Educação revista quadrimestral
ISSN 1981-2582
Porto Alegre, v. 39, n. esp. (supl.), s24-s31, dez. 2016
http://dx.doi.org/10.15448/1981-2582.2016.s.24319

An activity theory analysis of learning in and for inter-school work*

Uma análise da teoria da atividade de aprendizagem no e para o trabalho interescolar

Un análisis de la teoría de la actividad del aprendizaje en y para el trabajo interescolar

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Abstract

In this article I will discuss activity theory. This highly influential body of writing is seen as a product of the reworking and extension of the original Vygotskian ideas on the social formation of mind by A.N. Leontiev (1978) and colleagues who had initially worked as part of Vygotsky's group in Moscow and departed for a new setting with new theoretical emphases in Kharkov. At a very general level of description, activity theorists seek to analyse the development of consciousness within practical social activity. Their concern is with the psychological impacts of activity and the social conditions and systems which are produced in and through such activity. I will open this article by outlining some of the distinctions, fissures and cleavages that have formed in the field since the original early twentieth century body of work became widely available in the west. I will then provide a brief outline of the methodology developed by Engeström and his colleagues in Helsinki. I will conclude the article by outlining a number of issues which feature in current debates.

Keywords: Activity theory. Learning. Expansive learning.

Resumo

Neste artigo, discutirei a teoria da atividade. Este grupo altamente influente de escrita é visto como uma retomada e uma extensão das ideias originais Vygotskianas na formação social da mente por A.N. Leontiev (1978) e seus colegas que inicialmente trabalharam como parte do grupo de Vygotsky em Moscou e partiram para um novo cenário com novas ênfases teóricas na Carcóvia. Em um nível muito geral de descrição, os teóricos da atividade procuram analisar o desenvolvimento da consciência dentro da atividade social prática. Sua preocupação é com os impactos psicológicos da atividade e as condições sociais e sistemas que são produzidos na e através de tal atividade. Abrirei este artigo esboçando algumas das distinções, das fissuras e divisões que se formaram na área desde que o corpo original de trabalho do início do século XX tornou-se extensamente disponível no ocidente. Em seguida, apresentarei um breve resumo da metodologia desenvolvida por Engeström e seus colegas em Helsinque. Concluirei o artigo descrevendo uma série de questões que estão presentes nos debates em curso.

Palavras-chave: Teoria da atividade. Aprendizagem. Aprendizagem expansiva.

Resumen

En este artículo discutiré la teoría de la actividad. La misma es vista como una retomada y una extensión de las ideas originales de Vygotsky sobre la formación social de la mente. A. N. Leontiev (1978) y sus colegas trabajaron como parte constituyente de un grupo de investigación dirigido, inicialmente, por Vygotsky en Moscú y, posteriormente, partieron para un nuevo escenario con nuevos descubrimientos teóricos en Cracovia. De modo general, se puede describir que los teóricos de la actividad buscaron analizar el desenvolvimiento de la consciencia dentro de la actividad social práctica. Su preocupación estaba dirigida a los impactos psicológicos de la actividad, a las condiciones sociales y a los sistemas que son producidos en y a través de tal actividad. Comenzaré este trabajo exponiendo algunas distinciones en cuanto a las fisuras y divisiones que se formaron en el área desde que el grupo original de trabajo, el cual promovió el desarrollo del objeto de estudio (que tuvo su inicio en el siglo XX) se tornó extensamente conocido en el occidente. En seguida, presentaré una breve descripción de la metodología desarrollada por Engeström y sus colaboradores de Helsinki. Finalmente, en la conclusión del artículo, describiré una serie de cuestiones que se presentan en los debates expuestos a lo largo del trabajo.

Palabras clave: Teoría de la actividad. Aprendizaje. Aprendizaje expansiva.

*This paper draws on text published in DANIELS, H. (2008). **Vygotsky and Research**. Abingdon: Taylor and Francis, with modifications.

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Early twentieth century Russian activity theory

There are undoubted tensions between contributions to the development of activity theory at the time of its inception, in its migration to the West and in its subsequent development within Russia. These are important issues that should be understood and acknowledged but not allowed to distract attention from the fundamental contribution to social science that is being made by this field.

In his discussion of the concept of activity in soviet psychology, Kozulin (1998) considers the importance of the article written by Vygotsky under the title 'Consciousness as a problem of psychology of behaviour'. In was in this article that Vygotsky sought to restore the concept of consciousness as a legitimate and necessary element of psychology. It had been the subject of study through introspectionism and was deposed by the Russian behaviourists and reflexologists of the late 19th and early 20th century. Vygotsky's distinction between 'subject of study' and 'explanatory principle' is central to his methodological oeuvre.

> If consciousness is to become a subject of psychological study, it cannot simultaneously serve as an explanatory principle. …Vygotsky suggested that sociocultural activity serves as such an explanatory source. He thus broke the vicious circle within which the phenomena of consciousness used to be explained through the concept of consciousness, and similarly behaviour through the concept of behaviour, and established premises for a unified theory of behaviour and mind on the basis of sociocultural activity (KOZULIN, 1998, p. 11).

Kozulin suggests that, in part, under the influence of philosophical trends which were dominant at the time Vygotsky came to adopt and subsequently develop the concept of historically concrete human praxis as the explanatory principle. The development of this explanatory principle became one of the politically contested elements of his thesis in the years that followed Vygotsky's death. At times it appeared that the very concept of mediation itself was to be ripped from the framework of ideas which Vygotsky had struggled to put into place. In the hands of the command/control ideologues of the stalinist era it appeared as though what was left of Russian Psychology would be become a theory of determination rather than mediation. Thankfully, the essence of Vygotsky's thoughts on mediation survived even if they had to be handled covertly at times. The heritage is, as Cole reminds us, of an activity theory within which mediation is a central concept thus removing the possibility of an account of 'heavy handed' determinism.

> The central thesis of the Russian cultural-historical school is that the structure and development of human psychological processes emerge through culturally mediated, historically developing, practical activity (COLE, 1996, p. 108).

Leontiev 'focused on those activities that eventually lead to the internalisation of external human actions in the form of inner mental processes' (KOZULIN 1996). The search for the appropriate unit of analysis, the 'minimal unit that preserves the properties of the whole' (DAVYDOV and RADZIHOVSKII, 1985) gave impetus to the divergence of opinion on what is the most appropriate focus for study between the various theorists working in activity theory and other sociocultural approaches. Leontiev's work on activity involved an elaboration of the notions of object and goal and the centrality of the object to an analysis of motivation.

> A basic, as sometimes said, a constitutive characteristic of activity is its objectivity. Properly, the concept of its object (Gegenstand) is already implicitly contained in the very concept of activity- The expression "objectless activity" is devoid of any meaning. Activity may seem objectless, but the scientific investigation of activity necessarily requires discovering its object. Thus, the object of activity is twofold: first, in its independent existence as subordinating itself and transforming the activity of the subject; second, as an image of the object, as a product of its property of psychological reflection that is realized as an activity of the subject and cannot exist otherwise (LEONTIEV, 1978, p. 52).

These ideas have been highly influential on contemporary researchers who have sought to develop and refine the original thesis. For example, Engestrom has noted that the object of activity has evolved culturally and historically and carries therefore collective meanings and motives with it (ENGESTRÖM, 2000). Whilst Leontiev established the idea that their objects distinguish different activities and that it is the transformation of the object/goal that leads to integration of elements of the activity system, Miettinen & Peisa (2002) argue for the notion of object-oriented mediation and also surface the issue of object-relatedness of activities. As Märtsin (2007) notes different socio-historically created collective motivating possibilities are embedded in the object making it possible for different individuals to relate to the object. When met with individual needs and goals these motivational possibilities become actualized in individual actions as they engage with the object. Similarly the motivating possibilities of an object can create a state of need on a collective level that allows for individual engagement

with the object (HAKKARAINEN, 2004). Märtsin (2007) also notes that questions, such as why people decide to engage with certain objects and why they ignore other activities or refuse to deal with specific contradictions in activity system need to be addressed (LANGEMEYER, 2005). The latter strand of research may be especially important in relation to the new kinds of objects and related activities that have emerged under contemporary societal circumstances (ENGESTRÖM, 2006).

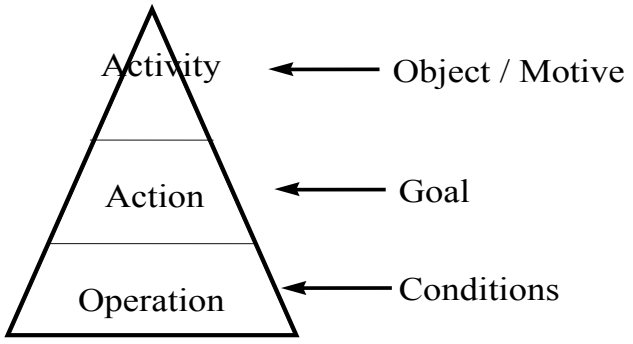

Figure 1. The hierarchical structure of Activity

As shown in Figure 1, Leontiev (1978) also developed a distinction between the concepts of 'activity' and 'action' which were underdeveloped by Vygotsky and which as Roth (2007) and Hakkarainen (2004) note, still constitutes a challenge for many researchers and constitutes a marker between different traditions within activity theory.

> A classical dispute regarding Leontiev's theoretical model involves the origin of needs in human activity. It has been easier to carry out technological analyses of activity and construct goal-directed processes aimed at end products than to analyze the revealing motivational dynamics of human activity. This technological analysis A.N. Leontiev called action-level analysis. He defined the second type of analysis as being at the level of sense. The main role in this analysis is played by motivation and its relation to the goals of the participants in an activity. The problem is that the same process can be an activity for one participant and an action for another depending on motivation and goals (HAKKARAINEN, p. 2004, p. 5).

For Engeström (1987), activity is a collective, systemic formation that has a complex mediational structure. An activity system produces actions and is realised by means of actions. However, activity is not reducible to actions. Actions are relatively short-lived and have a temporally clear-cut beginning and end. Activity systems evolve over lengthy periods of socio-historical time, often taking the form of institutions and organisations. This explanation has been slightly nuanced by Roth (2007) who draws attention to the way in which activity as a whole 'mediates the sense of the actions that realize goals':

> Goals, however, which are realized in and through *actions*, constitute a different level of analysis, subordinate to that of activity. However, goals are bound rather than free because they stand in a mutually constitutive (i.e., dialectical) relationship with the motives that drive activities: Goals realize motives, but motives give rise to goals, each presupposing the other. The activity as a whole therefore mediates the sense of the actions that realize goals. Actions are not the outcome of subjectivist singularity but rather, because they realize collective activity, inherently are shared and intelligible: An "action has a double significance not only because it is directed against itself as well as against thee other, but also because it is indivisibly the action of one as well as of the other" (HEGEL, 1807/1977, p. 112; ROTH, 2007, p. 145).

Thus Leontiev distinguished between the material objective and affective motives of activity, seeing the objective purpose as translating motive into a physical act, transforming the internal plane to the external world and driving activity through the formation of goals. After Hegel, he maintained that goals are determined in the course of activity (ENGESTRÖM 1999). Engeström (2000) notes a dual function in that an object can give coherence and continuity to the activity but by virtue of its societal and historical nature it is also internally contradictory and thus a source of instability.

> The object is a heterogeneous and internally contradictory, yet enduring, constantly reproduced purpose of a collective activity system that motivates and defines the horizon of possible goals and actions (ENGESTRÖM, 2004, p. 17).

Leontiev saw operations as the external method used by individuals to achieve goals (GLASSMAN 1996, p. 323). Automatic operations are driven by the conditions and tools available to the action, that is then prevailing circumstances. Engeström (1999) argued that motive can be collective but that goals are individual and he explored the idea of partial and overall goals. The shifting and developing object of an activity is related to a motive which drives it. Individual (or group) action is driven by a conscious goal. Although actions are aroused by the motive of the activity, they seem to be directed towards a goal … the one and the same action can serve different activities (LEONT'EV, 1978, p. 64).

> apart from its (the action's) intentional aspects (what must be dome) the action has its operational aspect (how it can be done), which is defined not by the goal itself, but by the objective circumstances under which it is carried out … I shall label the means by which an action is carried out its operations (LEONT'EV, 1972/1981, p. 63).

Leont'ev illustrates his proposed structure of activity with well known examples of the activity of hunting in which to understand why separate actions are meaningful one needs to understand the motive behind the whole activity (LEONTIEV, 1978 p. 62-63) and of learning to drive a car that illustrates the movement from one level of the structure of an activity to another as actions become automatic operations such as in gear changing when learning to drive (LEONTIEV, 1978, p. 66).

There have been many dialects of activity theory which have flowed from its inception in Russia, both within the country itself and beyond. In the next section I will discuss one of the more influential interpretations, developments and empirical applications of the theory.

Engeström's development of activity theory

As we noted in Daniels and Warmington (2007), Engeström (1999) has explained the genealogy of his conceptual tools by outlining the development of three generations of activity theory. This development may be viewed as a process whereby the account given of the setting of development (VYGOTSKY, 1987) is progressively finessed. It starts from a view of mediation abstracted from context and then moves to the modeling of a single activity in a setting which is articulated in terms of rules, community and the division of labour. The third generation posits networks of activities and this is currently being developed to take account of some of the complexities of the boundaries that are created and transgressed between multiple activities in practice.

The first generation of activity theory drew heavily upon Vygotsky's concept of mediation. Vygotsky, in turn, predicated his notion of mediation upon Marx's (1976) transhistorical concept of labour (or 'activity'), which states that:

> The simple elements of the labour processes are (i) purposeful activity, that is work itself, (ii) the object on which that work is performed, and (iii) the instruments of that work (MARX, 1976, p. 284).

Engeström's (1999) second generation of activity theory refers to the work of Leontiev (1978). Here Engeström (1999) advocates the study of tools or artefacts 'as integral and inseparable components of human functioning' and argues that the focus of the study of mediation should be on its relationship with the other components of an activity system. The now very familiar depiction of an activity system as developed by Engeström (1987) is shown in Figure 2 below:

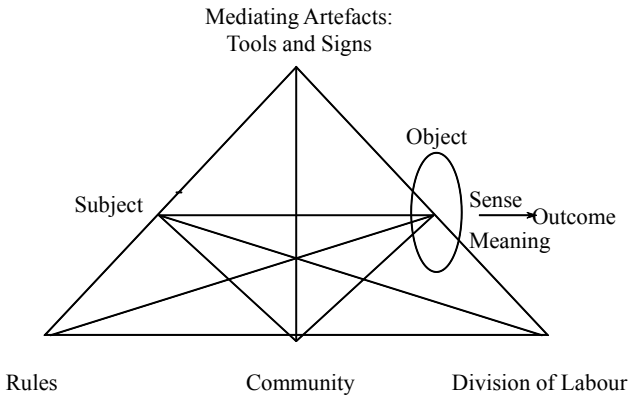

Figure 2. The structure of a human activity system (Engeström, 1987, p. 78)

Figure 2 represents the social/collective elements in an activity system, through the elements of community, rules and division of labour while emphasising the importance of analysing their interactions with each other. The object is depicted with the help of an oval indicating that object-oriented actions are always, explicitly or implicitly, characterized by ambiguity, surprise, interpretation, sense making, and potential for change (ENGESTRÖM, 1999).

Recent developments have witnessed increased emphasis on the multi-voicedness of activity systems and the way in which individual actors bring in their own histories from the social positions that they take up in the division of labour that obtains within the activity. Following in the Vygotskian 'genetic' tradition, a historical developmental analysis of activity is adopted in which contradictions are thought of as sources of change and development. Engeström sees the construction and redefinition of the object, as related to the 'creative potential' of activity (ENGESTRÖM, 1999, p. 381). He maintains that it is important to extend beyond the singular activity system and to examine and work towards transformation of networks of activity. To this end he sees potential in the exploration by some activity theorists of 'concepts of boundary object, translation, and boundary crossing to analyze the unfolding of object-oriented cooperative activity of several actors, focusing on tools and means of construction of boundary objects in concrete work processes' (ENGESTRÖM, 1999, p. 7). The third generation of activity theory outlined in

Engeström (1999) takes *joint activity* or practice as the unit of analysis for activity theory, rather than individual activity . Engeström's (1999) analysis is concerned with the process of social transformation and incorporates the structure of the social world, with particular emphasis upon the *conflictual* nature of social practice. Instability and contradictions are regarded as the 'motive force of change and development' (Engeström, 1999) and the transitions and reorganisations within and between activity systems as part of evolution. The third generation of activity theory aims to develop conceptual tools to understand dialogues, multiple perspectives and networks of interacting activity systems.

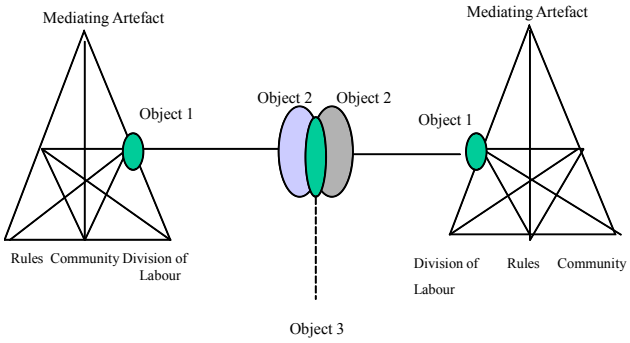

Figure 3. Two interacting activity systems after Engeström (1999)

The minimal representation that Figure 3 provides shows two of what may be myriad systems exhibiting patterns of contradiction and tension.

> Third-generation activity theory endorses the fact that all activity systems are part of a network of activity systems that in its totality constitutes human society. Diverse activity systems are the result of a continuous historical process of progressive job diversification and collective division of labor at the societal level (MARX, 1867/1976). Thus, during societal development, …; the network is formed as activity systems lose their self-containment and exchange entities, including objects, means of productions, people, and various forms of texts. The first activity system is understood as a concrete universal, which particularizes itself into many mutually constitutive activity systems (ROTH and LEE, 2007, p. 201).

Expansive learning

In many theories of learning the learner or learners acquires some identifiable knowledge or skills in such a way that a corresponding, relatively lasting change in the behaviour of the subject may be observed. It is assumed that the knowledge or skill to be acquired is itself stable and open to reasonably unambiguous definition and articulation. The assumption is that in the practice of learning there is a teacher who knows what has to be learned. The situation we are studying is one in which subjects are learning something that is not known. The knowledge that has to learned is being learned as it is being developed. Therefore there is no-one in the role of teacher.

In the original formulation of expansive learning, Engeström (1987) acknowledges the importance of this form of learning and draws on Bateson's (1972) formulation of levels of learning. Engestrom draws attention to Learning III. He argues that this form of learning involves reformulation of problems and the creation of new tools for engaging with these problems. This ongoing production of new problem solving tools enables subjects to transform the entire activity system, and potentially create, or transform and expand, the objects of the activity (ENGESTRÖM 1987, p. 158-159).

Expansive learning and enhanced professional practice occurs in activity settings which enable expansion of the object of activity. Expansive learning involves the creation of new knowledge and new practices for a newly emerging activity; that is, learning embedded in and constitutive of qualitative transformation of the entire activity system. Such a transformation may be triggered by the introduction of a new technology or set of regulations, but it is not reducible to it. This type of learning may be seen as distinct from that which takes place when existing knowledge and skills embedded in an established activity are gradually acquired and internalised as in apprenticeship settings or when existing knowledge is deployed in new activity settings, or even when the new knowledge is constructed through experimentation within an established activity. All three types of learning may take place within expansive learning, but these gain a different meaning, motive and perspective as parts of the expansive process. A full cycle of expansive transformation may be understood as a collective journey through the zone of proximal development of the activity (Engeström, 1999). His argument is that expansive learning involves the creation of new knowledge and new practices for a newly emerging activity: that is, learning embedded in and constitutive of qualitative transformation of the entire activity system. Such a transformation may be triggered by the introduction of a new technology or set of regulations but it is not reducible to it. This type of learning may be seen as distinct from that which takes place when existing knowledge and skills embedded in an established activity are gradually acquired and internalised, as in apprenticeship models, or when existing knowledge is deployed in new activity settings or even when the new knowledge is constructed through experimentation within an established activity. All three types of learning may

take place within expansive learning but these gain a different meaning, motive and perspective as parts of the expansive process.

Dialogicality and multivoicedness

As noted above, the third generation of activity theory, as proposed by Engeström, intends to develop conceptual tools to understand dialogues, multiple perspectives and networks of interacting activity systems. He draws on Bahktin's (1986, 84, 81) ideas on dialogicality and multivoicedness in order to move beyond the limitations of the second generation of activity theory, which was concerned with the analysis of single activity systems. 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. Engeström (1999) provides the following example:

> [Object] moves from an initial state of unreflected, situationally given 'raw material (object 1; e.g. a specific patient entering a physician's office) to a collectively meaningful object constructed by the activity system (object 2. E.g. the patient constructed as a specimen of a biomedical disease category and thus as an instantiation of the general object of illness/health), and to a potentially shared or jointly constructed object (object 3; e.g. a collaboratively constructed understanding of the patient's life situation and care plan). The object of activity is a moving target, not reducible to conscious short-term goals (ENGESTRÖM, 1999, p. 136).

In Daniels, Leadbetter, Soares and MacNab (2007) we outline the use of a series of 'Change Laboratory' intervention sessions, as developed by Engestrom and his colleagues in Helsinki (ENGESTROM, 2007). This research intervention is based on the expansive learning cycle which consists of the following steps, often referred to as Developmental Work Research (DWR).

1. Drawing on ethnographic evidence to question existing practices (i.e. learning in and for interagency working)
2. Analysing the historical origins of existing practices and bringing these analyses to bear in analysing current dynamics within and across services.
3. Modelling an alternative way of working. (i.e. a new model of learning)
4. Examining the model to understand its dynamics, strengths and pitfalls.
5. Implementing the model and monitoring the processes and impact of implementation in the dispositions and actions of professionals.
6. Drawing on these data to reflect on the processes and outcomes.

Change Laboratory sessions lie at the core of DWR. Each of these sessions lasts about two hours. The central tool of the Change Laboratory is a 3x3 set of surfaces for representing the work activity (Figure 3). Practitioners participating in the Change Laboratory process face the surfaces and also each other. One or more researcher-interventionists are present to guide the process. A video projector is important since videotaped work situations are typically used as material in the laboratory sessions. Each session is also videotaped for research and to facilitate the reviewing of critical laboratory events in subsequent sessions. In these sessions current working practices of team members are discussed, tensions and dilemmas are highlighted and alternative ways of working proposed.

Final considerations

We argued that the creation of creative activity in the workplace requires, as Vygotsky (2004) suggested, close attention to the creation and adoption of tools for creativity and contexts which support its enactment. This is involves a social process of learning and transformation. The goal of promoting creativity in schools will not be achieved if the construct of creativity remains that of an individualistic capability.

There is often considerable resistance to change that arises when participants in our workshops understand that they should make changes but cannot engage with the processes of making those changes. Engeström (2005) has referred to the 'agony' that confrontation with changes in professional practice and identity may entail. Another potential way of conceptualizing this 'agony' is that it is the lived experience of contradictions between the efforts of organizations to manage and innovate co-operation between labour-powers, the demands that this places upon subjects in terms of how they are required to activate their labour-power potential within the labour process and subjects' own, wilful control over activating their 'actual' labour within the labour process. The Russian writer Vasilyuk (1991), who discussed the particular internal work by means of which "a person overcomes and conquers a crisis, restores lost spiritual equilibrium and resurrects the lost meaning of existence" (VASILYUK, 1991, p. 10).

In Engestrom's (2007) later interventionist research he has noted that whilst individual practitioners were happy to construct new models and tools for changing their work they sometimes appeared reluctant to proceed with implementation. This resistance to the construction of new professional identities presents a challenge to the overly cognitive orientation of much Activity Theory

based research. In the last year of his life, Vygotsky turned his attention to a new unit of analysis, namely, *perezhivanie*.

This idea has been largely ignored in the development of activity theory. It was refined in the writing of Vasilyuk (1991) when he introduced the notion of experiencing defined as a particular form of activity directed towards the restoration of meaning in life. He contrasted his activity theory based understanding with that of a reflection of a state in the subject's consciousness and with forms of contemplation. The general working hypothesis of learning itself requires expansion to include notions of experiencing and identity formation within an account that includes a systematic and coherent analysis of the wider social structuring of society as an inseparable part of the analysis.

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Submetido em 17/06/2016
Aprovado em 25/11/2016