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Beyond Subject Specific Approaches of Teaching and Learning: Comparative Didactics

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This thematic issue brings together contributions from Swiss, French and Swedish educational researchers and provides new theoretical and methodological perspectives for a comparative approach to teaching and learning through didactics. By the term "didactics", we mean research on teaching and learning in relation to contents and subjects featured in the curriculum.

Issues related to teaching, learning and subject contents are central to educational practices. Yet, they tend to be discussed in fragmented ways generated by different curriculum organizations in national schooling contexts and historical-cultural traditions in which teacher professions develop. The progressive construction of a broad community for educational research generated interest in starting a dialogue between different traditions of didactic research on the relationship between learning, teaching and the related content to be known (Hudson and Meyer 2011). Relations between curriculum studies and didactic approaches have been already discussed at a theoretical level (Gundem and Hopmann 1998). However, the

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interactions between theories still need to be examined through empirical examples in order to produce a comprehensive framework.

Historical and Institutional Backgrounds for Comparative Didactics

In French-speaking countries, a field bringing together the so-called *didactiques disciplinaires* has grown up for studying the irreducible role of knowledge content in teaching and learning (Caillot 2007). This area of French educational research is based on the idea that the relationships between the teacher and the students are shaped by the specific ways of knowing related to disciplines (or subjects) as cultural categories of human practices (Bourdieu 2001). In this view, there is no single *didactique*, but a set of *didactiques disciplinaires* (translated as 'subject didactics') seen as a myriad of research fields attached to school subjects (Schneuwly 2011). These research fields share some common concerns: (1) the rejection of the direct use of methods and concepts developed in cognitive sciences to account for the classroom practices; (2) the critical reflection on the epistemological, sociological and historical issues about contents taught; and (3) the analysis of teaching designs and their consequences in the classroom actions. Subject didactics study the triadic relationship linking the teacher, the students and the knowledge content to be taught and learned. The concept of *didactic transposition* (Chevallard 1985/1991) accounts for changes between the bodies of knowledge as they are constructed and used in various out-of-school social activities (ranging from everyday life and professional practices to academic practices producing scholarly knowledge) and the bodies of knowledge that are packaged for the specific purposes of teaching (Chevallard and Bosch 2014). The consequences of the didactic transposition as an institutional process can be studied by analysing the content taught and learnt in the classroom.

Driven by the development of teacher training within universities, the need to better account for the teacher's role led to extensive analyses of classroom transactions in order to grasp the content taught and the dynamics of teaching and learning process as a *joint-action* (Sensevy 2011; Sensevy and Mercier 2007; Sensevy et al. 2005; Venturini and Amade-Escot 2014). In this context, *comparative research in didactics* (*didactique comparée*) progressively grew in the early 2000s for discussing the relationships between the theoretical constructions born within the subject didactics. A scholarly society, the *Association pour les Recherches Comparatistes en Didactique*, was created in 2006 in France, followed by the launching of the journal *Education & Didactique* in 2007. Beyond scattered studies on subject-specific issues in teaching and learning, the scope of inquiry in comparative didactics is extended to the relationships between content-specific and generic features of teaching and learning practices (Mercier et al. 2002). These relationships are made particularly salient when comparing different teaching and learning practices, in different subjects (e.g. mathematics and French language) and/or different educational contexts (various national curricula, primary versus secondary education, etc.). To proceed, certain theoretical frameworks created in subject didactics, such as the *didactic contract* and the *didactic milieu* (Brousseau

1997), were re-conceptualized to focus on teacher and student agency related to the content at stake during classroom transactions (Amade-Escot 2013; Ligozat and Leutenegger 2012). These theoretical tools serve as *tertium comparationis* (third comparing term)[1] for relating two or more seemingly different forms of practice pertaining to the individual, institutional and social conditions of knowledge diffusion.

In Sweden, the term *general didactics* was created in the late 1980s. The term was introduced to create possibilities for generating communication and work between subject didactics. On the basis of empirical results in subject didactics, the aim within general didactics was to create more overarching theories on teaching and learning. It is important to note that even though the aim was to create theories that were not restricted to a certain subject field, the theories were still supposed to focus on the content of educational practices and discourses. The term was also used in educational settings where it sometimes lost the meaning of creating a bridge between subject-specific didactics. Today, the term 'general didactics' is often used when naming courses and giving titles to books. In Sweden, during the 1980s and 1990s, many studies within curriculum theory inspired didactics focused on identifying teaching traditions within different subjects. When using a historical perspective, it became clear that the implementation process moving from authoritative texts, for example, national standards and syllabuses, to classroom practices is not a straightforward process and that what becomes a subject teaching content is contingent to ongoing ideological and pedagogical struggles (Englund 1986; Goodson 1987; Popkewitz 1987; Rosenthal and Bybee 1987).

The different teaching traditions within a subject function as interpretative resources—ideological as well as pedagogical—that lead to a great variety of teaching practices, even when the process of implementation starts from the same authoritative text. A crucial characteristic of this research was that studies not only focused on the cognitive dimension in meaning making but also on the normative. The effort to look for continuity between the cognitive and the normative is a consequence of embracing a pragmatic philosophy (Cherryholmes 1988). The invention of the concepts of companion meanings and companion meaning analyses (Roberts and Östman 1998), which was a product of the encounter between the Swedish didactical research tradition and North American research on science education inspired by the work of Schwab (1962), captures the collateral learning that accompanies the learning of cognitive content and skills. An important part of analysing companion meanings and socialization content, in general, is identifying different discourse rules, which form the background to formulating so-called didactic typologies.

The research program established in the early 1990s (Englund 1996) has been used and developed by many researchers (Quennerstedt 2008). In the following two decades, this program was also complemented and transformed by classroom investigations on the interplay between the intrapersonal, interpersonal and institutional dimensions of meaning making (Klaar and Öhman 2012; Öhman and Östman

[1] The historian and anthropologist Marcel Detienne describes the heuristic value of selecting a category, "which is generic enough to allow the beginnings of a comparison but neither too general nor too specific to any particular culture", in order to highlight differences in historic-cultural phenomena, but also to rework the category itself from the "shock of the incomparable" (Detienne 2008, p. 25).

2007; Östman and Öhman 2010), where both the cognitive and normative dimension of teaching and learning are taken into account (Garrison et al. 2014; Jakobson and Wickman 2008; Lundqvist et al. 2009; Öhman 2010; Östman and Almqvist 2010). An important part of this development was the design of specific methods for in situ analyses of both the process and the content of learning—practical epistemology analyses (Wickman and Östman 2002)—and the role of the teacher in students' learning: epistemological move analyses (Lidar et al. 2006). These methods are continuous with earlier analytical methods, such as the pragmatic discourse analyses developed by Säfström and Östman (1999) used in analysing texts and interviews. Altogether, this research and the models and methods built form a critical and transactional approach and research program for creating knowledge on didactical issues (Östman 2002). This approach and program have ambitions similar to those that Klafki (1994) formulated within the "Kritisch-konstruktiver Didaktik." As comparisons are an important methodological strategy in discourse analyses, comparative didactics today is a natural part of this research tradition in Sweden.

Statements

Although they developed along different trajectories (Wickman 2012), both the French and the Swedish approaches acknowledge the importance of analysing the content of teaching and learning actions in order to characterize the logic of classroom practices in relation to curriculum choices (Almqvist and Östman 2006; Amade-Escot 2006; Amade-Escot et al. 2015; Anderson et al. 2013; Bengtsson and Östman 2013; Gruson and Forest 2011; Hamza and Wickman 2013; Leutenegger 2009; Ligozat 2011; Ligozat et al. 2011; Maivorsdotter and Quennerstedt 2012; Rudsberg et al. 2013; Schubauer-Leoni and Leutenegger 2005; Sensevy 2014; Venturini and Tiberghien 2012; Wickman and Ligozat 2011). The French and Swedish research traditions in didactics presented in this issue share a common interest in socio-cultural and pragmatist approaches to the intertwined process of teaching and learning, particularly featured by Dewey's philosophy, Mead's social interactionism, and the later works of Wittgenstein on language.

Comparative analyses have the potential to bring together different facets of classroom reality, ranging from micro-scale situated events to institutional norms and determinants pre-constructed in teaching traditions and curriculum texts. Beyond merely gaining a better understanding of classroom practice, the purpose of this comparative stance is to elaborate a new comprehensive network of concepts and methods through theoretical/empirical clarifications, supported by pragmatist philosophical considerations.

Overview of this Interchange Issue

Each of the six papers included in this issue seeks to overcome the boundaries in which subject-didactics research has too often been confined. Beyond the specific local research interests of the teams involved, each paper contributes to the global

spectrum of comparative research in didactics as a field under construction at the international scale. Within this set of papers, we would like to highlight two main lines of comparison, as provisional directions for future work in didactics.

Comparing the Role of Structuring Resources for Educational Activities and Their Effects

This group explores day-to-day classroom activities segmented into school subjects in order to highlight different *categories of resources* that are central to the didactical activity studied.

The first article by Jakobson and Wickman focuses on the *nature of artefacts* used in science and art classrooms, leading elementary students to learn distinctive content about a familiar object. In the second article by Ligozat and Leutenegger, samples of teaching materials used in early school grades for French language, mathematics and science are compared in order to understand the expected teaching practices and the *subject-specific learning epistemologies* embedded in the curriculum texts.

Comparing Theoretical and Analytical Approaches to a Variety of Classroom Situations

This group focuses on the analytical power of *the conceptual constructions* developed by subject didactics research on classrooms, curriculum studies, and more generally research in the learning and communication sciences. It includes the combination and conversion of conceptual categories for describing a broad range of human activities to the specificity of teaching and learning actions.

The third article by Östman, Öhman, Lundqvist and Lidar in the context of teaching science and physical education, seeks to illustrate an analytical approach for creating knowledge on how teachers do motivational work in connection to students' learning of subject content and what consequences this motivational work has for producing companion meanings regarding situated identity. The fourth article by Sensevy, Gruson and Forest introduces the concept of *double semiosis* within the joint action theory in didactics, as a generic tool for analysing the balance between the milieu and the contract in the cases of early mathematics and English as a foreign language. The fifth study, by Amade-Escot and Venturini, compares the respective contribution of two theoretical approaches: the classroom ecology paradigm and the joint action framework in didactics, and how the later expands the understanding of the incredible uncertainty of classroom transactions in physical education. In the sixth article by Almqvist and Quennerstedt, the descriptive categories built on the *role of the body* in physical education are probed in the science classroom to analyse body-artefact relations.

Beyond these two lines of comparison, these six papers reflect on the epistemological assumptions embedded in the conceptual and methodological constructions used in didactic research traditions. They include references to traditional, broad theories on learning and development and the nature of

knowledge, as well as the influence of culturally bound teaching traditions and curriculum reforms.

From this overview, we should make clear that this comparative research in didactics seeks to extend our understanding of teaching and learning practices by synergizing different research perspectives grounded in subject-specific studies and more general theories from the social sciences. This is not to say that organizing teaching and learning practices should be revised towards interdisciplinary teaching projects supported by ultimate curriculum reforms, nor that research in subject didactics should be given up in favour of more general models. Rather, as a comprehensive approach to learning experiences, classroom communication, teaching designs and curriculum choices, comparative didactics seeks to explore the institutional 'boundaries'—values, habits, underlying assumptions, etc.—in which knowing unfolds. This also includes examining conceptual differences and similarities among theoretical and analytical tools used by educational researchers from different fields to study teaching and learning processes.

Hence, comparative didactics does not overlap with comparative education. The purpose pursued here is not to compare the socio-cultural features of schooling processes across national contexts, nor to compare their effectiveness. Comparing different 'insights' provided by subject-specific research (empirical, methodological and conceptual) is rather an experimental means to foster the understanding of the nature of classroom practices, as a set of human actions that are purposively organized towards dissemination of a socially legitimated culture. In this way, comparative didactics seeks to open up a debate within the international community of educational researchers with a common ground in didactic research focusing on the learner's experience, the teacher's professional practices and the evolution of culture(s) within social frameworks.

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