Is Cultural-Historical Activity Theory More Compatible with Interactivism than Vygotsky's Original Work?

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Throughout the course, the focus has always been on development and learning. Different models and approaches have been suggested to understand the agent's mind better, the interaction between other agents, the environment, and situations to better illustrate the model's place in development and learning. This paper will focus on the interactive model, the most applicable model to learning and development throughout the course. , This paper will investigate the interactive model's compatibility with Vygotsky's original work and cultural-historical theory. Vygotsky's original work and cultural and historical theories are for a better understanding the development and learning. That is why the comparison of them to an interactive model is necessary. The paper compares Vygotsky's original work with the interactive model to question their compatible one. The two works' general perspective will be on focus in general. Vygotsky's mediation and attribution to the object and interactive model's representation will be compared. Secondly, the two versions of cultural-historical activity theory, Leontiev's and Engeström's, will be investigated. Leontiev's model focus will be on the division of labor and the object action relation and compatibility with the interactive model's representation, and situation knowledge will be investigated. Lastly, Engeström's model focus will be on the relationship and the object action relationship, which will be compared with the interactive model's situation convention and representation. It will be concluded that although all of them is compatible with the interactive model, Engeström's model will be the most compatible with the interactive model between the other two work because of the added dimension and hierarchical order of Vygotsky's Leontiev's and Engeström's work.

In this section, I will present Vygotsky's original work's essential points and properties. I will analyze if these concepts can be found in an interactive model and show how much the model and the work are similar or different from one another. As depicted in Daniels (2008),

three main themes are significant when understanding Vygotsky's view of activity theory. Human "mental functioning" can be understood by looking at the tools that mediate the artifacts, this illustration is a developmental concept, and the higher mental functioning of the individual has been rooted in the social context. Vygotsky's original work of sociocultural theory is represented by the interaction between three main concepts mediating artifacts, objects, and subjects.

To understand Vygotsky's activity theory, first, one must understand the concept of mediation. As described in Kozulin (2018), mediation is a procedure in line with the development and increment of mental functioning. Vygotsky (1978, as cited in Lem, 2022) "suggest that signs mediate higher mental functioning." As in Lem (2022), signs modify the connection between humans and their environments. By this, it can be understood that the signs and mediating process do not merely exist but are instead constructed by the agent. As stated in Daniels (2008), Vygotsky's mediation is significant for two reasons: it attributes activeness to the individual in the development process and gives credit to the context in which and when the tools are used. In this point, mediating can be compatible with the interactive model's representation. The interactive model also presents the agent as active rather than passive in creating representations. As in Bickhard (2019), the interactive model also suggests that representations must be constructed by interaction with the environment via different possibilities. Bickhard (2019), suggests that the agent has a sensitivity to the environment and can make the judgment of appropriateness for the environment among different possibilities. Mediation is also similar to this idea in that agents can choose the tool or sign to mediate in different environments. An example of a tool can be a book, a physical property, whereas an example of a sign can be language, a psychological property. The agent can actively mediate these to use in a different context. For example, an agent can use a book to understand a concept better. An agent also can use language to communicate at a particular place and time. These

two examples go hand in hand with the interactive model's representation. Both give credit to the agent as being active when interacting with the environment and flexibility to the agent as it can mediate tools or signs to transform the environmental stimuli into an inner mental function. It is notable that the interactive model suggests a more in-depth relationship with the environment, different possibilities, and choices, whereas Vygotsky never really implies the how part of the mediation; these are just estimations.

The other component of Vygotsky's theory is the object. As described in Lem (2022), for Vygotsky, the importance of an object is not because of the direct presentation to the subject but rather the "concept" which subjects created of the object. To better illustrate, think of the object, the task of sleeping early. The subject who stays up late the night before the object can be seen as applicable and satisfying. Whereas when we think of a person that has already slept enough or too much the night before, the object can be seen as unnecessary. Although the object is the same, the concepts of the object, thus meaning-making for the object, can be different for the subject, which in turn affect their responses differently. So a task is never attributed to anything in general as how it is perceived; rather, the object is seen concerning the concept that the subject constructed of it. Vygotsky's view of the object is similar to the interactive model's view of the object. As in Bickhard (2019), objects are manipulable, affecting the agent's representation of them. In this sense, Vygotsky's "concepts" and the manipulability of the objects can be compatible because they both affect the agents' behavior. However, the difference can be seen in Vygotsky's theory that the agent constructs the concepts which change the perception of the object in one's mind, whereas in the interactive model object, as a construct, have the property of being open to manipulation. So in Vygotsky, first, the subject comes into the picture to make meaning of the object. In the interactive model, it is only sometimes necessary for the agent to be in the picture because the object has the property of manipulation and gives the agent the ability to make meaning of it differently in the first place.

Although there can be some overlapping between Vygotsky's ideas and the interactive model, as suggested above, a significant distinction must be kept in mind. As in Daniel (2008), Vygotsky's idea of using the external world for internalization is in the context of social and also cultural context. In contrast, the interactive model does not emphasize cultural context or situations. Also, as the comparison shows, Vygotsky's original work and interactive model have overlapping parts. However, the interactive model is more profound than Vygotsky's original work, so some concepts like situation convention, apperception, and situation knowledge that the interactive model highlights are not compatible with the interactive model. So some blank spots in Vygotsky's original work can not correspond to the interactive model. I will look in the next section if these concepts can be compatible with cultural-historical activity theory.

Two scholars added to Vygotsky's original work to determine the cultural-historical activity theory. First, I will look at Leontiev's theory. Hardman and Amory (2014), state that although Vygotsky is the one who first attributes to individual and collective distinction, Leontiev is the one who makes the distinction clear and adds the new dimension of the division of labor. Division of labor comes with the property of goal-directness and object-focused activity. As in Roth et al. (2009), now the model's goal directness is toward acknowledging and meeting the "collective needs." As in isimsiz, the object for Leontiev object itself is the activity. Let us say a person's need for water is triggered into action only when it corresponds with an object, say seeing the water on the table. So subject acts on the need because of the goal-directed manner in which the object exists. Leontiev's goal-directedness has an equalized interactive model. As in Bickhard (2014), goals in the interactive model are not representations that the agent constructs but rather like a success failure system. Also, in Leontiev, it is not the goals that have the attribution of the agent but instead the object itself. In Leontiev, something is trying to be achieved that way; if achieved, the agent will be successful, and if not, it is a failure. Nevertheless, the agent does not have a construction of representation, giving meaning to the

goal itself. Instead, the object is the representation because the object is the determinant of the action. The two models also are goal-oriented, in which Leontiev focuses more on collectiveness and Bickhard focus on individuality. Also, as in McAvinia, (as cited in Nickerson, 2022), the division of labor is context-dependent. In a friendly meeting, individual rules are focused on in a university lecture; the division of labor comes into context collectively but not as individuality. Although the division of labor does not have an equivalent interactive model, it is essential to state that it is similar to situation knowledge. As Bickhard (2014), situation knowledge is dynamic; it constantly changes because of interactions and the environment change. Although Leontiev never mentions a situation knowledge, his attribution of division labor comes with different rules and properties in a different environment. When we connect cultural-historical activity theory and the interactive model, we can say that in a university lecture, the division of labor becomes collective because now the situation knowledge is constructed by other agents' presence. Because the two models focus on interaction and an agent's activeness, the activity will depend on the environment in which the agent is.

The second scholar who expanded Vygotsky's original work into cultural and historical activity theory is Engeström. A new dimension of the rules has now been added to the work. As in Lem (2022), rules are the norms that arrange or limit action. These norms are culturally and socially constructed. Rules in the CHAT are compatible with the interactive model idea of situation conventions, especially institutionalized conventions. As in Bickhard (2015), conventions are the attribution of the relation between the situation knowledge; institutionalized conventions are the ones that are more general and permanent as they go beyond time and population. These conventions can be counted as norms because they are facts and socially constructed, as in CHAT's rules. As in Lem (2022), Engeström object is open to change because of the activity, and the object now becomes the outcome. Engeström's idea of object-action

relation is compatible with the interactive model's representation. Activity in CHAT can correspond with representation. In the interactive model, representation is the property that makes us give any meaning to the object. Let us think of a vase on the table; we are curious about its backside. Although our perception is on the front side, we can also have a representation of its backside. We can act on the vase to turn it around and confirm our representation of the backside. Now the object becomes the outcome because we meet our goal of seeing the backside of the vase by using our representation of the object and the possible interactions that we can engage in to meet our goal and ultimately act on the object. Now I will try to combine the interactive model and the CHAT in an educational context to show how parallel they go. Let us think of a classroom setting where students understand a topic wrong. The student has a false representation of the topic and has a representation that the truth can be achieved by asking the professor. This representation is affected by the rules and situation conventions because there is a norm of the professor as the expert. Also, this representation is created by the division of labor and interaction because the division of labor suggests a hierarchical attribution among the individuals, which in this case is the professor more knowledgeable than the student, and it can be observed via several past interactions with the professor. The subject can use the professor as a mediator to reach his/her goals, and subsequently, the object, which is falsely understanding the topic, now becomes the outcome; the topic is understood correctly by this outcome, the representation of the object in advance. In this example, it can be seen that many of the terms in both models overlap, and they can be compatible with each other in one scenario by supporting one another.

In this paper, the reflection of the course can be seen. The paper's focus, with relevance to the course, is the interactive model. Throughout the paper, I used different conceptual resources and analyzed them to connect the course to my final paper thesis. The conceptual

resources that have been used are the theoretical background of the interactive model, general properties of the interactive model (like goal-directedness, agent's activeness), representation, the object, situation knowledge, and situation conventions. All these are explained in relevant parts of the paper to bridge the course and the paper. Beyond the definition of these conceptual resources, their analysis has been done throughout the paper to compare the course context, which is interactive, and my topic in general, which is activity theories. The activity theory topic has been determined again because of learning and development concept is reflected throughout the course. Vygotsky's original work and CHAT is also a model that tries to explain an aspect of learning and development.

In conclusion, Vygotsky's original work and CHAT in both Leontiev's and Engeström's versions are compatible with the interactive model. This primarily comes from their starting point of seeing the agent as active and emphasizing different interactions and the relation between the environment. Also, they both can be explained in terms of development and learning because they both, in a sense created for that purpose. It must be noted that Vygotsky's original work and the CHAT always have to be investigated in the social and cultural context. In contrast, their interactive model applies to social context, but there is no necessity to investigate the social and cultural context. There is a hierarchical order between Vygotsky, Leontiev, and Engeström's work. This is why, as illustrated in the paper, CHAT is more compatible with Engeström's work than Leontiev's and more compatible with Leontiev's work than Vygotsky's. They all add on one another. The last work of Engeström's added dimensions of the division of labor, rules, and the object-action relation he describes make the work most compatible with the interactive model. Because the CHAT of Engeström includes all the previous work, the theory is close to the interactive model's general standing and properties, representation, and specific concepts like situation convention and knowledge.

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