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The Activity Theory Approach to Learning

ABSTRACT: In this paper the author offers a practical view of the theory-grounded research on education action. She draws on studies carried out at the Center for Research on Activity, Development and Learning (CRADLE) at the University of Helsinki in Finland. In its work, the Center draws on cultural-historical activity theory (CHAT) and is well-known for the theory of Expansive Learning and its more practical application called Developmental Work Research (DWR). These approaches are widely used to understand professional learning and have served as a theoretical and methodological foundation for studies examining change and professional development in various human activities.

KEYWORDS: cultural-historical activity theory, CHAT, expansive learning, developmental work research, DWR, action research

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A variety of research strategies on education draw on conceptualizations which have the emphasis on action with the practical intention of development. Therefore, I will specify the theoretical basis on which the studies I mention in this paper are based. My approach draws from cultural-historical activity theory (CHAT), and the studies are carried out within the projects executed in the Center for Research on Activity, Development and Learning (CRADLE) at the University of Helsinki in Finland. The center is known for the theory of Expansive Learning (Y. Engeström, 1987) and its more practical application called Developmental Work Research (DWR). The theory has been widely used to understand professional learning and has served as a theoretical and methodological foundation for studies examining change and professional development in various human activities. The research that uses action-oriented conceptualizations usually has some roots in the philosophical tradition of pragmatism and practice-based understanding of education. Consequently, one essential feature is an attempt to overcome the dualism of thinking and action. The immaterial world is inseparably bound up with the material world, and the human mind can be analyzed as spanning relations not only between individuals, but also between human beings and their cultural products and environments.

CHAT originates from cultural-historical psychology with references, such as Vygotsky (1978), Leontiev (1978) and Luria (1979). CHAT implies different traditions, which are "sociocultural theory, cultural-historical theory, and its subsequent close relative activity theory" (Daniels, Cole, & Wertsch 2007, p. 2). These traditions are, in themselves, "broad theoretical frameworks, which defy complete descriptions to the satisfaction of all concerned." In sociocultural tradition, more emphasis is placed on the analysis of participation and the ways individuals function in communities, whereas in activity theory (AT), it is "joint-mediated activity that takes the center stage in the analysis" (Daniels, Cole, & Wertsch, 2007, p. 2). Of course, these branches interact and they share an international scientific community of research on culture and activity (ISCAR). Together, the traditions provide the scholarly work with an approach that takes both cultural contexts into account and focuses directly on day-to-day situated practices.

In the framework of above-mentioned AT, the Expansive Learning theory offers a methodology for studying social change and respectively educational challenges. The methodology (DWR) relies on the formative methodology (proposed by Vygotsky), which means an intervention approach to learners' problem-solving to facilitate de-

velopmental processes and learning, and to study them as dynamic phenomena of practice. Rather than simply describing what can be found in societal activities, the approach is used for directing the research toward the formation of consciousness in circumstances where problems arise from a changing world, calling for multifaceted responses that challenge long-established practices. Initially, the roots of AT focused on individual behavior and learning, whereas Expansive Learning extended the theory to learning as a collective endeavor. In what follows, I begin by briefly introducing some basic principles of AT/Expansive Learning. Then I look at some examples of studies to give a view of how to put the theory (AT) into practice. At the end, I shall discuss some challenges of current research.

AT RESEARCH FRAMEWORK

The notions of object, cultural mediation and developmental method give an indication of some ideas of activity theory. AT employs the threefold schema of human conduct, distinguishing between *activity*, *action* and *operation,* which are connected through internal relations (Leontiev, 1978). An activity is a collective, object-driven complex that carries longitudinal-historical aspects of human functioning and has its own development. Actions are local and performed by individuals whose goals are incorporated into actions. Operations bear certain typified, repeated features of actions and are launched in response to continuing conditions of activity. People are usually positioned so as to inhabit multiple activities simultaneously. An activity is oriented toward some *object*, which carries and embodies the true motive of activity—that is, its *meaning* and *purpose* in society. Activity is a systemic formation that includes the idea of a "division of labor" that gains strength by becoming institutionalized. In expansive learning, the focus on the object provides learners with an analytical view that is open to changes in working life and helps learners become involved in redesigning professional practices.

Another idea central to AT is *cultural mediation*. Activities are always mediated with human-made artifacts, such as various types of tools and signs. Mediation offers a solution to the debate about whether culture should be either external to the individual as a product of prior human activity or internal as a pool of individual knowledge and beliefs (Cole, 1996). Mediation builds an analytical link between socio-historical processes and their material infrastructures on the one hand, and individuals' mental processes on the other. Humans internalize forms of mediation provided by institutional means. They externalize new forms of mediation by manifesting their mental functioning and collaborating. Therefore, the object of activity can ultimately be considered a construct of reality—a human product—produced through cultural and systematic practices working on living reality.

Expansive learning is realized via a *formative* or a *developmental* method, forming a new paradigm for professional learning (Y. Engeström, Lompscher, & Rückriem, 2005). The formative method is based on the idea of "double stimulation" (Vygotsky, 1978). To put it in simple terms, the first stimulus is provided by a task, the learning

material, and the second stimulus is provided by various means mediating the solving of the first, original task. This intervention-underpinned methodology, originally pertaining to children and their learning, is transferred in Expansive Learning onto research on societal life. Vygotsky's notion of the Zone of Proximal Development (ZPD) as a distance or a difference between the actual level of development (as determined by independent problem-solving) and the potential level of development (as determined by problem-solving under guidance of an adult or in cooperation with more talented peers) is redefined in Expansive Learning to adjust it to study professional learning. In Expansive Learning, the ZPD denotes the distance or difference between the present actions of individuals and the historically new forms of activity, which can be collectively generated as solutions to the double bind potentially inscribed in everyday actions (Y. Engeström, 1987, p. 174). The methodology thus sustains a parallel between the conceptualization of social transformation and the constructive facilitation of transformations. The emphasis on the collective notion of activity does not downplay the importance of an individual's role in learning. The inclusion of the "collective" elaborates on a perspective of learning that, until recently, has not attracted wide theoretical interest in human sciences. Expansive Learning holds that work and learning activities are becoming greater in their scope, and denser in their internal communication.

Four main methodological principles are important in the project design. 1) Historicity traces the past and the future of the present activity. 2) Internal contradictions within the current activity are the driving force of development. 3) A unit of analysis is the activity system (depicted as a triangle). An *activity system* is a systemic view of the relationships between the subject and the object of activity, mediated by cultural means (tools and signs or instruments) and by division of labor, rules and communities (Y. Engeström, 1987). 4) The methodology draws on dialectic logic, in which processes of some unity are interconnected as dependent on and, at the same time, conditioning and influencing each other. Thinking dialectically means stopping to pursue the question of what came first, the chicken or the egg, or calculating these abstract states in terms of true or false, and instead begin understanding them as mutually presupposing in practice (Roth, 2006). In this approach, emerging contradictions are central elements for creating understanding of movement and change.

The methodology aims at incorporating history and development into empirical analyses. Paying scrupulous attention to the variety inherent in human activities, the research involves ethnography and fieldwork as basic methods of collecting data while working with particular people in particular circumstances. The methodology is reflected in the cycle of Expansive Learning and developmental work. The cycle comprises different categories of learning actions as follows (Y. Engeström, Rantavuori, & Kerosuo, 2013):

» Charting the situation (questioning and challenging using "mirror data" about everyday actions at work: videotaped work episodes and interviews, customer feedback, stories, statistics, and so forth).

» Analyzing the situation (using conceptual tools based on the principles mentioned above).
» Creating a new activity model (constructing an explicit model of the new idea that explains and offers a solution to the problem situation).
» Concretizing and testing the new model (experimenting by designing smaller pilots in everyday contexts).
» Implementing the new activity model (by practical applications and conceptual extensions)
» Reflecting on and evaluating the process.
» Consolidating and spreading the new practice.

To provide concrete tools for projects working within AT framework, the Change Laboratory method was outlined for Expansive Learning. The Change Laboratory is a sophisticated learning forum where the members of a workplace community participate in seven to ten sessions to develop their work practices in a temporally bounded process. This is done via dialogue and debate among the practitioners with researchers (Y. Engeström, 2007). Since 1995, the Center at the University of Helsinki has had a postgraduate program based on the AT paradigm that has also served to rethink reflectively higher education.

STUDIES ON EXPANSIVE LEARNING

To briefly sketch this particular approach in practice, I will refer to my personal experiences in activity theory research. I have done research on expansive learning in health care, education, social work, etc., in more than 15 projects. I did my Ph.D. thesis on medical doctors' work. The study was carried out in a project concerning the change of professional demands in providing primary care services in circumstances where the national health-care system needed to be reorganized from functioning like a faceless assembly line to more personal practice. Most recently, in Botswana, in sub-Saharan Africa, I was involved in a research project for facilitating school transformation through capacity-building in introducing information and communication technologies (ICT). The project emphasized the agentative nature of teachers' professional learning. In this paper, I like to highlight the following principles that mediate the theory and research practice: 1) collaboration between practitioners and researchers, 2) the unit of learning is collective instead of individual, 3) the use of analytical tools provided by the methodology (theoretical approach) and 4) dealing with history and time trajectory, i.e., where the working habits come from (the past), what are they now (present) and what are the challenges (future). To be concrete enough in introducing this research approach, I shall start with an example from 1983, which was the first study in this AT tradition and focused on educational challenges in cleaning work. This study communicates some of the key principles in a wrapped form.

The cleaning study was inspired when a unit of trainers employed by a company that provided cleaning services for businesses, schools, hospitals, factories, etc., participated in a university course on didactics of educators' training taught by the

AT-oriented researchers. The unit (six people) was responsible for training those who, as supervisors, would later train the cleaning personnel. During the course, these cleaning experts, educated in home economics, addressed themselves to questions on their object of training, such as "What is cleaning work and how it has changed?" "Who are they who are in the training?" and "What does a cleaner think while cleaning?" The trainers had textbooks about classifications and applications of particular cleaning substances, utensils and tools, and could didactically introduce them, but they had no idea how the people in training coped with combining the new knowledge with their previous functions. As became obvious, cleaners were sent to offices where pieces of furniture were made of new materials; new types of surfaces existed; all the rooms were fitted with new equipment (e.g., computers; this was the early 80s); the cleaning chemicals and instruments had changed, etc. Undeniably, the objective world was fraught with numerous, continuing changes. A change in our minds on experiencing such alterations must inevitably ensue—which also concerns the educators themselves.

The company's training unit was motivated to start collaborating with the researchers to make a qualitative change in training for cleaning work, which they saw as neglected or underestimated, both educationally and in daily practice by managers and clients. The researchers' motive was to study cognition in its practical context, in collaboration with the training unit, a collective unit needed to make transformations in educating cleaners. To produce local knowledge, "mirror data" comprising ethnography from the work was required. This consisted of interviews, video recordings of a series of selected cleaning tasks performed by individual cleaners, and stimulated recall interviews while watching the videos. The stimulated recalls were put into practice individually with a cleaning person in a session with an interviewing researcher. The project also included "object-historical analysis" which used AT-informed tools for examining historical narratives on cleaning (Y. Engeström & R. Engeström, 1986). The cleaners' accounts of their interpretations and the meanings they attached to their cleaning actions played an important role in designing a new model of educating in this domain of work. The AT research led to new developmental projects in this area and expanded into collaboration with the occupational health professionals.

One of the methodological insights from the cleaning study was the way the research data were collected for the purpose of reflecting educational needs. Having considered certain options (like the "thinking aloud" method), we came up with the video recording. It proved effective and continues to be the major data-gathering method in DWR. Together with stimulated recall interviews, the research practice makes the work visible and available for researchers to interpret its events, as well as for practitioners to re-interpret their work for negotiations between them and the researchers. Various voices are articulated, and a dialogic relation is produced pertaining to a particular event and the activity itself. The approach implies that we do not separate thinking and the context in which the thinking takes place; the unity of the two is maintained at all times. This relationship is analyzed with a means provided

by AT, and new ideas resulting from the analyses are explored within smaller or more extensive pilots.

The new collective subject was formed in collaboration between the members of the cleaning work training unit and the project researchers. The centrality of collaboration between researchers and practitioners can be also shown in the Botswana research project (R. Engeström et al., 2014). As an African country, Botswana aspires to modernization, above all by technological and educational change. Although the research was school-based, the whole hierarchy from the Ministry of Education and the University of Botswana collaborated with the project. The project was interested in local capacity-building, when any kind of universality must be relinquished. Nor can science provide a "true" answer to the issues shaping future education rooted in different social and institutional systems. What the researchers can indeed do is to promote creation of new forms between practice and science, to be engaged in knowledge production for negotiations on the content, values and activity models.

The project's main finding was the deep gap between national educational policies with respect to ICT and situations in the schools and their everyday practice. Botswana consists, to a large extent, of desert areas (as much as two-thirds of Botswana is Kalahari Desert); in terms of geography and economy, it is a predominantly rural and agricultural country, with a growing mining industry. By ethnographic methods, interviewing teachers and looking into how teachers actually used the new classrooms furnished with the computer equipment (called PC labs) provided by the state, we identified contradictions in school practice capitalizing on ICT. The national curricula were based on the behaviorist models derived from the British tradition and colonial history, promoting a very textbook-oriented, test-based pedagogy. This also concerned the use of ICT. Consequently, computers were used practically only in the computer rooms and mainly by the IT teachers, without access to PC labs for other subject teachers. The culture of PC labs, with given software, constrained teachers' increasing professional capability to develop novel ICT-based practices.

Three Change Laboratories (CL) were conducted and a pilot aiming to go beyond the current situation in schools by helping the teachers use digital technologies. It had became apparent to the project participants that digital, mobile technology had the potential to provide a lighter technological infrastructure, and one more connected to teachers' (as well as students') everyday life, personal resources and interests. Having observed this, we turned to investigating whether and how the teachers used information technology in their personal lives. Previous studies found that teachers in Europe do use computers and mobile phones for their personal activities and purposes while failing to apply ICT in their classroom work. The teachers participating in the CL at stake were instructed to use various freeware, net-based tools to provide the teachers with the perspective of another ICT infrastructure (in contrast to the PC lab). The second part of the CL focused on analyzing a teaching innovation by a local teacher and experimenting with network portals to search for the most usable local device for knowledge resources and virtual collaboration. The significant finding was a social double bind of this new ICT practice and pre-existing exam-oriented practice.

The project's outcome was that participating teachers were provided with communal, intermediate tools for performing an active role in negotiations on a national change strategy in education. At the end of the project, they were named "digital ambassadors" by their Botswana partners (policymakers and academics). Anchoring teachers' practice in Expansive Learning framework, the project produced a new object for negotiations on Botswana's national school activity (Nleya & Batane, 2014).

FINALLY

In this paper, I have aimed to show how the AT approach can be used to create a different way of knowing, one that bridges theory and practice. The role of AT theory is to provide educational researchers with the tools, which are intended to convey "theoretical-genetic generalizations," compared to "abstract-empirical system of generalizing" (Davydov, 1990; see also Pihlaja, 2005). The idea represents a practice-based, action-oriented methodology that takes context into careful consideration. As theory-grounded, the methodology offers a conceptual structure to enable most distinct contexts to be discerned, and at the same time it is conceptually open and allows for analysis to be elaborated on the basis of the specific history of every situated context.

I have recently emphasized the theory of dialogue as an important aspect of the developmental methodology (R. Engeström, 2014). The dialogic approach enriches understanding of a joint mediated activity with the idea that collaboration depends on interaction where interpreting individuals are the "elements of organizational system" (Lorino, Tricard, & Clot, 2011). In other words, a learning process of Expansive Learning is not collective in a generalized "holistic sense," but in the sense of participation where heterogeneous participants position themselves as learners in developmental processes in time and space. In this respect, dialogic means are acting on crossing boundaries within the dichotomies of top-down and bottom-up approaches by understanding the constraints and resources of the local, through a historical lens (Gutiérrez & Vossoughi, 2010). This understanding is needed not only for bridging cultures, but also for crossing boundaries across a diversity of sites, both within and across institutions and of professional communities.

REFERENCES

Cole, M. (1996). *Cultural Psychology: A Once and Future Discipline.* Cambridge, MA: The Belknap Press of Harvard University Press.

Daniels, H., Cole, M., & Wertsch, J. V. (Eds.). (2007). *The Cambridge Companion to Vygotsky*. New York, NY: Cambridge University Press.

Davydov, V. V. (1990). Types of Generalization in Instruction: Logical and Psychological Problems in the Structuring of School Curricula. Reston, VA: National Council of Teachers of Mathematics.

Engeström, R. (2014). The Interplay of Developmental and Dialogical Epistemologies. *Outlines: Critical Practice Studies*, *15*(2), 119–138. Retrieved from http://ojs.statsbiblioteket.dk/index.php/outlines/article/download/16834/14611

Engeström, R., Batane, T., Hakkarainen, K., Newnham, D. S., Nleya, P., Senteni, A. & Sinko, M. (2014). Reflections on the Use of DWR in Intercultural Collaboration. *Mind, Culture, and Activity*, 21(2), 129–147. doi: 10.1080/10749039.2013.879185

Engeström, Y. (1987). *Learning by Expanding* (2nd ed.). Helsinki: Orienta-Konsultit Oy.

Engeström, Y. (2007). Putting Vygotsky to Work: The Change Laboratory as an application of double stimulation. In H. Daniels, M. Cole, & J. V. Wertsch (Eds.), *The Cambridge companion to Vygotsky* (pp. 363–382). Cambridge, MA: Cambridge University Press.

Engeström, Y., & Engeström, R. (1986). Developmental Work Research: The approach and an application in cleaning work. *Nordisk Pedagogik 6*(1), 2–15.

Engeström, Y., Lompscher, J., & Rückriem, G. (Eds.). (2005). *Putting Activity Theory to Work: Contributions from Developmental Work Research*. Berlin: Lehmanns Media.

Engeström, Y., Rantavuori, J. & Kerosuo, H. (2013). Expansive Learning in a Library: Actions, Cycles and Deviations from Instructional Intentions. *Vocations and Learning, 6*(1), 81–106. doi: 10.1007/s12186-012-9089-6

Gutiérrez, K., & Vossoughi, S. (2010). Lifting Off the Ground to Return Anew: Mediated Praxis, Transformative Learning, and Social Design Experiments. *Journal of Teacher Education*, *61*(1–2), 100–117. doi: 10.1177/0022487109347877

Leontiev, A. N. (1978). *Activity, Consciousness, and Personality*. Hillsdale, MI: Prentice Hall.

Lorino, P., Tricard, B., & Clot, Y. (2011). Research Methods for Non-Representational Approaches to Organizational Complexity: The Dialogical Mediated Inquiry. *Organization Studies*, *32*(6), 769–801. doi: 10.1177/0170840611410807

Luria, A. R. (1979). *The Making of Mind: A Personal Account of Soviet Psychology*. Cambridge, MA: Harvard University Press.

Nleya, P. & Batane, T. (2014). Botswana Expansive School Transformation Project (BEST): A Response to Serpell's Commentary. *Mind, Culture, and Activity, 21*(3), 268–272. doi: 10.1080/10749039.2014.922991

Pihlaja, J. (2005). *Learning In and For Production: An Activity-Theoretical Study of the Historical Development of Distributed Systems of Generalizing*. Helsinki: Helsinki University Press.

Roth, W.-M. (2006). *Learning Science: A Singular Plural Perspective*. Rotterdam: Sense Publishers.

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

UCZENIE SIĘ W UJĘCIU TEORII DZIAŁALNOŚCI

ABSTRAKT: W artykule autorka przedstawia praktyczny ogląd ugruntowanych teoretycznie badań nad działaniem edukacyjnym. Odwołuje się do projektów rozwojowych prowadzonych w Center for Research on Activity, Development and Learning (CRADLE) [Centrum Badań nad Działalnością, Rozwojem i Uczeniem się] na Uniwersytecie Helsińskim w Finlandii. Prace afiliowane przy Centrum, czerpiące z kulturowo-historycznej teorii działalności (CHAT), znane są z teorii ekspansywnego uczenia się, a także z jej bardziej praktycznej aplikacji zwanej rozwojowymi badaniami w miejscu pracy (DWR). Z podejść tych korzysta się szeroko w analizach profesjonalnego uczenia się, traktując je jako teoretyczno-metodologiczną podstawę studiów zmiany i rozwoju profesjonalnego w różnych rodzajach ludzkiej działalności.

SŁOWA KLUCZOWE: kulturowo-historyczna teoria działalności, CHAT, ekspansywne uczenie się, rozwojowe badania w miejscu pracy, DWR, badania w działaniu.