have a critical view of the sciences.

The final epistemological posture concerns relativism. We can refer particularly to the work of Feyrabend who considers that science cannot proclaim itself as a superior form of knowledge because no universally validated method can be attributed to the sciences. It thus becomes difficult, or even impossible, to distinguish scientific processes from any other belief or myth. Although it may be possible to discuss this position from a philosophical perspective, it is very difficult to defend within the context of an education system which describes itself as scientific. We mention it here for the record.

Each of these epistemological postures has different educational goals, a specific way of discussing the problems of globalization and a selection of particular references to be used. Choosing an epistemological posture may be explicit but is more often implicit according to each person's relation to knowledge (Charlot 1997). In order to pinpoint the different epistemological postures in education, beyond the declared teaching objectives, we propose to identify the diversity of sources and documents used or referenced (research papers, the media, businesses, political or associative institutions...), the categories of actors or referenced institutions (companies, citizens, states, banks, NGOs...),

the importance given to the concepts used, to the empirical data and to opinions. The evaluation of the learners in terms of the teaching objectives is another indicator of the epistemological posture because it highlights what the teachers consider essential.

It seems to us that although the scientific and utilitarian postures appear to be valid, or at least complementary, as is the critical posture on academic university courses in economics or on vocational courses, the critical stance is most relevant when the social sciences have a citizenship slant. This posture thus becomes, for us, an inevitable step at some stage of the course but not necessarily to the exclusion of the other postures when working towards specific goals.

3.3 From epistemological posture to didactic strategy

The different epistemological postures we have identified shed light on learning objectives but should not be confused with the didactic strategies which are determined by the means and the scenario set up in the class to fulfil an objective. We have identified four possible strategies (Simonneaux 2010): historical or doctrinal, problematizing, decision theory and critical.

The historical or doctrinal strategy which corresponds to a lecturing posture where the "master" delivers the teaching content leaving very few opportunities for communicational interaction. This is done with a view to achieving a clearly defined and identifiable objective.

The problematizing strategy focuses on the students' cognitive activity; the objective is to arrange things so that the students take an active part in the construction of knowledge. Interaction in the classroom is essential and learning how to learn could be the slogan for this strategy.

The decision theory strategy is based on involving the students in an activity. Priority is given to exercises, concrete cases, field studies.

The critical strategy tries to develop a critical sense, putting knowledge into perspective by preparing students to handle complex issues and to call knowledge into question.

We favour a set-up, at least during the training course, which combines a critical posture with a critical strategy and has a citizenship slant because it does not simply provide a solution to or a simplified vision of the SAQ, but enables the learners to identify what is at stake and the related controversies. This configuration aims to encourage a sense of commitment in the learners which will help them become active citizens. This choice does not in any way exclude other configurations which should however be adapted to the educational goals and didactic customs. Certain configurations, however, seem to us to be incompatible (positivist posture/critical strategy), others may be found to be disturbing or even paradoxical (doctrinal strategy/critical posture).



Table 2: Examples of teaching activities according to the didactic strategy and the epistemological posture on globalization.

	Positiviste/Scientist	Utilitarian	Critical realism	Relativist
Historical/ Doctrinal	Lecture on a theory as a starting point (e.g. HOS theorem)	Presentation of a tool, of a method or an indicator (e.g. growth of international trade for a company)	Lecture and criticism of different theories (e.g. the limits of the theory of comparative advantage)	
Problematizing	Analytical work based on different theoretical texts (e.g. HOS theorem/ Krugman..)	Comparative study of different tools or analytical methods (e.g. firms strategic international choices)	Analysis of the positions, reasoning or contradictory data (e.g. comparison of opinions and reasoning of Stiglitz and the WTO)	
Decision theory	Identifying economic theories in reasoning (e.g. analysing government or international texts)	Analysis of empirical data in order to draw conclusions or make decisions (e.g. Foreign investment in different countries)	Case study of a controversy or a global crisis (e.g. food crisis or financial crisis)	
Critical	Incompatible ?	Analysis of a firm, analysis of economic policy	Debate or role play in the classroom on the effects of globalization (e.g. does globalization reinforce the North-South inequalities?)	

Conclusion

In the majority of countries, globalization is on the secondary education syllabus where it has replaced trade internationalization by broadening the question. However, there are variations in the learning stakes depending on the levels and courses of study. In France the citizenship goal of social sciences is explicit in general high schools, the operational goal may prevail on certain vocational courses, particularly business courses. By way of SAQs, we have attempted to show that learning stakes are numerous and that there is no ideal way of teaching globalization however certain didactic choices which can be supported by socio-epistemological surveys, the identification of epistemological postures and the definition of a didactic strategy. Evaluating the efficacy of these choices remains difficult and cannot be compared if the targeted learning objectives are different.

Our proposals relate to high school education, they must allow the distinction between the purposes of literacy whose objectives are firstly to form responsible citizens, able to understand the current economic and social news, and the purposes of a vocational education or preparation to pursue graduate studies in social sciences. Within the citizenship education, the analysis of educational activities in terms of the SAQ is intended to link the different cognitive, ethical and social competencies (Audigier, 1999). The analysis of an education in globalization from the perspective of Socially Acute Questions (SAQs) has enabled us to evoke the multiplicity of references and to emphasize the citizenship challenges in learning about uncertainty and controversies. There is no perfect teaching solution but there is a process which can help teachers make an enlightened choice depending on the educational aims assigned to them.



References

- Abric, Jean-Claude. 1994. *Pratiques sociales et représentations*. Paris: PUF.
- Adda, Jacques. 1998. *La mondialisation de l'économie*. Collection Repères, Paris: La Découverte.
- Audigier, François. 1999. *L'éducation à la citoyenneté*. Paris: INRP.
- Beaud, Michel. 1999. Préface. In : *Mondialisation, les mots et les choses*, GEMDE, Paris : Éditions Karthala, 8-14.
- Beck, Ulrich. 2001. *La société du risque*. Paris: Aubier.
- Bois, Guy. 2003. *Une nouvelle servitude, essai sur la mondialisation*. Paris: F.-X. de Guibert.
- Boyer, Robert. 2000. *La Mondialisation au-delà des mythes*. Paris: La Découverte.
- Charlot, Bernard. 1997. *Du Rapport au Savoir, éléments pour une théorie*. Paris: Ed. Economica.
- Chatel, Élisabeth. 2002. L'action éducative et la logique de la situation. Fondements théoriques d'une approche pragmatique des faits d'enseignement, *Revue Française de Pédagogie*, n° 141, 37-46.
- Chevallard, Yves. 1985. *La transposition didactique – Du savoir savant au savoir enseigné*, Grenoble: La Pensée sauvage.
- Dagorn, René. 1999. Une brève histoire du mot «mondialisation». In : Dagorn, René, ed. *Mondialisation, les mots et les choses*, GEMDE. Paris : Éditions Karthala, 187-204.
- Dolfuss, Olivier. 1998. *La mondialisation*. Paris: Presses de Sciences Politiques.
- Durkeim, Emile. 1878. Représentation sociale et représentation collective. *Revue métaphysique et sociale*. Paris.
- Fitoussi, Jean-Paul. 2004. L'idéologie du monde, *Chroniques d'économie politique*, La Tour-d'Aigues : L'Aube et Paris : Le Monde.
- Fourez, Gérard. 1996. *La construction des sciences : les logiques des inventions scientifiques, introduction à la philosophie et à l'éthique des sciences*, 3éd. Revue. Bruxelles: De Boeck.
- Fourez, Gérard. 1997. Qu'entend par îlots de rationalité et par îlot interdisciplinaire de rationalité. In : *Aster*, n°25, 217-225.
- Guesnerie, Roger. 2008. *Rapport au Ministre de l'Éducation nationale de la mission d'audit des manuels et programmes de sciences économiques et sociales du lycée*,
- Habermas, Jürgen. 1987. *Théorie de l'agir communicationnel*. Tome 1 : Rationalité de l'agir et rationalisation de la société. Paris: Fayard.
- Huntington, Samuel P. 2000. *Le Choc des civilisations*. Paris: Éditions Odile Jacob.
- Huntington, Samuel P. 2004. *Qui sommes-nous? Identité nationale et choc des cultures*. Paris: Odile Jacob.
- Khun, Thomas. 1962. *La structure des révolutions scientifiques*. (traduction de la seconde édition *The Structure of Scientific Revolutions*, 1983). Paris: Flammarion.
- Kolstø, Stein D. 2001. Scientific Literacy for Citizenship: Tools for Dealing with the Science Dimension of Controversial Socioscientific Issues. In: *Science Education* 85, 291-310.
- Krugman, Paul. 1998. *L'économie auto-organisatrice*. Bruxelles: De Boeck. (Krugman, Paul. 1996. *The Self-Organizing Economy*. Cambridge, MA: Blackwell).
- Laïdi, Zaki. 2002. Mondialisation : entre réticences et résistances. In : *Revue du MAUSS*, Quelle « Autre mondialisation »?, n°20, 25-42.
- Larochelle, Marie; Desautels, Jacques. 1992. *Autour de l'idée de science – itinéraire cognitifs d'étudiants*. Québec: Les presses de l'Université Laval & Bruxelles: De Boeck Université.
- Latouche, Serge. 2000. *La planète uniforme*. Castelnau le Lez: Climats.
- Le Goff, Jacques. 2001. Heurs et malheurs des mondialisations. In : *Cahiers français* N°305, nov-déc 2001, Paris: La Documentation Française, 3-6.
- Legardez, Alain. 2003. L'enseignement de questions sociales et historiques socialement vives. In: *Le Cartable de Clio* n°3, Lausanne, 245-253.
- Legardez, Alain. 2004. L'utilisation de l'analyse des représentations sociales dans une perspective didactique. L'exemple des questions économiques et sociales. In: *Revue des Sciences de l'Éducation*, vol. 30 (3), 647-665.
- Legardez, Alain. 2006. Enseigner des questions socialement vives; quelques points de repères. In: *Legardez, Alain; Simonneaux, Laurence*, eds. *L'école à l'épreuve de l'actualité. Enseigner des questions vives*. Paris : ESF, 19-31.



- Legardez, Alain; Beddock, Dominique; Fontani, Carole; Guidoni, Jean-Pierre; Lebatteux, Nicole; Ludwig-Legardez, Annie; Olivier-Leclair, Fanny; Ramondetti, Marie-José; Rychit, Nathalie; Simonneaux, Jean ; Viguier, Philippe. 2009. Rapport de recherche sur „L'enseignement de la mondialisation". In : Recherche INRP n°39-127 (2003-2008), Université de Provence et INRP, 187.
- Levitt, Theodore. 1983. The Globalization of Markets. In: Harvard Business Review, May-June 1983, 92-102.
- Martinand, Jean-Louis. 2001. Pratiques de référence et problématique de la référence curriculaire. In: Terisse, André, ed. Didactique des disciplines. Les références au savoir. Bruxelles: De Boeck.
- Moscovici, Serge. 1976. Psychologie des représentations sociales. In: Cahiers Vilfredo Pareto, 14, 409-416.
- Passet, René. 2001. Eloge du mondialisme par un « anti » présumé. Paris: Fayard.
- Perroux, François. 1973. Pouvoir et économie. Paris: Bordas.
- Sadler, Troy D.; Chambers, William F.; Zeidler, Dana L. 2004. Student Conceptualisations of The Nature of Science in Response to a Socio-Scientific Issue. In: International Journal of Science Education, 26(4), 387-410.
- Sen, Armatya. 1993. Ethique et économie. Paris; PUF. (Sen, Armataya. 1991. On Ethics and Economics. Blackwell Publishers, Oxford).
- Simonneaux, Jean; Legardez, Alain. 2006. L'enseignement de la mondialisation. In: Legardez, Alain; Simonneaux, Laurence, eds. L'école à l'épreuve de l'actualité. Enseigner des questions vives. Paris: ESF, 217-232.
- Simonneaux, Jean. 2008. L'éducation aux valeurs fait la valeur de l'éducation : illustration en économie. In: Favre, Daniel ; Hasni, Abdelkrim ; Reynaud Christian, Les valeurs explicites et implicites dans la formation des enseignants. Bruxelles: De Boeck, 31-140.
- Simonneaux, Jean. 2010. (à paraître). Les controverses sur le développement durable à l'épreuve d'une perspective éducative In : s/d Bader Barbara, ed. L'éducation au développement durable. Presses Universitaires de Montréal.
- Simonneaux, Laurence; Simonneaux, Jean. 2009. Students' Socio-Scientific Reasoning on Controversies from the Viewpoint of Education for Sustainable Development. In: Cultural Studies of Science Education, 4, 657-687.
- Simonneaux, Laurence. 2001. Role-play or Debate to Promote Students' Argumentation and Justification on an Issue in Animal Transgenesis. In : International Journal of Science Education, 23 (9), 903-928.
- Stengers, Isabelle. 1993. L'invention des sciences modernes. Paris: La Découverte.
- Stiglitz, Joseph. 2002. La grande désillusion. Paris: Fayard, (Stiglitz, Joseph. 2002. Globalization and Its Discontents. Norton).
- Wallerstein, Immanuel. 2002. La mondialisation n'est pas nouvelle. Postface à la 2^{ème} édition de Le capitalisme historique. Paris: La Découverte.
- Wolton, Dominique. 2003. L'autre mondialisation. Paris: Flammarion.
- Zarifian, Philippe. 2004. L'échelle du monde. Globalisation, altermondialisme, mondialité. Paris: Editions La Dispute.
- Zeidler, Dana; Walker, Kimberly.A.; Ackett, Wayne.A.; Simons, Michael.L. 2002. Tangled up in Views: Beliefs in The Nature of Science and Responses to Socioscientific Dilemmas. In: Science Education, 86, 343-367.