

# *Human Agency and Educational Research: A New Problem in Activity Theory*

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**Abstract.** *In this paper, I address the reconceptualization of human agency that can shift to an analysis of both distributed and multiple agency in networked learning activities. As human activity becomes increasingly dialogical, boundary-crossing, networked, hybrid, and weekly bounded forms of work and organizations, the new generation of activity theory invites us to focus educational research efforts on the evocative and supportive new forms of agency to design and implement new patterns and forms of collaborative relationships of multiple activity systems. After a conceptual overview, this paper will analyze findings from a case study on an inter-institutional, collaborative after-school learning activity for children called New School promoted by the Center for Human Activity Theory at Kansai University in Osaka. In conclusion, this paper will propose that evoking and supporting new distributed and multiple forms of critical design agency for networked educational work and organizations among different actors involved in and affected by educational practices must offer a lifeline to educational research as an intervention to break away from something old (e.g., institutional boundaries of traditional school learning isolated from society) and move toward something else (e.g., advanced networks of learning across boundaries). Such agency might include the will and courage to create school innovations so that schools can become collaborative change agents.*

**Keywords:** *Human agency, educational research, activity theory, educational change*

## **Introduction**

Today, new forms of human activity are experiencing accelerated paradigm

shifts from mass-production-based systems to new systems based on inter-organizational collaboration, building partnerships, and networking across cultural, organizational, and occupational boundaries. As human activity rapidly changes to partnering and networking among diverse cultural organizations, we need to ask ourselves whether schools and other actors are equipped to prepare people for such practices. We must also consider what kind of learning can generate critical and creative agency among learners. Such agency will help people shape their own lives and futures that are gradually being transformed.

Traditional school curriculums, lessons, and learning have only concerned themselves with teaching as a means of transferring the contents of textbooks to children. Educational institutions are tightly closed systems that have little impact on societal activities outside in the real world. Therefore, a new educational research agenda should include forms of human agency in educational practices that can transform traditional educational work. Educational practice and theory must be aimed at what is conceptualized as new forms of agency, as well as how we evoke and support such agency in educational work as expansive reforging of the object of educational work, including children's learning and development (i.e., the children's own work).

*Cultural-historical activity theory* is a theoretical framework that analyzes and redesigns human activity based on inquiries into new concepts and models of human activity (see Daniels, 2001; Engeström, 1987, 2005a; Engeström, Lompscher, & Rückriem, 2005; Engeström, Miettinen, & Punamäki, 1999; Yamazumi, 2006a, 2006b; Yamazumi, Engeström, & Daniels, 2005). It is an intervention methodology that facilitates and supports innovative collaborative learning by practitioners. Activity theory focuses on the learning and development that emerge in the institutional contexts of practical activities culturally and historically mediated within a society.

Lev Vygotsky's cultural-historical theory of human development is a classic, radical source for building activity theory. One of the main themes in his developmental theory on human action and practice is "a new problem associated with volition or freedom in human activity and consciousness" (Vygotsky, 1987, p. 349). This problem — 'free will' — refers to investigating agency as subject potentialities and positions in human activity. It is of great significance to recognize that the unique features of Vygotsky's approach to human freedom are always connected with mediation by culturally powerful signs, tools, and artifacts, for example, scientific concepts (see Daniels, 2001, p. 104). From the perspective of activity theory, agency is seen as the subject potentialities and positions of the externalized creation of new tools and forms of activity with which humans transform both their outer and inner worlds and thus master their own lives and futures (Engeström, 1991, 2006).

This paper addresses the reconceptualization of agency that can shift to an analysis of both distributed and multiple agency in networked learning activities. In the following sections, I start by discussing the problem of agency in

Vygotskian developmental and activity theories. The concept of agency has occupied a prominent position in the framework of activity-theoretical developmental research since Vygotsky concentrated on it in his cultural-historical theory of human development. In the new generation of activity theory, such focus on agency is shifting to an analysis of new forms of agency including distributed and multiple agency in the midst of complex, networked activities. Second, I will discuss the creation of new forms of pedagogic practices based on an emergent, pedagogic theory of expansive learning (Engeström, 1987, 2005a; Yamazumi, 2005, 2006a) that transforms traditional school learning and pedagogic practices. Drawing on the framework of the third generation of activity theory, new forms of agency will be seen as collaborations and engagements with a shared object in and for the relationships of interaction between multiple activity systems. Third, to concretize new forms of agency, I will illustrate and analyze the implementation process of a children's after-school project called *New School* promoted by the *Center for Human Activity Theory at Kansai University*<sup>1</sup> in Osaka, Japan. Finally, a new landscape of distributed and multiple agency as expansive phenomena in the field of pedagogic practice and educational research will be discussed based on new practices of creative collaboration between schools, communities, and various organizations outside schools.

### **Problem of Human Agency in Vygotsky and Activity Theory**

As Yrjö Engeström (2000) crucially points out, lessons from intervention research suggest that change and development imported from outside and implemented from above fail. Instead, we as intervention researchers must pay careful attention to strong resistance by practitioners who face disturbances in their work activity against interventionist conceptualization that shifts to new practices. Resistance from such practitioners simply indicates that their own will, engagements, and thus agency are functioning. Intervention can only succeed when the practitioners themselves have learned about the present practices as reflective, questioning, and critical.

For example, in the field of agricultural development, Jules Pretty (2002) contends that outside professionals (planners, developers, or scientists), who ask about problems and then identify standardized, technology-reduced solutions, too often overlook the fine-grained details about people's connectedness to a place. Such oversight explains why a standardized approach in industrial development does not fit well in the differing conditions, values, and constraints experienced by people in the cultural-historical contexts of their own real life-worlds. However, if people concretely reject a prescribed, defined set of technologies and practices — because it does not fit their needs or is too risky — it is assumed that it reflects their own fault. In contrast, Pretty proposed the involvement of farmers in the social learning process as a key for agricultural development:

Agricultural sustainability should not imply simple modes or packages that are imposed upon individuals. Rather, sustainability should be seen as a process of social learning. This centers upon building the capacity of farmers and their communities to learn about the complex ecological and biophysical complexity in their fields and farms, and then to act on this information. The process of learning, if it is socially embedded and jointly engaged upon, provokes changes in behavior and can bring forth a new world. (Pretty, 2002, p. 156)

In the framework of activity theory, intervention into practice must facilitate and support the process of ‘social learning’ in which practitioners involved in and affected by it undertake the initiative to reforge objects of their own current work practices (or activity systems) — that is, reforging what they are doing and why. Unlike observation or analysis, intervention should not miss the “human potential for agency, for intentional collective and individual actions aimed at transforming the activity” (Engeström, 2006, p. 4). This *agentive layer* in human contexts focuses on the human potential for agents with initiative to create intellectual, emotional, and moral judgments in their own names as intentional transformative actions.

Such specific agentive action is a central thesis of Vygotskian developmental and activity theories. Vygotsky’s cultural-historical theory of human development is a classic radical source in building activity theory, and the main theme in his developmental theory suggests that “a new problem [is] associated with volition or freedom in human activity and consciousness” (Vygotsky, 1987a, p. 349). This is the problem of agency as the genesis of voluntary actions, that is, the potential of ‘free will’ in agentive human activity and consciousness. He sought to interconnect this problem with other higher mental functions, namely, thinking, imagination, and so on to analyze psychological systems as interrelationships and independences between different higher mental functions and their entire development. Also, he emphasized interrelationships and independences between both agentive and tool-mediated actions. “In the instrumental act man masters himself from the outside — via psychological tools” (Vygotsky, 1997, p. 87). Such mediated development of agentive action can be seen, for example, in children’s speech that enables them to control their own artifacts and thus master their future:

Young children name their drawings only after they have completed them; they need to see them before they can decide what they are going to draw. This displacement of the naming process signifies a change in the function of speech. Initially speech follows actions, is provoked by and dominated by activity. At a later stage, however, when speech is moved to the starting point of an activity, a new relation between word and action emerge. Now speech guides, determines, and dominates the course of action; *the planning function of speech* comes into being in addition to the already existing

function of language to reflect the external worlds. (Vygotsky, 1978, p. 28)

In this example, such agentic action as the planning function of speech to guide the course of action appears by shifting the use of tools from *accompanying* to *preceding* actions. The relevant experiments for Vygotsky in developmental research allow subjects to face a disrupted and chaotic situation. Through experiments, he significantly focused on the redefinitions and changes of given circumstances by constructing mediating artifacts in a qualitatively new way. In other words, he focused on the agentic capacities of human beings directed toward the starting point and object or purpose of an activity. As Harry Daniels (2001, p. 1) argues, social theory deeply inspired by Vygotsky's work acknowledges that "in the course of their own development human beings also actively shape the very forces that are active in shaping them."

In the last chapter of *Thinking and Speech*, Vygotsky presented his famous formulation of the three layers of the human context of verbal thinking in living speech: *word*, *thought*, and *motivation*. By analogy he compared them to *shower*, *cloud*, and *wind*. "Thought has its origins in the motivational sphere of consciousness, a sphere that includes our inclinations and needs, our interests and impulses, and our affect and emotion. ...Only here do we find the answer to the final 'why' in the analysis of thinking. We have compared thought to hovering cloud that gushes a shower of words. To extend this analogy, we must compare the motivation of thought to the wind that puts the cloud in motion" (Vygotsky, 1987b, p. 282). At that time, Vygotsky turned to the original basis and initial moment behind actions. It is the real, affective-volitional basis on which we can discover our desire that is directed toward the realization of definite volitional tasks. Questioning human agency in activity theory is thus related to this basis and moment as the starting point of an activity, its object, and its purpose that precedes a course of individual actions.

Here I will describe the three principal positions of activity theory in human developmental research: the interrelationships of *development*, *contradiction*, and *agency*.

The first position focuses on the research *development* in human activity. In a sense, this means looking at subjects and activities as part of a historical process. Unlike mechanistic sciences that emphasize order, predictability, and cause-and-effect relationships, focusing on development enables the discovery of change and novelty. This is something new. In this way, we can overcome paternalism and determinism in relation to human practice and enter into additional expansive dialogues with more practitioners who are struggling everyday to improve the realm of human activity.

The second position recognizes the *contradiction* faced by humans in their activities as a driving force and as a contradictory motive for development. Conversely, this means not seeing human causality rationally as predictable beings. Rather, it portrays humans as irrational and unpredictable (Engeström, 2006). Humans not only interpret but also face contradictions as structural

tensions or a ‘double bind’ (see Bateson, 1972; that is, situations in which contradictory messages are received simultaneously) within and between activity systems. These contradictions are faced and identified between “multiple motives embedded in and engendered by their historically evolving communities and objects” (Engeström, 2006, p. 3).

The third position investigates intentional actions, whether by individuals or collectives, to transform activities. In other words, we must direct our attention to the potential of human beings for *agency*. For example, to transform traditional pedagogic practices in schools into something new, both culturally and historically, teachers and students must gradually transform the given activity structures for pedagogic practices from below. The energizing force that enables these teachers and students to transform their own life activities is derived from ‘intentionality’ and ‘free will’; that is, agentic potential in the action and practice of human beings.

In total, these three principal positions in activity-theoretical research suggest that, for contradictions to function as sources of development, specific agentic actions are needed. This is closely associated with Engeström’s (1996a) reconceptualization of human development as a *breaking away*, which introduces an expanded look at development to avoid reducing the individual benign achievement of vertical mastery upward level by level. When solving the contradictions of preceding stages and forms of activity, however, one must break away from something old: “a constraining rule, a limiting boundary or constraining relationship” (Engeström, 2006, p. 29) and move to something else. Such breaking away means development concerned with partially destructive rejection of old and horizontal movements across boundaries. Also importantly, such breaking away can emerge from agentic actions by constructing mediating artifacts (tools and signs, ideas and concepts, models and visions, technologies, and so on) that enable individuals and collectives to expansively resolve contradictions and thus master their own actions in a qualitatively new way.

### **The Third Generation of Activity Theory and A New Type of Human Agency**

Activity theory is one of the newest paradigms that analyzes and redesigns culturally mediated and object-oriented collaborative activities of social practices and their networks. Its central thesis, formulated by Vygotsky (1978) and the Russian cultural-historical school (Leont’ev, 1978; Luria, 1979), maintains that “the structure and development of human psychological processes emerge through culturally mediated, historically developing, practical activity” (Cole, 1996, p. 108). Michael Cole (1996) points out that this cultural-historical analysis of culture must include the social-institutional context of activity.

Engeström (1987), a leading activity theorist, creates a model *activity system* as an entire unit of analysis, while including the individual’s *object-oriented medi-*

ated action with cultural artifacts, which also includes social-institutional infrastructures and contexts as interrelationships between the components of a collective activity such as *rules*, *community*, and *division of labor*. This principle, “the entire activity system is the unit of analysis,” is intended to investigate the system as an “objectively given context” of which individual actions, practices, and experiences are a part so that a larger unanalyzed, dichotomized independent variable (the institutional logic of the activity of formal schooling, for example) neither remains to be treated as an immutable given nor barely described at all (Engeström, 1993, p. 66).

Engeström (1995, 1996b) discusses the historical development of activity theory based on the idea of ‘three generations.’ The first generation is represented by Vygotsky (1978), who regarded human behavior as actions directed at objects. He showed that the development of such behavior is above all mediated by the creation and the use of ‘cultural artifacts’ such as tools and signs, symbols, ideas, and technology. The second generation started with Aleksei Leont’ev (1978). The novelty of his ‘activity’ concept was that it associated activity with the new elements of division of labor and cooperation and showed that activities motivated by objects (purposes) are established not in the individual dimension but in a collective dimension.

A current third generation of activity theory aims to exploit and challenge new potentialities of activity theory by expanding the above two previous generations. It therefore exceeds the limits of a single activity system and adopts as its unit of analysis multiple different activity systems that mutually interact, promoting empirical intervention research to design networks, dialogues, and collaboration between these systems. Engeström (2001) models this new third generation perspective as *interacting activity systems with a partially shared object*, as shown in Figure 1.

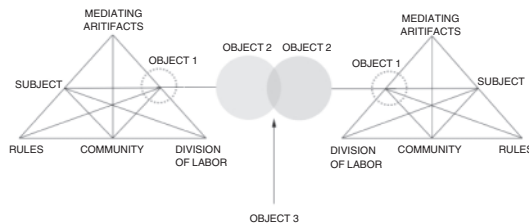


FIGURE 1 Two interacting activity systems with a partially shared object as minimal model for third generation of activity theory (Engeström, 2001, p. 136)

Two activity systems expand from objects 1 to 2 by a ‘dialogue.’ This expansion approaches both objects and outcome in a partial overlap. In this cross-border object ‘exchange,’ a new object 3 appears that gives rise to a ‘seed of transformation.’ In other words, the newly-appeared ‘third object’ gives rise to a driving force for the transformation of the original activity system by feedback to the respective activity systems. In this way, the third generation of activ-

ity theory invites us to “focus research efforts on the challenges and possibilities of inter-organizational learning” (Engeström, 2001, p. 133).

Terttu Tuomi-Gröhn (2005) states that from the viewpoint of third-generation activity theory, new forms of transfer to the practice of school learning are effected through interactions between multiple different activity systems. Taking internships as an example, she perceives the transfer of school learning to practice as a process that occurs when both schools and workplaces are engaged in collaborative interaction, with both parties learning from each other. Such a transfer occurs from negotiation and exchanges between disparate cultures. According to Tuomi-Gröhn, an internship is a place where a school plays a new role as a change agent. This particularly applies to internships in projects where workplaces are developed. For the students, practitioners, and teachers taking on the challenge of a project, it is probably necessary to develop new knowledge and skills. This can be achieved by constructing and connecting networks where disparate entities are combined.

In these places and zones, i.e., the structural connective networks where disparate entities are combined, a ‘developmental transfer’ occurs to the practice of school learning that is brought into focus by Tuomi-Gröhn. She calls these places ‘boundary zones.’ Also, in the sense that discovering and constructing new practices is possible from two different yet interrelated activity systems (i.e., schools and workplaces), these activities can be referred to as ‘boundary zone activities,’ as represented in Figure 2.

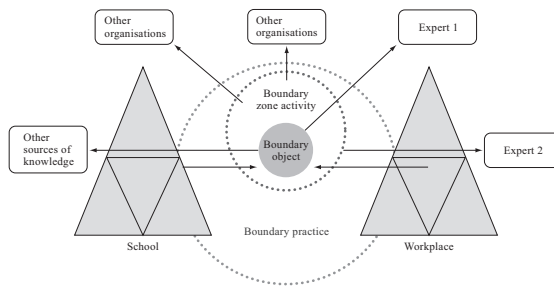


FIGURE 2 Boundary zone activity between school and workplace and network related to it (Tuomi-Gröhn, 2005, p. 34)

Also, these ‘boundary zone activities’ are imbued with the following meaning:

The aim of the collaboration between the school and the work is to create a new boundary practice, developmental project at the workplace, which is at the boundary zone between them, not belonging to each of them. The prerequisite of the boundary practice is the creation of new meaning, reshaped object of the work, which further produces an entirely new activity system: boundary zone activity. The subject of this activity is a collaborative



team of boundary crossers: student, mentor at the workplace and teacher.  
(Tuomi-Gröhn, 2005, p. 35)

Since the 1990s, as the historically transitional age continues to move toward globalization in every field of human activity — even if the activity is physically limited to local areas — the world of human activity is increasingly dominated by longitudinal dialogical relationships of collaboration between multiple activity systems. In activity-theoretical terms, these multiple activity systems are engaged by ‘runaway objects,’ that is, partially shared large-scale objects in complex, distributed multi-activity fields (Engeström, 2005a, 2005b, 2006). While these partnerships and alliances are obviously relevant for rediscovering and expanding use values in the objects of activities, sustaining and managing them is extremely difficult.

What type of agency might be urgently required in such horizontal movement of expansive learning across boundaries, which should denote when practitioners involved in distributed multi-activity fields must collaboratively construct a ‘runaway object,’ that is, an expanded, shared object between multiple activity systems? In the new generation of activity theory, this focus on agency must shift to the analysis of a new type of agency in fields of distributed and networked activities. As pointed out by Engeström (2005a, 2005b, 2006), Daniels et al. (2005), and Daniels et al. (2006a), this is a transition to object-oriented *collective intentionality*, *interagency*, or *multiagency* studies in distributed multi-activity fields.

Engeström (2005b, 2006) analyzes the distributed interagency currently taking shape in work organizations, for example, intervention in the expansive learning processes of medical professionals in health care settings. In this empirical case, in Helsinki since different medical professionals across institutional boundaries were involved in the care of chronic patients with multiple illnesses, they needed to solve the contradictions around the patients’ complex care trajectories without assigning overview and overall responsibility. Different professionals contributed to the reshaping of their way of work toward emerging organizational forms called negotiated ‘knotworking’ (Engeström, Engeström, & Vähäaho, 1999) in ‘mycorrhizae-like activities’ (Engeström, 2006).

Work activities are becoming increasingly networked, hybrid, and weekly bounded forms of organization. To highlight the importance of horizontal and multidirectional connections in the human lives of such historical changes, Engeström (2006) introduces ‘mycorrhizae’ as organizing activities oriented at ‘runaway objects’ seen as an alternative to ‘rhizome’ proposed by Gilles Deleuze and Félix Guattari (1987). ‘Mycorrhizae’ is a symbiotic association between a fungus and the roots or rhizoids of a plant. A mycorrhizae formation is “simultaneously a living, expanding process (or bundle of developing connections) and a relatively durable, stabilized structure” (Engeström, 2006, p. 12). Engeström (2006, p. 38) concretizes the development as a “breaking away into

mycorrhizae activities” in his group’s research with the practitioners of a municipal primary care clinic near Helsinki “to analyze and support their attempts at breaking away *from* mass production oriented work, *into* rudimentary forms of knotworking and mycorrhizae-building around complex care trajectories, typically with multiple chronic conditions and frequent consultations.”

‘Knotworking,’ which is also seen as an emergent form of collaborative work, refers to the “rapidly pulsating, distributed, and partially improvised orchestration of collaborative performance between otherwise loosely connected actors and organizational units” (Engeström, 2005b, pp. 316-317). Distributed agency located in knotworking type formations, which can solve problems and make decisions in situations where the “combinations of people and the contents of tasks change constantly” (Engeström, Engeström, & Vähäaho, 1999, p. 353), is valuable for the movement of changing initiatives from moment to moment and distributed leaderships. It is also important for persistent communicative engagements from below that are not reducible to a fixed, central authority, which is neither solely a specific individual nor an organizational entity.

In the third and post-generation of activity theory, focusing on reaching beyond and across the dividing boundaries and gaps between activity systems must be acknowledged as a historically new feature of distributed or ‘fractured’ agency located in the ‘knots’ or ‘mycorrhizae.’ Such historicity of agency is currently sought in network organizations where a new type of agency might be visible, required, and emerging. Participants and parties from different terrains involved in networks and beyond organizations seek innovations by collaboration across traditional boundaries. In such organizational forms, the nature of agency, as Engeström (2005b) states, can “connect and reciprocate” in imperative form. This imperative of a new type of agency principally differs from historically previous forms: “control and command” for management, “resist and defend” for workers in hierarchy organizations, and “take advantage and maximize gain” in market organizations. Efficacy and value laying in collaboration and reciprocity are missed and limited in both forms.

## **Studying New Creative Collaboration Practices between Schools, Communities, and Various Organizations Outside Schools**

### ***School as Societal Change Agent***

At present we are developing a theory of learning and development as expansive phenomena in schools in an international joint research project between *the Center for Activity Theory and Developmental Work Research at the University of Helsinki, Finland* and *the Center for Human Activity Theory at Kansai University, Japan*, which is entitled “School as Societal Change Agent: Models of Productive Collaboration between School and Other Actors in Finland and Japan.”<sup>2</sup> This project will clarify the active role schools play as ‘societal change agents’ (see Engeström, 1991; Yamazumi, Engeström, & Daniels, 2005).

This project is a study of successful new creative collaboration practices between schools, communities, and various organizations outside schools. The study will identify and analyze examples where schools are involved in collaborative change efforts, for example, community revitalization, cultural production, economic innovation, citizenship activation, etc. In both countries five to ten cases of innovative collaboration between schools and the outside world will be selected. Researchers will visit the sites, collect ethnographic data, and carefully analyze the cases. Analysis will include a comparison between the Finnish and Japanese practices. Such comparative analysis will yield a typology of new forms of societal agency for schools and a conceptual framework for assessing and developing such forms in schools.

While such practices are rapidly becoming more widespread, there is little detailed empirical research on their content, forms, strengths, and limitations. This study will take a step toward establishing a firm basis for identifying, comparing, and assessing such new forms of productive partnerships between schools and outside actors. Such knowledge is all the more important as schools face alienation and isolation from life and society, which may lead to serious motivational problems among students (Resnick, 1987). The present study will contribute to the development of a pedagogy based on an active societal *change agent* role of the school (see Engeström, 1991). It will also mean a contribution to the ongoing discussion of new forms of transfer in school learning (Tuomi-Gröhn & Engeström, 2003). The theme of the joint research is *school as a societal change agent*. With a common framework in activity theory, we will analyze the experiences that innovative schools have gained from acting as agents of societal change through networking, interaction, dialogue, boundary crossing, and hybridizing with other actors.

What are the benefits of collaborative research between Finland and Japan? Finland is known for the excellent performance of its schools in the international comparative PISA study of educational achievement. On the other hand, Finnish students also express fairly high levels of discomfort and negative experiences in school. This paradox may be partly illuminated by focusing the analysis on the changing relationships between schools and outside communities. This may help researchers, teachers, and administrators go beyond the simplistic images of the Finnish school system and its strengths.

Japan is also well known for the quality and intensity of its educational practices. But in Japan there are also troubling signs of motivational problems, excessive stress, and alienation among students. In other words, despite the great differences in their history and culture, these two countries share a similar combination of strong educational achievement and simultaneous increased alienation among students.

In more general terms, both Finland and Japan are known for their high work ethic, economic and competitive strengths, and capacity for innovation. However, in both countries recent debate has pointed out that the innovative capacity has perhaps been understood too narrowly as mere technological in-

novativeness. Social innovations are just now gaining importance. Schools at different levels of the educational system may become crucial breeding grounds for social innovations, drawing attention to the efforts and experiences for overcoming the social isolation of schools.

The study will be conducted within the conceptual framework of activity theory. The two research centers responsible for the project will apply and develop this framework. Specifically, as analytical tools, we will use the concepts of *boundary crossing*, *co-configuration*, and *knotworking* that have been developed in a series of previous studies at *the Center for Activity Theory and Developmental Work Research* in Finland and at *the Center for Human Activity Theory* in Japan (see Engeström, 2005a; Engeström, Lompscher, & Rückriem, 2005; Yamazumi, 2006a, 2006b; Yamazumi, Engeström, & Daniels, 2005).

- *Boundary crossing* refers to work and learning in which actors step outside their customary domains of authority and expertise to find new ideas and solutions together with other actors; boundary crossing typically entails risks and requires efforts at building a shared language between actors (Engeström, Engeström, & Kärkkäinen, 1995; Tuomi-Gröhn & Engeström, 2003).
- *Co-configuration* refers to work and learning conducted in distributed multi-actor partnerships for building and nurturing a shared complex object that has a long life cycle and requires constant reconstruction (Victor & Boynton, 1998; Engeström, 2004).
- *Negotiated knotworking* refers to partially improvised forms of intense collaboration between partners that are otherwise loosely connected but engaging in solving problems and rapidly designing solutions when required by their common object; in knotworking, there is no fixed single center of authority and control (Engeström, Engeström, & Vähäaho, 1999).

Within the more general framework of activity theory, these three concepts are particularly promising as tools for analyzing new practices of collaboration between schools and the outside community. With the help of these concepts, we aim to reconceptualize the more familiar but theoretically relatively weak notions of community and partnership.

### ***New Type of Agency for an Inter-institutional After-school Learning Activity: An Empirical Study***

Here I will illustrate and analyze some data and findings from the implementation process of an after-school learning activity for children called *New School* (NS) promoted by *the Center for Human Activity Theory at Kansai University* in Osaka (Yamazumi, 2006a, 2006b)<sup>3</sup>. This research and development was conducted as part of a broader international joint research project as mentioned above.

NS is an inter-institutional, collaborative project among the following part-

ners: a university, an elementary school, families, experts, and community organizations outside the school. These multiple parties cooperatively create productive learning activities and advanced learning networks. In the NS project, these parties are involved in designing *grade-mixed, group- and project-based learning activities*. Inspired by everyday practices, the themes of NS activities include eating and cooking, gardening and farming, personal well-being, ecological thinking, and environment responsibility. NS activities aim to develop agentive, critical, and creative learning abilities in the children involved in the project.

First, the central question in this research project is how can networked learning between schools and the outside world advance beyond 'encapsulated' learning that exists within institutional boundaries such as traditional school learning? Second, what kind of learning can generate critical and creative agency among learners?

In 2005 as part of the NS project's new activities and based on the pilot development of after-school learning activities between a university, an elementary school, and families, in 2006 elementary school children engaged in *fun, creative learning* processes with such themes as food once a week after school. By exposing children to community activities and the effective practices of such producers and distributors as farmers, fishermen, nutritional science experts, and food-related social organizations like *Slow Food Kobe*, NS activities tries to bridge the gap between elementary school activities and the productive practice of everyday life outside school. In other words, the NS project seeks to develop the concept of agency in learning activities for children and other participants so that actual real life activities are synergistically networked.

Such a learning activity project can be characterized as the creation of collaborative cross-school working to promote new forms of agency in networked learning activities and school organizations. Daniels, Leadbetter, Soares, and MacNab (2006b, p. 45) define three sets of boundaries in cross-school working as challenges that teachers should tackle: 1) school boundaries with other schools, 2) teacher/professional boundaries with other professionals, 3) boundaries in relatively unfamiliar and under-explored pedagogic contexts.

The NS project has two goals: 1) to design and implement new learning activities, and 2) to serve as an empirical intervention study. The latter aims to illustrate the dynamics through which multiple parties involved in the NS project engage in the process of *expansive learning* for designing and implementing new activities. In particular, the analysis seeks to determine the extent to which different partners in NS who cross the boundaries between activity systems are willing to make school innovations together and become collaborative change agents.

The theory of *expansive learning*, which has been globally debated since Engeström's (1987) formulation and has clearly become increasingly valuable for creating new systems of human social-practical activities, denotes a powerful modeling of learning in/for the collaborative production of new *object-ori-*

*ented collective activity systems.* “The object of expansive learning activity is the entire activity system in which the learners are engaged. Expansive learning activity produces culturally new patterns of activity. Expansive learning at work produces new forms of work activity” (Engeström, 2001, p. 139). Such expansive learning can evoke and generate critical and creative agency for learners to create new tools and forms of activity with which to transform both their inner and outer worlds and thus to master their own lives and futures.

From July to December 2006, we participated in the NS project while it conducted seven case study sessions to facilitate and support participant expansive learning to design and implement grade-mixed, group- and project-based learning activities that involved the following three key groups: Kansai University students who served as tutors for the children, the research coordinator of the Center for Human Activity Theory at Kansai University who served as the principal NS practitioner, and center researchers who served as interventionists. In the sessions, after watching video of the children’s group work and stating the concept for implementing the NS project, the participants offered personal assessments of grade-mixed and group-based learning as an alternative to traditional school learning. Here the participants’ expansive learning denotes the act of learning for collaborative dual effort contributions to solving actual problems in current practice and forming new perspectives of a new type of agency to reshape the grades-mixed, group- and project-based learning activities in NS. Such an expansive learning process involved, first of all, the analysis of contradictions and collaborative discussions around concrete cases that were carefully selected from all videotaped practices and field notes through collective discussions among the university students, the research coordinator, and the researchers.

In NS, 13 children from the third to sixth grades were divided into three grade-mixed groups as a minimum unit of the project-based collaborative learning. University students were assigned as group tutors. In the first case study session, the research coordinator presented her reflections and questions regarding the group organization to the university students based on her storytelling and sensemaking. The initial contradiction of current practices in NS group-based learning did not take place, although the university students/tutors provided enough instructions so that the children’s group work could emerge.

To analyze such an initial contradiction in which group-based learning was not taking place, the university students and the research coordinator jointly examined a typical case, as shown in Figure 3, November 1, 2006. The children and the students discussed a plan to make a final digital-storytelling presentation of their entire project. In this case, however, their group work did not emerge even though it looked as if the group worked together. The university student/tutor had already written a presentation ‘script’ before the group discussion and assigned roles of the entire process to individual children. Although her intention was to organize the group well, individual assignments

segmented the group. In other words, at that time the group could not act as a whole.



FIGURE 3 University student assigning her script to each child

After analyzing the contradiction, the university students and the research coordinator began to seek an innovative solution for combining the children in the case study sessions. They implemented a new way of responding to the children's need for involvement, in particular, the group work initiated by a child group leader, a sixth grade boy named Kota. As shown in Figure 4, November 8, 2006, they tried to encourage and facilitate Kota (first from the left in the picture) to take a leadership role to form joint learning. In this case, they shifted their instructions from the top-down assignment of prescribed operations to each individual child toward children's involvement in and responsibility for the entire group's work.



FIGURE 4 Research coordinator and university students facilitate child's initiatives as group leader

In the following activity, Kota came into his leadership role to act in concert with his group's other children. As shown in Figure 5, November 15, 2006, he proposed division of labor and group collaboration to the other children of the group for making their final presentation by showing them a draft of his proposal on a computer. He invited them to join the presentation: "Look, everyone. Let's see what roles look interesting. Which one do you want to play?" When we observed his agentic leadership for group- and project-based learning, we obviously acknowledged not only his individual development but also the excellent collective development of the group's participants, including the

children, the university students, the research coordinator, and researchers.



FIGURE 5 Child's initiative for group- and project-based learning

Here let me employ a simplified representation of the three transforming forms of configuration in the group work of the children, the university students, and the research coordinator through the NS activities on November 1, 8, and 15, 2006, as shown in Figure 6. This figure shows that the forms of configuring their group work changed from 'university student's assigning her script to each child (November 1, 2006) to 'research coordinator's and university students' facilitating the child's initiatives as group leader' (November 8, 2006) as well as 'the child's embracing his initiative and leadership role to interact and collaborate with his peers' (November 15, 2006).

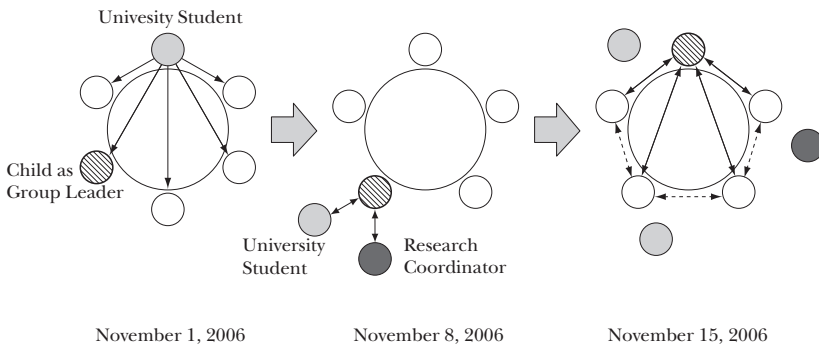


FIGURE 6 Simplified representation of three transforming forms of configuration in children's, university students' and research coordinator's group work through NS activities on November 1, 8, and 15, 2006

Distributed agency emerged expansively. It could reshape the configuration of group- and project-based learning in which the segregated activities of participants are synergistically connected and reciprocated. Such agency would be located in knotworking to act together for horizontal movement on changing initiatives, distributed leaderships, and communicative engagements.



## **Conclusion: Toward an Intervention in Critical Design Agency as Educational Research**

The introduction of information and communication technologies such as the Internet is resulting in an ever expanding range of learning for students, teachers, and staff in all kinds of school systems. Learning, which is no longer something that takes place within the confines of textbooks, has come to draw on a wide range of different sources of knowledge. At most schools, current social problems and future possibilities form an essential part of the curriculum. Consequently, it is becoming increasingly important for schools to build partnerships with community organizations, businesses, experts, and other relevant actors outside the school and to allow them to contribute to the curriculum and lessons. In these partnerships, teachers and students get involved with interesting themes and problems by investigation and intervention outside of the classroom. Conversely, outside partners might come to school and engage in discussions with students and teachers. In this way, the partnerships between the school and the outside community build reciprocal relationships to create and share knowledge and practices that are learned together.

Teaching and learning in schools are usually divided into two segregated structures. In activity-theoretical terms, one can depict these structures as two discrete and compartmentalized activity systems. On one hand, there is the teachers' activity of transmitting predefined, specialized knowledge and skills. On the other hand, there is the students' activity of enduring "a series of more or less disconnected though systematically repeated learning actions" (Engeström, 1987, p. 104) such as daily assignments. To break through such segregated activities, teachers and students must collaboratively construct an expanded, shared object of a joint learning activity. In this way students may become the subjects of a whole system of learning rather than the mere subjects of separate learning actions.

The NS project, as I have analyzed above, leads to the preliminary finding that a collaborative change effort is characterized by a set of intensive contradictions between the activity systems involved: the children from local elementary school and families, university students and staff, and expert groups and community organizations outside the school. These contradictions could be a source for breaking away and changing the design and implementation of such new learning activities as grade-mixed, group- and project-based learning activities that transcend institutional boundaries of traditional school learning. To resolve these contradictions in multi-activity collaboration, the mastery and/or cultivation of a new method of learning urgently requires new forms of distributed interagency across boundaries between the activity systems involved. Such agency can be called 'critical design agency' (Engeström, in press) among all partners and parties involved in multi-activity collaboration.

This new type of agency is seen as the subject potential for the horizontal movement of expansive learning across boundaries between diverse partners

and parties to create new patterns and forms of activity in fields of dialogical, boundary-crossing, networked, and hybridized activities. As Gutiérrez, Baquedano-López, and Tejada (1999) argue, hybridity and diversity should be understood to include not only racial, ethnic, socioeconomic, and linguistic hybridity and diversity but also hybridity and diversity in the mediating artifacts (tools and signs), roles, and activity systems themselves. “Hybridity and diversity, then, are not problematic but rather are viewed as important cultural resources in children’s development” (Gutiérrez, Baquedano-López, & Tejada, 1999, p. 287). Moll and Greenberg (1990) present a ‘funds of knowledge’ strategy in which schools draw on the social and cognitive contributions of parents and other community members to children’s development. In this issue, Hugh Mehan (2007) suggests ‘inter-organizational collaboration’ in schools as a strategy for improving diversity and college access for underrepresented minority students. As important ‘cultural resources’ for development, these strategies for hybridity and diversity are closely related to emerging forms of agency characterized as connecting and reciprocating in network and post-network organizations.

Such new forms of agency would be oriented toward mastering and/or cultivating the ‘runaway object’ between multiple activity systems. As Engeström (2005b, p. 333) characterizes, the nature of such agency in network organizations might be formulated as “*Dwell in the object, connect and reciprocate across boundaries.*” By ‘dwelling in the object’ he refers to a longitudinal dialogical relationship with the object that goes beyond ‘focusing on’ or ‘appropriating.’ What efficacy and value lie in object-oriented, distributed agency? The value lies in solving very complex problems and contributing to the reshaping of the entire way of working without requiring the establishment of new positions or organizational centers. This explains why Engeström (2005b) characterizes one important aspect of agency as ‘collaborative intentionality capital’. For example, in their intervention study Daniels et al. (2006a) ask how the multi-agency working of children service professionals across traditional boundaries, such as education, health, and social care, change their service into new forms of ‘joined-up’ working. In this issue, Anne Edwards (2007) also characterizes ‘relational agency’ in professional practices as a capacity for working with others and expanding the object.

As I have analyzed in the NS project, different partners and parties are constructing an expanded, shared object, and thus they are reshaping their joint living expansively. Actually, it may remain in small-scale expansive learning and agency. However, it could also be a promising challenge for school changes with the help of expansive learning as a new form of pedagogy. It is possible to identify crucial tensions and contradictions that obstruct the implementation of new forms of agency dwelling in multi-activity collaboration. Nevertheless, such contradictions also open up and energize collaborative efforts to transform traditional pedagogic practices into new practices of collaboration between schools and outside society, generating such agency as connection and

reciprocation across boundaries in relation to a longitudinal dialogical relationship with the expanded, shared object. Evoking and supporting new forms of distributed and multiple ‘critical design agency’ for networked educational work and organizations among different actors involved in and affected by educational practices must be a lifeline in educational research. It must intervene to escape something old (e.g., institutional boundaries of traditional school learning isolated from society) and move toward something better (e.g., advanced networks of learning across boundaries). Such agency might include the will and courage to create innovations so that schools can become collaborative change agents.

## Notes

1. *The Center for Human Activity Theory* (CHAT) was established at Kansai University in Osaka, Japan in April 2005 to focus on educational research and development based on cultural-historical activity theory and its interventionist approach to human education, learning, and development. CHAT is involved in a joint research project entitled “International Joint Research in Innovative Learning and Education System Development: The Creation of Human Activity Theory,” which is awarded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) as an “Academic Frontier” Project. See *Center for Human Activity Theory* website: <http://www.chat.kansai-u.ac.jp>
2. I wish to express my gratitude to Yrjö Engeström (Professor and Director of the Center for Activity Theory and Developmental Work Research at the University of Helsinki) for his valuable ideas and encouragement in developing an international joint research project “School as Societal Change Agent: Models of Productive Collaboration between School and Other Actors in Finland and Japan” in the group between the Center for Activity Theory and Developmental Work Research at the University of Helsinki, Finland and the Center for Human Activity Theory at Kansai University, Japan and our colleagues of the research group for their ongoing collaborative efforts.
3. *The New School* (NS) project is a joint research project advanced and developed at the Center for Human Activity Theory, Kansai University. Special thanks to Michiko Shimada (Research Coordinator of the Center for Human Activity Theory at Kansai University) and my Kansai University students for their collaborative efforts to practice and realize a new children’s after-school educational activity.

## References

- Bateson, G. (1972). *Steps to an ecology of mind*. New York: Ballantine Books.
- Cole, M. (1996). *Cultural psychology: A once and future discipline*. Cambridge, MA: Harvard University Press.
- Daniels, H. (2001). *Vygotsky and pedagogy*. London: Routledge.
- Daniels, H., et al. (2005). Studying professional learning for inclusion. In K. Yamazumi, Y. Engeström, & H. Daniels. (Eds.), *New learning challenges: Going beyond the industrial age system of school and work*. Osaka: Kansai University Press.
- Daniels, H., et al. (2006a). *Learning in and for interagency working*. Working Paper.
- Daniels, H., Leadbetter, J., Soares, A., & MacNab, N. (2006b). Learning in and for interagency working to promote creativity. In K. Yamazumi (Ed.), *Building activity theory in*

- practice: Toward the next generation*. Osaka: Center for Human Activity Theory, Kansai University. Technical Reports No. 1.
- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. Minneapolis: University of Minnesota Press.
- Edwards, A. (2007). Relational agency in professional practice: A CHAT analysis. *Actio: An International Journal of Human Activity Theory*, 1, 1-17.
- Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit.
- Engeström Y. (1991). Non scolae sed vitae discimus: Toward overcoming the encapsulation of school learning. *Learning and Instruction: An International Journal*, 1, 243-259.
- Engeström, Y. (1993). Developmental studies of work as a testbench of activity theory: Analyzing the work of general practitioners. In S. Chaiklin, & J. Lave (Eds.), *Understanding practice: Perspectives on activity and context*. Cambridge: Cambridge University Press.
- Engeström, Y. (1995, June). *Activity theory and the transformation of work and organizations*. Lecture at the Third International Congress for Research on Activity Theory, Moscow, Russia.
- Engeström, Y. (1996a). Development as breaking away and opening up: A challenge to Vygotsky and Piaget. *Swiss Journal of Psychology*, 55, 126-132.
- Engeström, Y. (1996b). Developmental work research as educational research: Looking ten years back and into the zone of proximal development. *Nordisk Pedagogik/Journal of Nordic Educational Research*, 16, 131-143.
- Engeström, Y. (2000). From individual action to collective activity and back: Developmental work research as an interventionist methodology. In P. Luff, J. Hindmarsh, & C. Heath. (Eds.), *Workplace studies: Recovering work practice and informing system design*. Cambridge, UK: Cambridge University Press.
- Engeström, Y. (2001). Expansive learning at work: Toward an activity- theoretical reconceptualization. *Journal of Education and Work*, 14(1), 133-156.
- Engeström, Y. (2004). New forms of learning in co-configuration work. *Journal of Workplace Learning*, 16, 11-21.
- Engeström, Y. (2005a). *Developmental work research: Expanding activity theory in practice*. Berlin: Lehmanns Media.
- Engeström, Y. (2005b). Knotworking to create collaborative intentionality capital in fluid organizational fields. In M. M. Beyerlein, S. T. Beyerlein, & F. A. Kennedy (Eds.), *Collaborative capital: Creating intangible value*. Amsterdam: Elsevier.
- Engeström, Y. (2006). Development, movement and agency: Breaking away into mycorrhizae activities. In K. Yamazumi (Ed.), *Building activity theory in practice: Toward the next generation*. Osaka: Center for Human Activity Theory, Kansai University. Technical Reports No. 1.
- Engeström, Y. (in press). Putting Vygotsky to work: The change laboratory as an application of double stimulation. In H. Daniels, M. Cole, & J. V. Wertsch (Ed.), *Cambridge companion to Vygotsky*. Cambridge: Cambridge University Press.
- Engeström, Y., Engeström, R., & Kärkkäinen, M. (1995). Polycontextuality and boundary crossing in expert cognition: Learning and problem solving in complex work activities. *Learning and Instruction: An International Journal*, 5, 319-336.
- Engeström, Y., Engeström, R., & Vähäaho, T. (1999). When the center does not hold: The importance of knotworking. In S. Chaiklin, M. Hedegaard, & U. J. Jensen (Eds.), *Activity theory and social practice: Cultural-historical approaches*. Aarhus: Aarhus University Press.
- Engeström, Y., Lompscher, J., & Rückriem, G. (Eds.). (2005). *Putting activity theory to work:*

- Contributions from developmental work research*. Berlin: Lehmanns Media.
- Engeström, Y., Miettinen, R., & Punamäki, R-L. (Eds.). (1999). *Perspectives on activity theory*. Cambridge: Cambridge University Press.
- Gutiérrez, K. D., Baquedano-López, P., & Tejada, C. (1999). Rethinking diversity: Hybridity and hybrid language practices in the third space. *Mind, Culture, and Activity*, 6(4), 286-303.
- Leont'ev, A. (1978). *Activity, consciousness, and personality*. Englewood Cliffs, NJ: Prentice Hall.
- Luria, A. R. (1979). *The making of mind: A personal account of Soviet psychology*. Cambridge, MA: Harvard University Press.
- Mehan, H. (2007). Inter-organizational collaboration: A strategy to improve diversity and college access for underrepresented minority students. *Actio: An International Journal of Human Activity Theory*, 1, 63-91.
- Moll, L. C., & Greenberg, J. B. (1990). Creating zones of possibilities: Combining social contexts for instruction. In L. S. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology*. Cambridge: Cambridge University Press.
- Pretty, J. (2002). *Agri-culture: Reconnecting people, land and nature*. London: Earthscan Publication Limited.
- Resnick, L. B. (1987). Learning in school and out. *Educational Researcher*, 16(9), 13-20.
- Tuomi-Gröhn, T. (2005). Studying learning, transfer and context: A comparison of current approach to learning. In Y. Engeström, J. Lompscher, & G. Rückriem (Eds.), *Putting activity theory to work: Contributions from developmental work research*. Berlin: Lehmanns Media.
- Tuomi-Gröhn, T., & Engeström, Y. (Eds.). (2003). *Between school and work: New perspectives on transfer and boundary-crossing*. Amsterdam: Pergamon.
- Victor, B., & Boynton, A. C. (1998). *Invented here: Maximizing your organization's internal growth and profitability*. Boston: Harvard Business School Press.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Vygotsky, L. S. (1987a). Lectures on psychology. In *The collected works of L. S. Vygotsky. Vol. 1. Problems of general psychology*. New York: Plenum.
- Vygotsky, L. S. (1987b). Thinking and speech. In *The collected works of L. S. Vygotsky. Vol. 1. Problems of general psychology*. New York: Plenum.
- Vygotsky, L. S. (1997). The instrumental method in psychology. In *The collected works of L. S. Vygotsky. Vol. 3. Problems of the theory and history of psychology*. New York: Plenum.
- Yamazumi, K. (2005). School as collaborative change agent. In K. Yamazumi, Y. Engeström, & H. Daniels (Eds.), *New learning challenges: Going beyond the industrial age system of school and work*. Osaka: Kansai University Press.
- Yamazumi, K. (2006a). Activity theory and the transformation of pedagogic practice. *Educational Studies in Japan: International Yearbook of Japanese Educational Research Association*, 1, 77-90.
- Yamazumi, K. (Ed.). (2006b). *Building activity theory in practice: Toward the next generation*. Osaka: Center for Human Activity Theory, Kansai University. Technical Reports No. 1.
- Yamazumi, K., Engeström, Y., & Daniels, H. (Eds.). (2005). *New learning challenges: Going beyond the industrial age system of school and work*. Osaka: Kansai University Press.