

SUBJECT IN SOCIALLY ACUTE QUESTIONS CLINICAL DIDACTICS: A NEW APPROACH TO STUDY TEACHERS SUBJECTIVITY

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ABSTRACT

In socially acute question didactics and “education for” subject-specific areas, the objects of teaching are not considered to be fixed and they entail values and controversial issues. The set of issues related to neutrality thus arises for these problems, which combine advanced and often fragmented scientific knowledge, ethical issues, and complex political and administrative issues.

The question of teacher opinion is particularly important in teaching these uncertain kinds of knowledge (Girault & Lhoste, 2010). The teaching of socio-scientific issues (SCI) confronts teachers with taking a new position: that of committed impartiality, whereas instructional communication has traditionally been built on a duty to remain impartial and neutral regarding schoolroom discourse (Urgelli, 2009). The particular context in which content knowledge is not stabilized raises once again the question of teacher subjectivity.

This paper proposes reflecting epistemologically on the different ways of studying teacher subjectivity in their teaching of, or providing instruction on, socially controversial issues. Research on SCI teaching practices focuses on actors or subjects according to their theoretical and epistemological grounding, for example social representations (Jeziorski & Legardez, 2013), fostering socio-political activism (Bencze, 2013), positions taken by educators in handling controversial issues (Kelly, 1986), the heating up and cooling down of socially controversial issues (Legardez & Simonneaux, 2011), neutrality and commitment (Simonneaux & Legardez, 2008), and relationship to uncertainty and challenges (Brossais, 2014). The aim of this article is to present an outlook of the research relative to teachers’ subjectivity on didactics of socially acute questions, and then to propose an original perspective such as teachers practices clinical analysis coming from clinical didactics French field of research.

This paper situates the context in which my broader study on clinical didactics of socially acute questions takes place.

KEY WORDS

Neutrality, Teacher positioning, Subject, Clinical didactics, Socially Acute Questions.



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**A TEMÁTICA DAS QUESTÕES SOCIALMENTE VIVAS EM CLÍNICA
DIDÁTICA: UMA NOVA ABORDAGEM PARA ESTUDAR A SUBJETIVIDADE
DOS PROFESSORES**

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RESUMO

Na didática das questões socialmente vivas e da “educação para” disciplinas de áreas específicas, os objetos do ensino não são considerados fixos e implicam valores e questões controversas. Um conjunto de questões relacionadas com a neutralidade surge, assim, para estes problemas que combinam conhecimentos científicos avançados e muitas vezes fragmentados, questões éticas e complexas questões políticas e administrativas.

A questão da opinião do professor é particularmente importante no ensino destes tipos incertos de conhecimento (Girault & Lhoste, 2010). O ensino de questões sociocientíficas (QSC) confronta os professores com uma nova posição: o do compromisso da imparcialidade uma vez que a comunicação da instrução foi tradicionalmente construída sobre o dever de permanecer imparcial e neutro em relação ao discurso escolar (Urgelli, 2009). O contexto particular no qual o conteúdo do conhecimento não é fixo levanta, mais uma vez, a questão da subjetividade do professor.

Neste artigo propõe-se refletir epistemologicamente sobre as diferentes formas de estudar a subjetividade dos professores no ensino de, ou ministrar instrução sobre, questões socialmente controversas. A investigação sobre as práticas de ensino de QSC foca-se nos atores ou sujeitos, de acordo com os seus fundamentos científicos e epistemológicos, como por exemplo, as suas representações sociais (Jeziorski & Legardez, 2013), promovendo o ativismo sociopolítico (Bencze, 2013), posições adotadas pelos educadores no tratamento de questões controversas (Kelly, 1986), no acalorar e no arrefecer destas questões controversas (Legardez & Simonneaux, 2011), neutralidade e compromisso, e na relação com a incerteza e com os desafios (Brossais, 2014). O objetivo deste artigo é apresentar uma perspectiva da investigação relativa à subjetividade dos professores sobre a didática das questões socialmente vivas propondo uma visão original tal como a das práticas dos professores sobre análise clínica, vinda do campo de investigação da didática clínica francesa.

Este artigo situa-se no contexto do meu estudo, mais vasto, sobre a didática clínica das questões socialmente vivas.

PALAVRAS - CHAVE

Neutralidade, Posicionamento do professor, Matéria, Didática clínica, Questões Socialmente Vivas.



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LE SUJET EN DIDACTIQUE CLINIQUE DES QUESTIONS SOCIALEMENT VIVES: UNE NOUVELLE FAÇON D'ÉtudIER LA SUBJECTIVITÉ DES ENSEIGNANTS

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RESUME

En didactique des Questions Socialement Vives et dans le champ des éducations à, on considère que les objets de savoirs sont non stabilisés, porteurs de controverses et des valeurs. La problématique de la neutralité est réactivée pour ces problèmes qui mêlent des savoirs scientifiques poussés et souvent éclatés, des enjeux éthiques et des enjeux politico-administratifs complexes.

La question de l'opinion de l'enseignant se pose particulièrement dans le cas de l'enseignement de ces savoirs incertains (Girault, Lhoste, 2010). L'enseignement de controverses socio-scientifiques confronte les enseignants à un nouveau positionnement : celui de l'impartialité engagée de l'enseignant alors même que la communication didactique est construite traditionnellement sur un devoir d'impartialité et de neutralité des discours scolaires (Urgelli, 2009). Ce contexte particulier où les savoirs ne sont pas stabilisés ravive la question de la subjectivité des enseignants.

Cette communication propose une réflexion épistémologique sur différentes manières d'étudier la subjectivité des enseignants en didactique des QSV. Représentations sociales (Jeziorski et Legardez, 2013), promotion d'un activisme socio-politique (Bencze, 2013), posture dans les débats (Kelly (1986), réchauffement et refroidissement des QSV (Legardez et Simonneaux, 2011), neutralité et engagement (Simonneaux et Legardez, 2008), rapport à l'épreuve (Brossais, 2014). L'objectif de cet article est de présenter un panorama d'études existant sur la subjectivité des enseignants en didactique des Questions Socialement Vives puis de proposer une posture originale d'analyse des pratiques enseignantes venant du champ de la didactique Clinique développée en France.

MOTS - C L E S

Neutralité, Positionnement des enseignants, Sujet, Didactique clinique, Questions Socialement Vives.



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Subject in Socially Acute Questions Clinical Didactics: a New Approach to Study Teachers Subjectivity¹

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As with the French didactics of disciplines research, in teaching socially acute questions there is interest in the characteristics of the content knowledge transmitted. The swift evolution of technological and scientific content knowledge has led to problems in teaching that mix very advanced and often fragmented types of scientific knowledge, ethical issues and complex political-government problems (such as those associated with GMOs, stem cells, avian flu, nuclear waste, biodiversity et alia). In common with socio-scientific issues (SSIs), socially acute questions (SAQs) have the potential to raise open-ended questions that involve complex problems that integrate knowledge from the humanities and the sciences.

Socially Acute Questions are assuredly complex and the bearers of uncertainty; handling them instructionally assumes taking into consideration social implications, ideologies and values. These transformations have led researchers to reflect upon pertinent approaches to teaching, given what is at issue in transmitting knowledge. In the report entitled *Teaching Controversial Issues: A European Perspective from the Children's Identity & Citizenship in Europe Thematic Network* (Berg, Graeffe & Holden, 2003), a controversial issue is defined as having five characteristics²: there are competing values and interests; political sensitivity; strongly aroused emotions; the subject/area is complex; and the subject/area is of topical interest.

Whereas "education for" types of subject-specific areas are developing in French teaching, Laurence Simonneaux and Alain Legardez are interested in the double risk teachers run in dealing with these subjects/areas: "They may give rise to conflicts in the classroom; teachers are no longer those who 'know' and now have to question their own positions (neutral versus engaged)" (Simonneaux & Legardez, 2008). Although taking the subjectivity of teachers into account touches on their position, responsibility, and engagement, most studies in socially acute question didactics in France do not deal with the singular nature of individuals or social actors and prefer to consider teachers as members of a group, such as, for example, belonging to a particular discipline for teachers or belonging to a classroom group for students.

In my opinion, it is no longer possible in this research to refer solely to the epistemic subject, the central reference in studies on the didactics of disciplines. The question then becomes: what subject and/or actor is relevant in the didactics of socially acute questions? This paper has three parts. The first is devoted to the transformations

¹ The field of SAQs is the French approach to teaching Socio-Scientific Issues.

of the teaching profession and the series of problems they raised about neutrality on these issues that mix very advanced scientific knowledge with societal, political and moral issues. The second part focuses on an outlook of the research relative to teachers' subjectivity on didactics of socially acute questions including an original perspective by promoting teachers practices clinical analysis coming from clinical didactics French field of research, while the third part deals with the methodological corollaries to these conceptions.

TRANSFORMATIONS IN TEACHERS' MISSIONS

The document of reference on skills for teachers and education in France (2013) asserts that all teaching staff contributes to common goals and may, therefore, refer to the profession's common culture, whose identity is constituted by recognition of all its members. On the basis of acting as a responsible educator according to ethical principles (BO, 2013), each teacher and principal education advisor, in particular, is expected to "make a contribution to cross-disciplinary education in subject-specific areas, in particular: health education, civics education, sustainable development education, and artistic and cultural education." This subject-specific "education for" is bringing on changes in instructional practices.

The question of teachers' opinions is raised particularly in the case of teaching uncertain subject-matter knowledge (Girault & Lhoste, 2010). The exchanges between trainee teachers in different subject-matter areas (from two different training institutions (IUFM and ENFA for agricultural education)) show the tension between subject-matter knowledge and opinions (Brossais, Panissal, Simonneaux, Simonneaux, Jourdan Huez & Vieu, 2016). We have proposed a reflection on socially acute technosciences to training teachers from two formation institutes. Three focus groups based on innovating didactical strategies were conducted with sciences teachers, humanities teachers and a mixed group. Must a teacher refrain from giving an opinion in order to be remain objective? May a teacher be suspected of taking a position in defense of a cause or engaging in politics? This is the asymmetrical position of a teacher who "teaches...delivers... [and] transmits something" that is questioned when the student becomes the teacher's equal and a full-fledged citizen in the same society. The neutrality principle of the teacher in the French "republican and secular" school was called for, whether this neutrality was "total" or "religious":

François, (History/geography teacher, from IUFM):

I'd add here that cloning is a very particular case, since after all we're teachers in a republican secular school, and a great deal of the objections to cloning are to one degree or another dictated by religious thinking, so that's all the more reason for us not to have to deal with it, as it would touch on [certain] issues...



Alain (physics-chemistry teacher) - IUFM: "If we bring in outside speakers, there must be several opinions, there must absolutely be several opinions so we don't steer the debate... we have to remain totally neutral."

This is one of the six principles framing the teaching profession in France.³ Thus, the *vie-publique.fr* site, published by the Office for Legal and Administrative Information (Direction de l'information légale et administrative⁴), states that according to the obligation to be neutral, the "public servant must carry out duties vis-à-vis all administered parties under the same conditions, regardless of their political or religious opinions, background, or sex, and must refrain from expressing his or her own opinions."⁵

This point here is about teachers not using their position as a propaganda instrument. Neutrality and secularity go together: French teachers are expected to show neutrality in business, political and religious matters.

But the specificity of socially acute questions is in the fact that they are loaded with uncertainties and that, in that respect, one cannot speak of truth since they put into play divergent values and interests. They invite, as Astolfi says, giving up "the myth of social neutrality in the sciences, restoring the plurality of points of view as regards content knowledge and fostering debate on the issues at stake" (Astolfi, 2005, p. 71).

At present, the site of the National Ministry of Education, Higher Education and Research⁶ states that "philosophical and political neutrality is a must for teachers and students" while the term "neutrality" is gone from the document of reference on skills for teachers in France of July 25, 2013 and secularity has been substituted for it (BOEN, 2013). Now, as researchers in education science have pointed out, the school as an institution "at times assigns itself the mission of acting on the issue of values" (Alpe & Barthes, 2013, p. 42) by creating "education for" programs (such as education in sustainable development, civics, and health, to name a few).

The Official Gazette on National Education (Bulletin Officiel de l'Éducation Nationale) defines education on sustainable development (ESD) in these terms: It "should provide training on a scientific and prospective approach to citizens so they may make choices and commitments based on lucid, enlightened thinking. It should also lead to thinking about values, becoming aware of individual and collective responsibilities and the necessary solidarity between intra- and inter-generational territories" (BOEN, 2007). The social challenge, according to Vergnolle-Mainar (2009), is to provide an education that fosters citizenship, throughout the school curriculum, the development of responsible behaviors at school, and daily life through the acquisition of types of knowledge, and the interiorizing of the abilities and attitudes that are legitimated by values (BOEN, 2006).

Albe (2012) showed the reticence among science teachers to integrating socio-scientific controversies into the school curriculum. She observes that teachers "make a dichotomy between neutral, objective scientific bodies of knowledge (content

³ Alongside obedience, reserve, morality, professional discretion and reporting (of crimes to the authorities).

⁴ This department comes under the State's actions to develop an information society. The Office for Legal and Administrative Information, within its general mission of providing information and documentation on political, economic, social and international current events, sets itself the task of making Internet access available to users for resources and useful data for understanding the major subjects of interest to the public in controversial issues.

⁵ <http://www.vie-publique.fr/decouverte-institutions/institutions/administration/acteurs/quels-sont-devoirs-fonctionnaires.html>

⁶ <http://www.education.gouv.fr/cid162/les-grands-principes.html> Updated in October 2013.

knowledge) seen as truths on one side, and, on the other, opinions playing out on debatable issues in society” (Albe, 2012, p. 9). Before Albe, Laurence Simonneaux found, in a paper on role playing in biotechnologies that “neutrality is illusory. Points of view creep into utterances” (2001, p. 155). There could be no better evocation of the positivist ideal that assumes that realities have an existence of their own outside of the characteristics attributed to them by an observer, that they are governed by universal determinist laws and the deductive hypothetical approach can know the truth of every reality. The idea of interference, of invasion denoting the term “to insinuate itself into” refers clearly to teachers’ opinions, value and attitudes that cannot fail to show up in their speech. By token of the same reasoning, the data gathered by Urgelli in his Ph.D. thesis show the importance of teachers’ opinions in their decision-making: the refusal to engage in dealing with controversial issues in the name of apolitical teaching of subject matter, the fear of providing opinions, and the transmission of consensual knowledge as defined in the national program on subject matter (Urgelli, Simonneaux & Le Marec, 2011). Here, I see, as Floro states so well on introducing education on sustainable development into the school system, the “part of themselves they commit to the practices they implement to adapt themselves to transformations” (Floro, 2011, p. 164).

Confronted with teaching content knowledge that is not fixed, teachers are ultimately caught in a three-way cross-fire: their statutory obligation to maintain neutrality, the injunctions in educational policies to provide education in sustainable development, and a positivist model that is very present in the French school system. These questions take place in an international context focusing on teachers’ neutrality-position in “education for”, particularly on education for environment or sustainable development (Scott & Gouch, 2004; Stevenson, 2007).

TEACHER: SUBJECT OR ACTOR?

In this section, I describe the methods of studying teacher subjectivity in the field of Socially Acute Question didactics.

THE POSITIONS TEACHERS TAKE IN DEBATES

This issue of teachers’ involvement was studied by Kelly (1986) who lays out the range of possible positions an educator can take in moderating debates. Not dealing with controversial topics comes under the heading of exclusive neutrality. When a teacher leads students to adopting a single point of view (his/her own), that is exclusive partiality. Neutral impartiality means the teacher does not reveal his/her point of view in order not to influence student debates, while committed impartiality is giving an opinion while encouraging students to confront points of view different than their own. For Kelly, the teacher’s position is a rational choice and brings into play his/her



representations. This epistemological option leads to identifying what determines the positions and behaviors of the actors, that is to say, the psycho-sociological factors.

The variety of positioning may be linked to teaching customs and traditions in a particular teaching field. Thus, Laurence Simonneaux (2003) finds that a number of teachers, particularly science teachers, do not feel qualified to direct role playing or debates as they view these activities as coming under a social science heading.

RESEARCH ON THE PSYCHO-SOCIOLOGICAL FACTORS OF ACTORS

Laurence Simonneaux and Alain Legardez discuss the subject of different actors, in particular, teachers, and their “social representations, their value systems, their social and professional identities, their perceptions of internal standards (standards imposed on them), the positions they think they should take ... [and] their confidence in their ability to control potentially conflictual teaching situations” (Legardez & Simonneaux, 2011, p. 26).

The psycho-social dimensions of the teaching-learning process were also studied through the commitment of its actors (Simonneaux, Tutiaux-Guillon & Legardez, 2012). Simonneaux and Legardez proposed the opposite ends of a sensorial spectrum of hot and cold to qualify the commitment of teachers as heating up or cooling down socially Acute Questions “as a function of their epistemological doubt, [or] their ecological or ethical convictions” (Simonneaux & Legardez, 2011, p. 26). This image has now been widely adopted by didactics researchers of Socially Acute Questions.

It is useful here to point out that Legardez worked first in teaching economic and social issues, and socially acute issues, in line with the analyses of the relationships to content knowledge with reference to Charlot, Bautier, Rochex and Terrisse. He considers three systems of relationships to the knowledge in play in the processes of production of content knowledge: the scholarly epistemology of content knowledge of reference, the epistemology of students, and the epistemology of the teacher of those students. Insofar as it is close to my own questioning, let us pause at this epistemology of a teacher as defined by Legardez as a “construction coming in part from personal history that may be notably different from institutional epistemology and that of the noosphere, often strongly marked by subject-matter acculturation, a component of internal didactic transposition” (Legardez, 2004, p. 23). Agnieszka Jeziorski and Alain Legardez (2013) make use of comparative reasoning to study the social representations of sustainable development and educating of future teachers in sustainable development according to their own subject-matter grounding. The goal is to sort out the features characteristic of the different populations themselves (in this case, life science teachers and geography/history teachers). The term ‘subject’ is specifically used here by the authors in reference to social psychology and the theorization of Moscovici (1984) and Abric (2003) on social representations.

RESEARCH ON THE POLITICAL ACTIVISM OF TEACHERS AND RESEARCHERS

Researchers working in the field of sustainable development education also focus on what teachers say about their teaching practices. They make use of narrative accounts to study teacher engagement (France, 2010; Levinson & Amos, 2013). Thus, Lyn Carter studies them by paying attention to partial, selective, contextual and even contradictory elements (Carter, 2013). She is also interested in teacher engagement. I could share her approach to research and the requirement of “intense and active listeners,”⁷ but our interests diverge with regard to several points. The methodological background she uses is the sociology of education. Carter chooses to study what is said by an exemplary individual who is presented as the standard for a broader sample. She then seeks to identify whether the description by beginning teachers of their own motivations match the postulates uttered by the exemplary individual. Carter selected a person of reference who is a plant pathologist working with South African farmers and is passionate about sustainable development. She changed careers to become an educator and active advocate of science education and education in sustainable development. In the end, what is very strikingly different from my views is the activist aims of a researcher promoting sustainability, and whose goal is to describe teachers as a potential major obstacle to implementing education for high quality development due to insufficient initial and continuing education. Carter presents what she views as the existing antagonism between sustainability and the dominant neoliberal economy, and in describing a pro-environment commitment allows her own positions in favor of sustainable development to appear. Also, fostering socio-political activism is found in the work of Lawrence Bencze (2013) who discusses the teaching of controversial content knowledge from an anti-hegemonic perspective and against an economic orientation where the final purpose is to generate profits. In this regard, the title of his paper and the acronym of the model he is developing are explicit: “Science Teaching Against the Grain for the Social Good: The Story of an Educational Entrepreneur;” the STEPWISE model (Sciences and Technologies Education Promoting Wellbeing for Individuals, Societies and Environments).

A SUBJECT WHO ACTS

The compliance without pressure⁸ given by psychosociologists, the commitment from a Habermasian point of view including activism where a militant action is undertaken in schools to convince students and modify their representations, or the intentionality of

⁷ This approach requires collaborators (researchers and participants) to be willing to talk about the obvious, to be intense and active listeners, as well as time to be reflective – to drill down into what is important (Carter, 2013).

⁸ This concept aims to describe the consequence of a process of persuasion which result is to give the impression to the individuals concerned that they are the authors of certain decisions. In this manner, a person could thus modify her behavior, her objectives and her choices believing to be responsible of these modifications. http://summitevergreen.com/wp-content/uploads/2015/06/compliance_without_pressure_the_foot_in_the_door_technique.pdf



the subject to transform itself and transform the environment: these are the three modes of thinking that Jean-Marc Lange sets forth (Lange, 2015). His preference goes to Hans Joas' proposal,⁹ in that he bases himself on a conception of the subject who acts, or an acting subject, who emphasizes the idea of creativity or "open mindedness to new ways of acting" (Joas, 1992, p. 142, cited in Lange, 2015).

THE PERSONAL SIDE OF THE SUBJUGATED, SINGULAR AND DIVIDED SUBJECT

My research project also focuses on the personal side of the teacher. I recognize questioning similar to my own when Michel Floro (2011) finds that the injunction to teach controversial content knowledge goes beyond the purview of the teaching profession and engages their own lives. Methodologically, I share his interest in evocative questions as they allow for gathering points of view, positions, and attitudes from the discourse of the actors. But I set myself off from his views due to his choice of an experimental perspective (in his study he examines eighty subjects) and the study's comparative approach. His goal is indeed to understand the impact of territory on teachers' conceptions. His results show that although values are associated with sustainable development, there is a distinction between regions: "the protection of nature for Marseille, and, the issue of energy and pollution in the Val d'Aoste" (Floro, 2011, p. 175). The actual formulation of the sentence shows the fading away of the subjects to the benefit of an outside – environmental or imaginary – determinant: territory. In others terms, this approach can appear close to mine on the methodological level but it is different relatively to his epistemological underlying.

In 2016, I had proposed as an interpretative hypothesis a "symbolic position to be assumed, the position of the subject supposed to know (Chevallard, 1985; Lacan, 1966; Terrisse, 1994), representing content knowledge in the classroom as institution" (Brossais, Panissal, Simonneaux, Simonneaux, Jourdan, Huez & Vieu, 2016). In the article already cited, among potential obstacles to implementing the teaching of socially controversial issues that beginner teachers brought up, we identified the issue of the place teachers occupy in terms of content knowledge to be transmitted and their students. If the results presented above are relative to the claim of a total neutrality, the analysis showed more of a moderated vision of teachers who accept the debate on condition that they are not the presenter.

Some teachers accepted the presence of controversial issues in the classroom and the idea of a debate as the teaching method for dealing with them, as long as they were not the ones moderating the debate. They thus showed they want to remain the ones who know this content knowledge they are transmitting. Indeed, in place of moderator, the teacher is no longer the only one who knows; the students know as much as their teachers about these questions and sometimes they know more.

⁹ Hans Joas understands action by drawing on the thinking of historical American pragmatism.

The didactic conversion in the framework of clinical didactics, worked into the didactics of disciplines and the didactics of socially acute questions, is substituted for internal didactic transposition. I use the term “didactic conversion” in reference to “somatic conversion” from Freudian psychoanalysis, which describes the conversion of psychic elements into somatic symptoms. By analogy, in clinical didactics, certain configurations of the content knowledge taught bear witness to a psychic construction of the teaching subject elaborated in the course of the subject’s history. Didactic conversion enables the study of the conversion of content from the subject’s experience into teaching (instructional) content elaborated and transmitted by the teaching subject. This piece of the teaching subject may refer back to experiences in sports or associations as well as those relating to school or family. Didactic conversion thus transforms the question of reference to school-related knowledge contents by identifying that piece of the teaching subject that creates them, actually transmitting them (Carnus & Terrisse, 2013). By doing so, a change of epistemological position occurs: the subject taken into account is not a social actor as defined by social psychology but a subject of the unconscious.

Thus, the subject is subjugated, singular and divided. In the common meaning, subjugated is relative to the idea of obligation and constraint. I mobilized it in its double meaning in French: at the same time to be subjected and to be supported by multiple institutions (class, establishment, education system, company). In psychoanalysis, the subject is the subject of the signifier: “the subject is what represents a subject for another signifier” (Lacan, 1960, p. 299). To say this as Marie-Jean Sauret and Christiane Alberti do, “in its language – for each speech act – the subject is represented” (Sauret & Alberti, 1993, p. 171). That the subject is dominated by the symbolic order and even that this order constitutes the subject refers back inevitably to the question of its division. This is the divided subject (\$), divided due to the fact of language. Lacanian theory relates to lack, as Lacanian researchers in clinical psychology point out: “by definition, the subject finds no object good enough that would restore the completeness that is shattered when it comes into the world. It does not find an adequate object because the lost object causes its desire whereas the object that is found is only a substitute” (Sauret, Alberti, Lapeyre & Révillion, 2010, pp. 124-125). Moreover, “Desire is a relation of being to lack. The lack is the lack of being properly speaking. It isn't the lack of this or that, but lack of being whereby the being exists.”¹⁰

For teachers, mastering knowledge and learning ends up being, in this sense, an attempt to maintain the illusion of completeness or wholeness of the subject. By filling in the structural lack (fault), which remains after the human being is “inscribed” into language with the content knowledge of disciplines, in particular in the scientific community, the teacher comes to occupy the place of the knowing subject—as if a pile of knowledge could be an answer to the enigma of the subject. Where knowledge is lacking, the truth of one’s being may not be reduced to a name, job or studies (Sauret, Albert, Lapeyre & Révillion, 2010).

¹⁰ Lacan, Jacques. *The Seminar. Book II. The Ego in Freud's Theory and in the Technique of Psychoanalysis, 1954-55*. Trans. Sylvana Tomaselli. New York: Norton; Cambridge: Cambridge University Press, 1988. p. 223.



The particular nature of my orientation in clinical didactics of Socially Acute Questions comes from taking into consideration personal and unconscious determinants to understand classroom situations, thereby opening them up to new interpretations.

METHODOLOGICAL CONSEQUENCES RELATED TO THE CONCEPTION OF SUBJECT OR ACTOR: A CASE STUDY

As part of her research into the field of adult and lifelong education, Sharan Merriam (2002) defines a case study as particularistic in the sense that it allows one to study a situation, an event, a program or specific phenomenon. In her qualitative approach to interpretation, the author seeks to understand how individuals construct their experience and interact with the social world and the meaning it has for them. In this situation, the method and object of research enter into synergy. Indeed, being interested in the meaning a situation has for individuals, calls for a proceeding by case study.

There are various ways to think of a case study as coherent to the intentions of research and to the underlying epistemological positioning of the authors. However, it is not always possible to identify the subjacent epistemologies in various works. Sometimes the conception of the actor is explicit or can be induced, other times this conception is unknown, and it is rather the degree of interventionism that is specified.

MULTIPLE CASE STUDY

In socially acute question didactics, the term “case study” is used to mean the study of multiple cases for Benoit Urgelli, Laurence Simonneaux and Joëlle Le Marec (2011). Their case study on teaching controversial climate issues includes a media context, French policy decisions and their effect on school curricula, the kinds of engagement possible for some secondary school teachers, and collective approaches to controversial issues. Results from the eight teachers participating in their survey showed that subject-matter disciplines play a role in the way controversial climate issues are approached. The reasoning behind the commitment of each teacher is qualified by matching it to the categories conceived of by Kelly (1986): exclusive neutrality, exclusive partiality, neutral impartiality, and committed impartiality. The goal of the research is thus to bring out the constants and differences comparatively.

SINGLE CASE STUDY

Taking into account what is an irreducible singularity assumes that a study will take into account the personal influences on the act of teaching. That is why studies are studies of an individual case, i.e., done “on a case-by-case basis, one by one” (Terrisse, 1999). This “one by one” factor comes under the methodological conditions that Sauret proposes for focusing on “what is different from one subject to another, but also, what escapes the subject itself: the most precious indicator of the real, of *jouissance* and the conditions of an act” (Sauret, 1997, p. 168).

In their study on socio-scientific issues, Bev France and Jackie Bay (2011) also present a case study of a single vignette. Ann’s vignette is given as an example that summarizes the way seven teachers who took part in action research conceived pedagogical strategies to respond to students’ needs and allowed them to study socio-scientific issues from various angles. The vignette illustrates, through long verbatim excerpts, the realization that invisible barriers exist in expressing an opinion on a socially controversial issue (barriers of language, a cultural barrier in terms of silent consent,¹¹ a barrier of access to computers) and the manner that Ann adapted her teaching strategies to help students overcome these problems.

EXCERPT FROM A CASE STUDY ON CLINICAL DIDACTICS OF SOCIALLY ACUTE QUESTIONS: A CLINICAL DIDACTICS VIGNETTE

For my part, I do not consider the teachers on which I build case studies to be representative examples of a community of teachers. I seek to understand the meaning—and have recently added to this the ‘outside of sense’ (what lies outside meaning)—along with the concept of relationship to uncertainty, or senselessness, as understood in psychoanalysis.

The relationship to an experience explains the sense (meaning) that teachers attribute to what they experience in the classroom, in this space-time of meeting with students where the major challenge is that transmission of knowledge occur. Elements known and unbeknownst to them (of which they are unaware) were expressed at those times when the teacher and this researcher met, whether while observing classroom practices or during one or more interviews with the teacher. A sense of the uncertainty of teaching and the choices made by the teacher bring out known and unknown elements, whereas the playing out of desire of transmission and its drive-related movements are unknown. They reveal a sense or meaning identifiable by the subject or what is outside meaning, which refer to the unconscious of the subject, a lack, and the impossible for each of us and which always escapes us. This is the reasoning I use in exploring a one-by-one or case-by-case subject, that is to say, a singular positioning, and the expression of processes of the psyche in a social, historical and familial context.

¹¹ The students were young girls from Polynesia from a socially and economically disadvantaged background.



I took my first steps in the clinical didactics of socially acute questions with Marguerite, an Earth Science-Life Science teacher (ESLS), who invited me to observe a practical session on teaching biodiversity and soil composition. Marguerite is an experienced teacher, graduated with baccalaureate D (mathematical and sciences of nature)¹², and she has pursued scientific higher education. She completed a degree in Life Sciences and Earth Sciences. She teaches courses to children from 6th, 5th, and 4th grades (11-14 years old).

Marguerite introduces herself as a model of appropriation of the recommended content for teaching socially controversial issues. Indeed, the program of scientific disciplines called Life and Earth Sciences (BOEN, 2008) includes education for sustainable development and education for responsibility within the educational goals set out alongside scientific ones. The use of interdisciplinary modes is advised for grasping the complexity of content knowledge that touches on controversial issues in various areas (scientific, ethical, social, among others). The teaching of socially controversial issues and the various types of “education for” programs call for debate in classroom settings.

Is Marguerite a typical ESL teacher? Is she a *rara avis*? It is true that she does not resemble the science teachers described by Albe (2012), who are reticent about integrating socio-scientific controversial issues into curricula. She does not, however, have a problem being the one who moderates the debate instead of merely being the one who knows the content knowledge she transmits, as do many beginning teachers. To compose with neutrality obligation bring her to give several possible opinions.

Marguerite is singular as clinical didactics shows (Carnus & Terrisse, 2013; Terrisse & Carnus, 2009). This study is not about considering type as a category in the sense of summarizing a set of traits of a human type (physical, psychological, intellectual, etc.), but rather it is about the singular position that each person has who gives an account of the particular manner in which a subjugated, singular, divided subject deals with the act of teaching.

When asked to address the subject of her teaching of content knowledge entailing controversial issues, Marguerite chose to present a practical session on soil animals that she found to be less traditional than the one on floral dissection. She planned to approach this session “with the idea of the beautiful” as she had referred to “decomposition of matter.” Having the students observe “the ground soil with a binocular magnifiers” is an activity she particularly likes and that explains her interest in teaching what she teaches to students in the 6th grade (11 to 12 year olds in France): “They were entranced because we saw crystals, we saw that there were animals, I like that, I like showing them things at different scales.” To show others what cannot be seen by the naked eye is an essential aspect of teaching ESL for this teacher. That is what comes through the introductory words she uses to her students at the beginning of the class: “So, we’re going to observe animals that we wouldn’t have been able to see because so they’re so little, really, the teeniest ones we could see with the naked eye like an acarid, we saw it but it was impossible to count how many legs it had” (V38-41). During the session, she drew the children’s attention several times to what cannot be seen without an instrument and what can be seen using a magnifying lens: “There,

¹² It has existed from 1968 to 1996 when it was replaced by the Baccalaureate (Scientific) with the new series of general Baccalaureate, ES (Economic and Social) and L (Literary).

it's huge, come and see it (V208¹³); "You can see the dipluran's digestive tract really well there" (V443).

Observing what cannot be seen is seeing what does not show up to the naked eye, but for Marguerite it is also seeing the beautiful, where an unmagnified view only shows "something ugly": "For example....soon, I'm going to bring in vegetables, vegetable skins when we start to make compost...I like showing them the mold....and that's where I can tie it in to what's beautiful, what's beautiful, what's ugly because just looking at it with the naked eye, it's ugly but with a magnifier, it's beautiful. That's it, I like this" (I180-183¹⁴).

Marguerite enjoys having her students see the beauty of decomposed matter beyond the disgust that it might cause at first sight: "Yep, because we bring them rotten vegetables, eh, I bring in really decomposed ones, so that stinks, they say ugh, ugh, you hear them shouting out...Ok, so then we get the magnifier and we see the molds, it's so pretty, and these things are things I really like" (I189-193). Teaching students to observe rotten vegetables under a microscope enables them to see the beauty of nature, and, thus, to wanting to preserve it: "It's really important that they observe and that they see that they are really being shown that nature is quite simply beautiful"; "You have to have had a sense of wonder about something in order to want to respect it", she adds at the end of the video recording session.

Seeing the invisible, attempting to "touch" the perceptible world "with one's eyes" (Quinet, 2003) translates the movement by which Marguerite places herself in relation to the world and knowledge, this trait functioning to account for her subjective position. It is also this movement that she uses in teaching the sciences to her students. Thus, the desire to know is grounded in the desire to see, the energy-related trait of which Freud stressed and termed the scopic drive. The epistemophilic drive, or the drive to know (drive of knowledge), is tied to sexual issues for Freud. It arises in the drive to see and the instinct or impulse to mastery. This drive-related hardness drawing on sources of what is infantile is at work in Marguerite's professional practice. This sublimated drive, is turned towards socially valued objects: science teaching's very own investigative approach. This clinical teaching vignette of "Seeing the beautiful and the invisible" interweaves in this very specific manner the epistemophilic drive, the scopic drive and sublimation. The Marguerite's teaching intention relates to preserving biodiversity. The case study reveals her preservation of her "drive of knowledge" and scopic drive (drive to see).

CONCLUSION

Although the didactics of disciplines is focused on the content knowledge that teaching aims to dispense and is often satisfied with an epistemic subject (Brossais, 2014), the nature of the sets of problems that come under the heading of socially controversial issues leads to disengaging oneself from the epistemic subjects devoid of affect and

¹³ The letter V indicate video transcription.

¹⁴ The letter I indicate interview transcription.



centered on cognitive functioning. The theoretical underpinnings are essentially psychological and sociological. Borrowings from psychology permit subjectivity to be viewed from the angle of representations. A number of educators of socially controversial issues are also trained in didactics of science. Marked by a vision of the sciences coming from the sociology of the sciences, they refer to authors who emphasize interactions between the technosciences and social viewpoints. According to their theoretical and epistemological grounding, research into teaching practices regarding socially controversial issues places actors or subjects at the center of their studies, and, consequently, these are studies about single or multiple cases that may be exemplary or singular in nature. These differences show the wealth of questioning that educators of socially acute question didactics examine.

The social constructivist approach is relevant for thinking about environmental citizenship in terms of citizen responsibility about the possible consequences of the technosciences and the development of a critical viewpoint. In this manner of reasoning, Carine Rousseau (2014) puts forth the notion of creativity defined by Lubart (2013, cited by Rousseau) as “the capacity to produce something that is both new and adapted to the context in which it is manifested.” The question of creativity is a point of overlap with my research interests. However, Carine Rousseau introduces the term to describe groups of learners. Her assumption concerns the contributions of group creativity to idea generation and collective decision-making. For me, creativity belongs to the teacher who implements teaching scenarios in keeping with the expression of her/his desire. The relationship to uncertainty as the moment of truth where the subject is called upon, is an invitation to think through those stages where knowledge, teacher and student meet in spaces of creativity and invention (Brossais, 2014). The relationship to uncertainty starts a line of question-asking that enables the complexity of the act of teaching, the choices the teacher must make, and the creative spaces that open up to her/him to be studied. The French term *créativité*, introduced by social psychologists from the English word ‘creativity,’ is often defined as the capacity for discovering a new or original solution to a particular problem. Psychoanalyst Jean-Richard Freyman (2013), writes that “creativity comes about through lack” in the Lacanian sense. He writes on the subject of the relationship of social workers to society, which I think, could be used in reference to teachers:

A victim of incredible social pressure, he/she also shows the determination not to systematically give into political determinations, and to create something along the lines of a personal message that makes it possible for him or her to inscribe his own singularity in the public space (Freyman, 2013, p. 83).

Based on conceptions or theories of subjects that support the Socially Acute Question didactics project, different ways of questioning may spring up regarding the concepts used such as those of engagement, uncertainty or creativity and, more broadly, the comprehensive and/or praxeological aims of research.

The social constructivist approach is relevant to think eco-citizenship in terms of citizen responsibility about technosciences possible consequences and critical glance development. The responsible terms come from the Latin verb *respondere* (to answer)



meaning differently according to psychoanalysis references. My approach in clinical didactics underlie that every subject is responsible for what comes to him: “to answer for (his choices, his acts, his existence...) by multiple ways of language and answer to ... whom? To others, to human community, to other men” (Rouzel, 2002). The usual current strength of psychoanalysis theory is “to support the subject commitment and responsibility, including in the failures of his actions in the talking cure as in educational research”. (Brossais, 2016, p. 16).

The trial constitutes the moment when the subject verify its quality by setting in motion experience’s transmission without being assured of his action’s result. The unpredictable outcome of every transmission thus suppose the contingency is central to that experience. The notion of trial allows questioning the relation and complexity of knowledge, teacher and student, as spaces of creativity and invention (Brossais, 2014). The test-proof opens up a line of questioning to study the complexity of the teaching process, the choices the teacher has to make and the spaces of creativity opened to him.

Admittedly, this concept “relation to trial” associating didactic conversion, subject supposed to known and impossible to bear (Brossais, Jourdan & Savournin, 2017) can be a tool for formation allowing to assist teachers, trainers, education advisers reflection, which is the second research finality of Socially acute Questions described by Alain Legardez in this special issue.

Didactic conversion, subject supposed to known and impossible to bear (Brossais, Jourdan & Savournin, 2017) are dimensions allowing specifying the relation to the concept of “trial”. This emerging concept can be a tool for formation allowing to assist teachers, trainers, and education advisers’ reflection. Thus, it corresponds to the second research finality of Socially Acute Questions described by Alain Legardez in this special issue.

Undoubtedly, in a trainer position on SAQ clinical didactics, my goal is the transformation of the forms of self, based on research. However, I do not adopt an activist posture in the educational community. Activisms consist in transforming students’ identity through research. Activism consists in convincing the actors so that they engage in the militant action in their school education without reducing it to reproduction of gestures or good practices (Lange, 2015). In my opinion, activism is near to compliance without pressure that is an influence process: a sort of students’ manipulation with good intentions. Carter (2013) wish to highlight teachers’ values and believes in a responsible way in their initial training, who would then train their students and encourage same capacities. In contrast with these studies, my aim is not to transform teachers that I met during my research. In the framework of socially acute questions clinical didactics referring to psychoanalysis, I’m focusing on teachers choices in an empathic position with no intention to change theirs acts when they participate in my studies. Indeed, I support the value of their speech, as a product of the subjects associations and the place of the speaker manifestation and not as a simple vehicle of data support. Between an activism aiming to raise actors’ awareness and social justice and a view to produce knowledge without intervention, there is a place to unfold researches relative to Socially Acute Questions and social changes.



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