

THE THEORETICAL BASES OF ACTIVITIES IN THE ENGLISH LANGUAGE

INTERACTIVE METHOD: THE HISTORY OF ACTIVITIES

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Studies show students absorb more information when not in a straight-lecture lesson. While lecturing tends to be the easiest form of instruction, studies show that students absorb the least amount of information that way.

Interactive teaching methods are an effective way to connect with a generation of students used to consistent stimulation—and education professor Kevin Yee has some advice for how teachers can make their lessons more interactive. “Don’t be afraid to experiment,” said Yee, a professor at the University of Central Florida and assistant director of the university’s Karen L. Smith Faculty Center for Teaching and Learning.

Yee is the author of “Interactive Techniques,” a collection of more than 100 teaching strategies—compiled from different sources—that aim to energize students and engage them in lessons. “Some of the techniques look and feel like they might have a different tone to them than your usual mannerisms in class, but it can pay dividends to almost adopt a new teaching persona when trying some of these out,” he said.

He cautioned teachers not to fear new methods because of possible failure: “I think it’s also OK if something is attempted and it doesn’t work. It’s OK to just be up front with the students and say, ‘Well no, this experiment didn’t work—let’s move on.’”

“These techniques are often perceived as ‘fun,’ yet they are frequently more effective than lectures at enabling student learning,” Yee’s paper states. “Not all techniques listed here will have universal appeal, with factors such as your teaching style and personality influencing which choices may be right for you.”

Follow the Leader: Appoint one student as tweeting “chairperson,” and have that student be responsible for posting the most important concepts discussed in the day’s class on Twitter. Have other students follow the Twitter feed and “retweet” any discussions or disagreements.

Using social networks can be a great way for students to feel connected to their classroom environments; Twitter is one social networking tool that is underused in terms of its learning possibilities, and having a leader responsible for broadcasting the main ideas in a classroom discussion will help increase active listening. Teachers can switch the Twitter leader each week or each day, depending on class size.

At the end of the 1990s, a group of Russian and American activity theorists working in the systems-cybernetic tradition of Bernshtein and Anokhin began to publish English-language articles and books dealing with topics in human factors and ergonomics and latterly, human-computer interaction¹. Under the rubric of systemic-structural activity theory (SSAT), this work represents a modern synthesis within activity theory which brings together the cultural-historical and systems-structural strands of the tradition (as well as other work within Soviet psychology such as the Psychology of Set) with findings and methods from Western human factors/ergonomics and cognitive psychology.

The development of SSAT has been specifically oriented toward the analysis and design of the basic elements of human work activity: tasks, tools, methods, objects and results, and the skills, experience and abilities of involved subjects. SSAT has developed techniques for both the qualitative and quantitative description of work activity.² Its design-oriented analyses specifically focus on the interrelationship between the structure and self-regulation of work activity and the configuration of its material components.

An explanation of activity theory and this section presents a short introduction to activity theory, and some brief comments on human creativity in activity theory and the implications of activity theory for tacit knowledge and learning.

¹Bedney & Meister 1997 Bedny, Gregory; Meister, David (1997). The Russian Theory of Activity: Current Applications To Design and Learning. Series in Applied Psychology. Psychology Press.

²Engeström, Yrjö; Miettinen, Reijo; Punamäki, Raija-Leena (1999). Perspectives on Activity Theory. Cambridge University Press.

Activity theory begins with the notion of activity. An activity is seen as a system of human "doing" whereby a subject works on an object in order to obtain a desired outcome. In order to do this, the subject employs tools, which may be external (e.g. an axe, a computer) or internal (e.g. a plan). As an illustration, an activity might be the operation of an automated call center. As we shall see later, many subjects may be involved in the activity and each subject may have one or more motives (e.g. improved supply management, career advancement or gaining control over a vital organizational power source). A simple example of an activity within a call center might be a telephone operator (subject) who is modifying a customer's billing record (object) so that the billing data is correct (outcome) using a graphical front end to a database (tool).

Kuutti formulates activity theory in terms of the structure of an activity. "An activity is a form of doing directed to an object, and activities are distinguished from each other according to their objects. Transforming the object into an outcome motivates the existence of an activity. An object can be a material thing, but it can also be less tangible."³

Kuutti then adds a third term, the tool, which 'mediates' between the activity and the object. "The tool is at the same time both enabling and limiting: it empowers the subject in the transformation process with the historically collected experience and skill 'crystallized' to it, but it also restricts the interaction to be from the perspective of that particular tool or instrument; other potential features of an object remain invisible to the subject..."

As Verenikina remarks, tools are "social objects with certain modes of operation developed socially in the course of labour and are only possible because they correspond to the objectives of a practical action."⁴

The levels of activity theory:

An activity is modelled as a three-level hierarchy. Kuutti schematizes processes in activity theory as a three-level system.

Verenikina paraphrases Leont'ev as explaining that "the non-coincidence of action and operations... appears in actions with tools, that is, material objects which are crystallized operations, not actions nor goals. If a person is confronted with a specific goal of, say, dismantling a machine, then they must make use of a variety of operations; it makes no difference how the individual operations were learned because the formulation of the operation proceeds differently to the formulation of the goal that initiated the action."

The levels of activity are also characterized by their purposes: "Activities are oriented to motives, that is, the objects that are impelling by themselves. Each motive is an object, material or ideal, that satisfies a need. Actions are the processes functionally subordinated to activities; they are directed at specific conscious goals... Actions are realized through operations that are determined by the actual conditions of activity."

Engeström developed an extended model of an activity, which adds another component, community ("those who share the same object"), and then adds rules to mediate between subject and community, and the division of labour to mediate between object and community.

Kuutti asserts that "These three classes should be understood broadly. A tool can be anything used in the transformation process, including both material tools and tools for thinking. Rules cover both explicit and implicit norms, conventions, and social relations within a community. Division of labor refers to the explicit and implicit organization of the community as related to the transformation process of the object into the outcome."

Activity theory therefore includes the notion that an activity is carried out within a social context, or specifically in a community. The way in which the activity fits into the context is thus established by two resulting concepts:

rules: these are both explicit and implicit and define how subjects must fit into the community;

division of labor: this describes how the object of the activity relates to the community.

The internal plane of action--activity theory provides a number of useful concepts that can be used to address the lack of expression for 'soft' factors which are inadequately represented by most process modelling frameworks. One such concept is the internal plane of action. Activity theory recognizes that each

³Engeström, Yrjö; Miettinen, Reijo; Punamäki, Raija-Leena (1999). Perspectives on Activity Theory. Cambridge University Press.

⁴Nardi, Bonnie (1995). Context and Consciousness: Activity Theory and Human-Computer Interaction.

activity takes place in two planes: the external plane and the internal plane. The external plane represents the objective components of the action while the internal plane represents the subjective components of the action. Kaptelinin defines the internal plane of actions as "... a concept developed in activity theory that refers to the human ability to perform manipulations with an internal representation of external objects before starting actions with these objects in reality."⁵

The concepts of motives, goals and conditions discussed above also contribute to the modelling of soft factors. One principle of activity theory is that many activities have multiple motivation ('polymotivation'). For instance, a programmer in writing a program may address goals aligned towards multiple motives such as increasing his or her annual bonus, obtaining relevant career experience and contributing to organizational objectives.

Activity theory further argues that subjects are grouped into communities, with rules mediating between subject and community and a division of labor mediating between object and community. A subject may be part of several communities and a community, itself, may be part of other communities.

Human creativity plays an important role in activity theory, that "human beings... are essentially creative beings" in "the creative, non-predictable character". Tikhomirov also analyses the importance of creative activity, contrasting it to routine activity, and notes the important shift brought about by computerization in the balance towards creative activity.

Learning and tacit knowledge - activity theory has an interesting approach to the difficult problems of learning and, in particular, tacit knowledge. Learning has been a favourite subject of management theorists, but it has often been presented in an abstract way separated from the work processes to which the learning should apply. Activity theory provides a potential corrective to this tendency. For instance, Engeström's review of Nonaka's work on knowledge creation suggests enhancements based on activity theory, in particular suggesting that the organizational learning process includes preliminary stages of goal and problem formation not found in Nonaka. Lompscher, rather than seeing learning as transmission, sees the formation of learning goals and the student's understanding of which things they need to acquire as the key to the formation of the learning activity.

Of particular importance to the study of learning in organizations is the problem of tacit knowledge, which according to Nonaka, "is highly personal and hard to formalize, making it difficult to communicate to others or to share with others."⁶ Leontev's concept of operation provides an important insight into this problem. In addition, the key idea of internalization was originally introduced by Vygotsky as "the internal reconstruction of an external operation." Internalization has subsequently become a key term of the theory of tacit knowledge and has been defined as "a process of embodying explicit knowledge into tacit knowledge." Internalisation has been described by Engeström as the "key psychological mechanism" discovered by Vygotsky and is further discussed by Verenikina.

The list of used literature:

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2. Barry Tomalin "Teaching with methodology", 1999.
3. Bedney & Meister 1997 Bedny, Gregory; Meister, David (1997). *The Russian Theory of Activity: Current Applications To Design and Learning*. Series in Applied Psychology. Psychology Press.
4. Callum Robertson "Action plan for teachers", 2000.

⁵Foot, K. (2001). Cultural-Historical Activity Theory as Practical Theory: Illuminating the Development of a Conflict Monitoring Network. *Communication Theory*, 11(1), 56-83.

⁶Fjeld, M., Lauche, K., Bichsel, M., Voorhorst, F., Krueger, H., Rauterberg, M. (2002): Physical and Virtual Tools: Activity Theory Applied to the Design of Groupware. In B. A. Nardi & D. F. Redmiles (eds.) *A Special Issue of Computer Supported Cooperative Work (CSCW): Activity Theory and the Practice of Design*, Volume 11 (1-2), pp. 153-180.

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5. Chen, R., Sharman, R., Rao, H. R., & Upadhyaya, S. J. (2013). Data Model Development for Fire Related Extreme Events: An Activity Theory Approach. MIS Quarterly, in press.
 6. Clare Lavery "Language assistant", 2001.

