



Editorial: Cultural historical theory & VET – A contribution to broadening the theoretical grounds of research in VET

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During the last three decades we have seen a remarkable increase of interest in the use of different variations or lines of cultural historical theory in educational research. Research within Vocational Education and Training (VET), a field that deals with problems at different levels and in different contexts (i.e., school and workplace), has not been an exception (c.f., Rauner & Maclean, 2008). One of the arguments for this growth of interest has to do with the theoretical and methodological advantages that cultural historical theory brings to research. These include aspects such as the object-subject relationship, the role of mediation, and the cultural historical context of human interactions.

Yrjö Engeström, one of the most influential researchers in this field, summarises developments and describes three generations of activity theory (Engeström, 1999, pp. 377–406). The first generation was heavily influenced by the works done by Lev S. Vygotsky, and in particular the concept of mediation. Vygotsky essentially brought together cultural artefacts with human actions in order to deal with the individual/social dualism. During this period studies tended to focus on individuals. The second generation moves beyond Vygotsky's individually-focused to Aleksei N. Leontiev's collective model. According to Engeström's interpretation the unit of analysis is then expanded to include collective motivated activity towards an object, making room for understanding how collective action by social groups mediates activity. A distinction is made between what Engeström calls classic Vygotskian psychology, emphasising the way in which semiotic and cultural systems mediate human *action*, and Leon-

tiev's second-generation focused on the meditational effects of the systemic organization of human *activity*. The expansion of Vygotsky's contribution includes the addition of elements such as community, rules, and division of labour. The importance of analysing the interactions between these elements is particularly highlighted. Engeström credits Evald Ilyenkov with stressing the significance of contradictions within activity systems. The third generation of activity theory includes researchers like Engeström himself and Michael Cole, to mention most prominent examples. Engeström draws on ideas on dialogicality and multivoicedness in order to expand the framework of the second generation. The idea of networks of activity within which contradictions and struggles take place in the definition of the motives and object of the activity calls for an analysis of power and control within developing activity systems. Development of the theory continues and, according to Engeström (2009), the rapid rise of new forms of activities and the dominance of knowledge work, encourages a rethinking of the third generation model, leading to what he calls a new, fourth generation activity system model.

The articles in this special issue exemplify the diversity of cultural historical inspired research of relevance for VET. Some of the articles are theoretically oriented while others illustrate well different uses of cultural historical theory in empirical research.

In the article *Contribution to the study of personality by 'pioneers' of the cultural historical school: Revisiting earlier research in search for learning*, I analyse the development of the theory of personality in the cultural historical school focusing on the contributions of different so called research 'pioneers' within this school. The presentation and analysis in the article attempts to contribute to VET research through systematising and drawing attention to some of the most relevant contributions of these pioneers. I do stress that the analysis is made with awareness of the complexities and the risks involved in any attempt to summarise a remarkable creative production in research extended through decades. The article expects to contribute to better understanding studies of personality within the cultural historical school henceforth serving to the advance of research within VET. This becomes particularly relevant in times when VET faces challenges from a variety of research problems, which calls for deepening into different theoretical and empirical sources.

The article by Marianne Teräs *Transforming vocational education and training in Finland: Uses of developmental work research* explores uses of developmental work research (DWR) in reforming and transforming practices of VET. According to Teräs DWR was initiated in Finland in the 1980s to enhance understanding about learning in organizations. The aim of her contribution is to elaborate further the approach by examining studies made in the field of professional and vocational education and training. This, consequently, attempts to examine potentials and shortcomings of the approach. In the article by Teräs eight DWR

studies in the field of professional and vocational education and training are summarized, and three of them are elaborated. New tools, conceptualizations and methods for VET are relevant parts of the contribution of this article. Teräs concludes that DWR offers rich and solid theoretical and methodological tools for VET researchers, but likewise warns that they need to develop concepts combining different dimensions of research, and stresses the importance to elaborate outcomes from societal and individual perspectives.

In *Methodological challenges of investigating intellectual cooperation, relational expertise and transformative agency*, Ines Langemeyer highlights that different methodological issues arise with the research of societal practices of 'knowing'. According to Langemeyer the object of study is understood as concrete human activity that always integrates mental, communicative, and practical behaviour in interaction and cooperation with others. This is particularly with regard to contemporary forms of labour in the high-tech-world. Langemeyer argues that this implies investigation of people communicating and reasoning while developing concrete forms of activity. In specific, the methodological issues concern the social and psychodynamic quality of this practice. Accordingly Langemeyer focuses on complexities and considers that cultural-historical concepts like the 'motive' of an activity as well as the 'emotions' that bias the 'experience' of 'transformative engagements' with the world show that their theoretical and methodological understanding are useful to approach complex relations of cooperation. The article discusses critically whether 'double stimulation', a concept coined by Vygotsky, adequates with the system theoretical understanding of activities and transformative agency as it might be found in Engeström's works. Langemeyer concludes by underlining core requirements for a VET-research methodology for intellectualized collaboration.

In the article *VET as transformative, collaborative research: Cross self-confrontation, dialogical artefacts, and the development of organizational dialogue in a Swiss factory*, Laure Kloetzer discusses VET-related collaborative research as a potential transformative experience for workers/work collectives/work organizations. Three main ideas in the creation of dialogical frameworks for collaborative research are followed: (a) Vygotsky's research focus on provoking development in order to study it, (b) Ivar Oddone's ideas on close collaboration with professionals in 'associated research groups' to understand and develop work experience, and (c) Yves Clot's psychological concept of activity that includes both 'realised activity' and 'real activity'. Kloetzer argues that the methodology of cross self-confrontation, elaborated in her research, is based on collective work analysis, thanks to the interplay of two activities - observation and dialogue - within various contexts and for different addressees.

Edited video recordings, which Kloetzer calls 'dialogical artefacts', are used to support analysis and transformations. The methodology is aimed at triggering individual thinking, collective elaboration, and rich institutional discus-

sions, oriented to transforming everyday work organisation. Kloetzer presents outcomes of a research project conducted in a Swiss factory. The project focussed on knowledge transmission and the training of expert workers. The production of films as dialogical artefacts and their effects on the various settings organized by the researchers are discussed. Findings of her study show a transformation of the objects and style of dialogue across hierarchical levels. This is according to Kloetzer a consequence of the discussion in specific organizational settings of the dialogical artefacts produced by the researchers and the expert workers from the associated research group.

In *Enhancing learning as theoretical thinking in robotic surgery*, Laura Seppänen, Marika Schaupp, and Mikael Wahlström, take as starting point that professionals in many domains need to deal with increasingly complex, technology-mediated and uncertain work. Accordingly the ways of learning that continuously and flexibly create new knowledge are needed at work. The article contributes to the aims of this special issue by intending to describe the logic of theoretical-genetic generalisation, and to use this, in addition to other methodological resources from pragmatism and cultural-historical psychology, for developing a learning method for robotic surgery.

Seppänen and co-authors argue that in theoretical generalisation, or theoretical thinking as they call it, the learner orientates him-/herself in two directions: towards producing general, abstract understanding of dynamic interrelations within a phenomenon, and towards flexibly tailoring good solutions for each particular situation. Based on study of robotic surgery, the article presents three different designs for learning based on video-supported joint reflection of real robotic surgical operations. The potential of the outlined method for learning are further discussed in the study presented in this special issue.

Concluding the contributions in this special issue in the article *'Hinged' activity systems: Expanding the utility of activity theory*, Lewis Hughes presents an approach to initiating and structuring activity system guided conversation intended to strengthen stakeholder empathy and partnership in action. The article, as stressed by Hughes, is not, in-itself, an outcome of so-focused research, but it rather shares insights accruing from ethnographic research largely in the VET arena and, in particular, on-going exploration of the circumstances aiding and inhibiting Australian VET teachers including researching and drawing upon the research of others as part of their professional practice. Hughes argues in the article that activity system – as derived from Cultural Historical Activity Theory (CHAT) has much utility in achieving empathetic partnerships between stakeholders in an activity where their respective interests might otherwise be in conflict. Consequently, the notion of the 'Hinge' is offered as a device to expand the utility of Activity Theory.

I very much hope that the contributions presented in this special issue will contribute to inspired research in VET with cultural historical grounds!

References

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