The most important challenge that teacher education has to meet nowadays is its intended and widely echoed acknowledgment as a lifelong process. As such, it has to assume the responsibility to respond to underlying societal questions and concerns producing historically constructed and culturally-embedded goals and expectations. Inevitably, teacher education is not static in nature and thus never subject to quantifiable definitions; it demands conceptualizations to fit its constantly-changing and socially-mediated character. The sociocultural perspective taken on by educationalists was the kernel point that marked the shift from previous paradigms investigating learning as the final product following an “impartation of knowledge” by an instructor. This approach carried an implicit consideration of the learner and the individual mind as a “storage device” (Edwards, this volume) of input and locus of knowledge production, while learner’s production (i.e. application of knowledge) was viewed as the proof of successful knowledge acquisition. The assessment involved contrasting the learner’s new state and level of competence with historically constructed, government-set standards of proper or approved knowledge. In research, this sociocultural perspective reallocated the locus to investigating the process involved in the conjunction of activities during knowledge acquisition.

We are currently crossing an era featuring major societal, technological, and methodological advances. These innovations have brought about important changes in models and goals for teacher education. For this purpose, the authors exemplify throughout the book how the cultural-historical perspective shifts the understanding of knowledge as an object or a quantified unit, portrayed as the accumulation of various outputs, to propose a view of knowledge as situated in and contextualized by systems of activity, as “something to be accessed and developed in joint work on a potentially shared object (concern) of activity” (Ellis in this volume, p.97), which generates the
activity in terms of providing it with a purpose. Thus, Cultural-Historical Activity Theory (CHAT) seeks to understand “the situatedness of knowledge and the participatory nature of learning, not in terms of knowledge being relativistically situation-bound or learning merely as reproduction, but in trying to explain the relationship between local activity by human agents in specific settings and the historical, culture-making processes that allow ideas to travel” (ibid.: 97).

Cultural-Historical Perspectives on Teacher Education and Development begins with a brief, yet insightful overview of CHAT, its development, and its basic tenets. It outlines the convergences and distinguishing features of both sociocultural theory and CHAT. In this outline, the authors distinguish the two theoretical frameworks, the main ideas and the key figures that played a significant role in their development. The two theories share various points and premises and are often used interchangeably, taken to mean basically the same; nonetheless, they were developed out of different concerns (Edwards 2007: 2). Sociocultural Theory is based on the central Vygotskyan idea of mediation in human cognitive development, and was picked up in an attempt by North American and Western European interactionists to overcome dualistic accounts of “mind and world or self and context” (ibid.). Mediation is also central to Cultural-Historical Activity Theory, and is viewed in a slightly different way to incorporate the Marxist tenet that human activity (labor) determines human consciousness and not the other way around. CHAT conceives semiotic/tool mediation in its ability to be shaped in human activity and in turn shape the human activity itself. From this lens, it is a source of transformation of current practices, development, and contributes to shaping culture. This distinction is made explicit in the introductory section of the book, thereby situating the readers, and helping them to get a better grasp of the historical development of each framework to better understand the theories themselves.

Cultural-Historical Activity Theory, or simply Activity Theory - although the two have been defined as two strands of research (Zinchenko 1995), is a theoretical framework that owes its genesis to multiple philosophical sources, including Marxist writings (Engeström & Miettinen 1999). The theory began with the notion of social and semiotic mediation in human cognitive development, and later formed the basis for socioconstructivist theories of learning and cognitive development. CHAT combines various schools of thought and results from the efforts of three generations of research by prominent intellectuals to make a “psychology grounded in Marxism” (Wertsch

The second generation of Activity Theory is primarily accredited to Leont’ev, who developed Vygotsky’s theoretical conceptualizations on human learning from the individual level to the collective; this was interpreted as a response to the political issues of the time (Smagorinsky provides a detailed account relating the historical development of Activity Theory with the existing political situation in the Soviet Union in Chapter Two of this book). The third generation, was mainly advanced by Engeström (1987), who took CHAT from the context of the Soviet Union, where it was initially conceived and developed, to the Scandinavian (Finnish) context, and expanded the idea to illustrate an activity system on the premises of three interacting entities, i.e. subject, tool, object, mediated by cultural artifacts, i.e., community, rules and division of labor. They are referred to as the activity theory conceptual tools.

Following the overview of CHAT and sociocultural theory, these frameworks are brought to bear upon the issue of teacher education. Predominantly, this book considers the “peculiar problem of preparing teachers” (Labaree 2004:39; introduction of this volume) and addresses teacher trainees, teacher educators, and generally all researchers and practitioners aspiring to understand the complexity of teacher education. It offers examples of research conducted in this area investigating teachers as learners in specific sociocultural contexts. Particularly, it comprises research performed on teacher practices in different parts of the world, namely the UK, the USA, and Europe; and offers a range of methodologies to “operationalize” CHAT (Mwanza 2001), to conceptualize, analyze, and understand the practices described. According to the editors, the book is concerned with providing evidence of the theoretical and methodological affordances of CHAT to teacher education, based on its inception as a process-oriented theoretical framework.

Point made, the book aims to:

1. Demonstrate the contribution of sociocultural and cultural-historical activity theory (CHAT) towards our understanding of teacher learning.
2. Offer a strong exemplification of a research focus on teachers as learners in specific sociocultural settings;
3. Show what teachers learn, how they learn and where they learn, using specific research examples, in the context of broader interests in the development of professional practice and professional education.

The book comprises fourteen chapters which are divided into three sections according to their thematic content. In the first section, the social setting around the activity of teacher development in multiple locations is depicted through a CHAT or/and Vygotskian reasoning; in the second section, the focus shifts to methodology, displaying various methodological perspectives informed by CHAT. The final section consists in presenting innovative teacher training programs and practices from “contrasting locations” (editors’ words), such as Iceland, China, Luxembourg, and the USA, developed under the cultural-historical perspective.

In section one, and specifically in Chapter Two, Peter Smagorinsky takes up an essentially Vygotskian perspective to look at how a first-year teacher assigned to teach writing skills to high-school students in the USA constructed her teaching setting in the broader context of fixed school and classroom structures, which he refers to as the “arena”. In this chapter, he describes the “individual mentation”, as he calls it, of the specific teacher as it develops in the social context of the school and the committee that supervises her teaching. He uses the Vygotskian idea of sociocultural mediation and the process of internalization and externalization to describe and conceptualize the subject’s activity. He contrasts the sociocultural perspective with the activity theory perspective (as developed in Leontiev’s writings), explaining how the different orientations of activity theory and sociocultural theory bring about different analyses. This is due to their different foci (emphasis on the individual activity versus collective activity) and thus requires different collection/selection of data (Smagorinsky:27)

In Chapter Three, Alaster Douglas compares the practices of two university departments working on a PGCE\textsuperscript{i} course in England. He uses CHAT as a heuristic analytical tool to make sense of the practices performed by the two departments during mentoring sessions between student teachers and university mentors, who meet to discuss teaching-related issues. Douglas shows how the CHAT terminology helps to understand the different actions performed by each department and thus enables the comparison of the two. Through the comparison, he illustrates how different practices constructed by diverse motives (from the point of view of the respective tutors) result in different constructions of the object of educating teachers.
In Chapter Four, Jane McNicholl and Ann Childs tackle the common problem for student teachers of a subject-matter in England during a science PGCE program to fully achieve the object of teaching PCK\textsuperscript{ii}. They investigate the interrelationships between school and university contexts with regard to the development of PCK, through two small-scale projects. They analyze how the social context and social interactions at the school acted as the enablers of learning in science teaching education.

In Chapter Five, Anne Edwards hubs her argumentation on the question of “what kinds of teachers for what kinds of learners”, in the context of PGCE programs in England during the last two decades. She is concerned about a narrowing of focus in local teacher education programs, where research findings revealed student teachers’ tendency to strictly work on delivering the university curricula in terms of what and when to teach, instead of dealing with why and where to teach (p. 71). She argues how this restricts them from embracing the essence of the teacher role in Vygotskian terms, carrying responsive teaching and to act as mediators in the process of forming “socially responsible learners” (p. 72), and displays the implications of the Vygotskian legacy and CHAT for teacher education.

In Chapter Six, the last one in the first section, Eva Hjörne, Pernilla Larsson, and Roger Säljö report findings of a longitudinal research on the activity of pupil-health teams in Sweden that have been assigned by the government to provide support to pupils in terms of social situation and well-being at the school. They take on a micro-ethnographic approach to the analysis on the data collected and analyze the talk that takes place in the meetings of these pupil-health teams. They build their analysis on the construct of ‘social language’, as conceptualized by Bakhtin, in order to recognize the categorizations of the pupils as they can be seen in the discourse of team members during the meetings. They argue how these pupil-health teams in their current way of working do not adequately respond to the initial object to assist and provide support for pupils’ well-being at the school, since they tend to “account for” students’ educational difficulties and explain their causes, instead of “accounting of” these problems by analysing and describing the sociocultural context in its historical dimension.

The following four chapters constitute the second part of the book and elaborate on cultural-historical methodological perspectives. In Chapter Seven, Viv Ellis focuses on the Vygotskian methodological concept ‘double stimulation strategy’, and uses it to examine the process of pre-service teacher education and development in England. He
displays the findings of two research projects performed around the object of teacher education. He analyses two examples of research. In the first example, he shows how he used drawings as a ‘stimulus-means’ (tool) to trace the conceptual development of pre-service teachers during one year of training at the university and their first year of employment. In the second example, he discusses the similarities and differences between his project and Engeström’s work in Finland (see CHAT&DWR iii), and presents the findings of his Developmental Work Research (DWR) project. This project involved collaboration with a group of four university departments of teacher education, where he got the group familiarized with activity theory and its conceptual tools as a ‘stimulus-means’, with which they would get to the ‘stimulus-end’ of analyzing current teaching practices in England, identifying their deficiencies, tensions and contradictions, enabling possibilities for positive change in those practices. This is an interesting study because it is a direct and detailed account of Vygotsky’s conceptualization of how the processes of internalization and externalization work through double stimulation. First, it helps the reader understand what is meant by the ‘double stimulation strategy’, and second, it demonstrates its affordances to the understanding of human forms of psychological activity.

Gill Boag-Munroe (Chapter Eight), takes the emphasis on language as semiotic tool to reveal meanings related to the surrounding social world. She compares two methods of analysis of talk; namely Conversation Analysis (CA) and Critical Discourse Analysis (CDA), and their respective affordances to the study of human activity at the collective level, under the scope of CHAT. She then discusses the findings of the analysis of talk taking place in an Initial Teacher Education (ITE) program in England, using CDA as the analytical tool.

In the same tone, Chapter Nine offers an account of how student teachers learn by participating in various social settings, which they call “learning spheres”. The authors, Jahreie and Ottesen are interested in how student teachers work discursively in those spheres, and how individual and collective agency emerges as they deal with the opportunities, resources, and constraints of the learning spheres in which they participate. To analyze the talk-in-interaction that takes place in the specified learning spheres, they construct an interaction analysis model around the concepts of account, script and positioning, which they use to show how the process of knowledge construction is a dynamic between individual agency, and collective actions in different
learning spheres. These spheres always move within the boundaries of the cultural-historical activity of teacher education.

In Chapter Ten, the last chapter in this section, Annalisa Sannino reports the findings of an innovative project (its typology unusual for the specific local and social context) carried out in Italy involving the collaboration between an Italian university and a local elementary school. The project was pioneering in that the instruction was mediated by the use of a technological tool (5D), and in that the interns would be more actively involved in the instruction (instead of simply observing the teacher’s practices as it was traditionally done and write ethnographic field notes after each session). In her analysis, she draws on Leontiev’s theoretical concepts of ‘need’ and ‘object’ and Davydov’s “empirical and theoretical generalization” to describe the learning activity of the teacher trainees, which she describes as an “extraordinary act”, showing how the teacher trainees pass from the “abstract phase” of teaching pupils, cultivated in university lectures and other theoretical instantiations, to the “concrete object”, which came about when the trainees discovered what it actually meant to teach pupils with peculiarities and potentials. She constructs a four-step model to situate this “movement from the abstract to concrete”, and therefore the learning activity of the teacher trainees with which she accounts for her research findings. In this part, it is interesting to note how models of interaction analysis can be used to fit the purposes of Activity Theory to study individual agentic actions in the context of collective activity.

The third section of the book focuses on the operationalization of the third generation of Activity Theory looking at the interaction of two or more activity systems and the resulting tensions which lead to the transformation of practices and objects. The third generation of CHAT is generally focused around the work of Engeström (2001), who defined five principles to summarize Activity Theory; (1) Activity system as the primary unit of analysis, (2) multivoicedness, (3) historicity, (4) contradictions, and (5) expansive cycles. The idea is that activity systems need to be examined as: (1) collective, artifact-mediated, and object-oriented, (2) undeniable communities of multiple views, perspectives, interests, and traditions, and where participants take on different roles, (3) developing over lengthy periods of time, (4) prone to tensions and problems rooted in the different perspectives that co-exist within one and the same activity system or between activity systems, (4) not static but possibly leading to expansive transformations to embrace a wider horizon of possibilities than the previous
activity, achieved by the reconceptualization of the object and motive of activity – therefore contradictions are the source of change and development (Engeström 2001: 136-137).

Along these lines, in Chapter Thirteen, the first chapter of the third and final section of the book, Thuridur Jóhannsdóttir conducts an analysis of the contradictions found in an innovative and relatively recent educational approach for teacher education taking place in Iceland. The research follows the launching of an online/distanced teacher learning program which allowed student-teachers to study and work in schools at the same time. The research interest was to explore the significance of the teachers’ participation in this program for school development over time. Jóhannsdóttir uses Engeström’s conceptualization of expansive cycles of learning and the inherent idea of development defined in terms of people overcoming constraints of a situation by breaking away and transforming the situation. In this chapter, he gives a thorough account of the four levels of contradictions identified by Engeström and uses the findings of his research as examples to analytically explain the process of development and accomplishment of an expansive cycle of learning through the resolution of contradictions. This offers the reader a comprehensive understanding of the term contradictions and the general process of how an expansive cycle works.

In Chapter Twelve, Yongcan Liu and Linda Fisher, present an attempt to change the traditional pedagogy used in the Chinese context of teacher education, and describe the conflicts that arose as consequence of the resistance met by the local community. They use the third generation of CHAT to describe the two systems, the traditional (Confucian-based pedagogy, strictly teacher-fronted) and the liberal pedagogical system (student-centered, interactive-process of learning), and the nature of the intercultural tensions created during the interaction of the two activity systems (the two cultures of learning), which resulted in creating the situation of “one community, two systems” (authors’ words). This chapter offers another example of research using the third generation of CHAT, and allows a closer look into the deployment of the premises of this generation to analyze and exemplify the complexity of the interaction of multiple (and different) activity systems, interpreted as resistance to change (adopting a new tool, strategy, or method).

In Chapter Thirteen, Lori Norton-Meier and Corey Drake describe research on a teacher education program in the United States, where they seek to understand student
teachers’ learning at the intersection of overlapping scripts and normative patterns of interaction (what they conceptualize as “third spaces”). These overlapping scripts and patterns of interaction stem from the different physical contexts they participate in (university-school-local community). They draw on the Activity Theory premise of the centrality context and activity and discuss the interplay of subjects as it takes place during this university-school-community collaboration, as well as the changing roles and emerging identities of the subjects during this experience, the mediational artifacts in the third space, and the challenges faced by teacher educators to make the student-teachers see and understand the learning potential of the “spaces” they are involved in.

Last but not least, in Chapter Fourteen Charles Max stresses the need for reforms in initial teacher education organization and practices to respond to the needs of the twenty-first century and develop a novel learning culture in Initial Teacher Education (ITE) across institutional boundaries. He reports the findings and analyzes the tensions encountered in an innovative ITE program at the University of Luxembourg, where internship student pairs and classroom teachers collaborate in teams to co-develop a Collaborative Classroom Inquiry project, counting on the support of a university tutor. During this project, they work on the dialectical “enacting of theory and theorizing practice”. He addresses the transformative potential of joint learning-for-teaching using the theoretical background of the third generation of Activity Theory and Engeström’s model of Developmental Work Research to contextualize the practice taking place. This chapter provides interesting terminology such as boundary zones, boundary objects, boundary-crossing tool.

Overall, each contribution made to this book presents a different strand of analysis, undertaking a different theoretical premise of Activity theory. The book deals with and illustrates the large range of possibilities this framework offers for research in teacher education. CHAT has been widely advanced as the “best kept secret in academia” (Engeström, 1993: 64), and latest development in research to conceptualize any form of learning as socially and culturally embedded and to offer tools to understand human activity and development. It is being used in a wide scope of research, such as the investigation of human-computer interaction (Nardi 1996), organizational practices in developmental work research, where technology is the key mediating tool (Engeström 1987; 1999, CHAT&DWR), and language learning and teaching (Roth & Tobin 2002; Roth & Lee 2007).
Arguably, Activity Theory is an encompassing framework to analyze how learning and cognitive development take place in activity; however, “it does not offer ready-made techniques and procedures for research; rather its conceptual tools must be concretized according to the specific nature of the object under scrutiny” (Engeström, 1993); and this is exactly what this book is about. Even though it does not provide evidence of research on educational systems worldwide – this was not the intention of the book, it is the only book currently available to provide an informative account of CHAT applications in teacher education in various social and cultural contexts. It offers the opportunity to acquire insights into diverse educational systems around the globe as modes of comparison and acknowledgment of the complexity and the problems in current teacher education; it encourages the readers to get acquainted with specific educational systems and practices; and to stumble upon strong points, deficiencies, implications, as well as examples of reconceptualization of practices. The meticulous elaborations of particular CHAT premises elucidate the understanding of this framework, both from a theoretical point of view and on an applicative level. It demonstrates the use of basic CHAT tenets and helps the reader see how CHAT can be used conceptually to analyze and make sense of the complex environments of teacher professionalization in different parts of the world. The book also proffers a wealth of examples of its application to specific research through cases that use various methodologies constructed on the premises of CHAT, and makes up a highly recommended resource for teacher educators, teachers, researchers, and any other educational stakeholder interested in learning more about CHAT and its possible applications to research on teaching and learning.

References


1 The acronym stands for Postgraduate Certificate of Education, and it refers to a special qualification required from graduate students of Education in the UK (England, Wales, and Northern Ireland) in order to become teachers in state maintained schools, leading to Qualified Teacher Status (QTS). It is acquired after one (full-time) or a two year (part-time) course, during which the students are trained to develop their teaching skills on the specific subject they studied at the university. The PGCE degree also includes credits towards a master's degree.

2 Pedagogical Content Knowledge is an idea introduced by Shulman in 1986 to address the problematic dichotomy identified by research in teacher education practices that treated content and pedagogy as two mutually exclusive domains of research. This idea stresses the necessary relationship between the two to fit the demands of suitable teacher knowledge; in essence, recognize appropriate teaching approaches for specific content, and similarly, know how the targeted content can be arranged to achieve efficient teaching.

3 Engeström is currently leading a Center for Activity Theory and Developmental Work Research in Helsinki, Finland. For more information visit: http://www.edu.helsinki.fi/activity/
for teacher training. The upcoming doctoral thesis looks into the process of teacher professionalization of a group of student teachers that takes place in the different phases of a year-long practicum course at the Universitat Autònoma de Barcelona. It particularly focuses on the phase where aspects of telecollaboration were used, and thus seeks to pinpoint and elaborate on the role of this construction in the overall activity of teacher professionalization. Activity Theory is used as the theoretical lens to analyze first the multifaceted setting created during the activity of becoming a teacher and second the complex interrelation of task as design/workplan and the activity in which student teachers engage themselves for its implementation within the telecollaborative learning activities.

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