Using Activity Theory to Explain How a Student Learns in an Internationalised Classroom from a Sociocultural Perspective

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Abstract—This paper focuses on mediation, which is one of the concepts developed by Vygotsky under the umbrella of sociocultural theory. It also draws on activity theory as a theoretical framework to understand the learning experiences undertaken by an international student engaged in a 12-month programme in the UK for one year. This study adopted a qualitative approach; which involved conducting a semi-structured interview with the participant to provide an in-depth understanding of how tools and artefacts in culture and in wider society mediated the process of learning and development. Activity theory helped elucidate how this process was facilitated by socialising with others and through mediational tools. This paper identified three areas where dynamic and complex social activities took place: speaking English, attending class on time, and critical thinking.

Index Terms—sociocultural theory, activity theory, mediation, learning, development, tools, artefacts, international

I. INTRODUCTION

An internationalised classroom is one where students from various nationalities study the same subject. Through the application of activity theory, and by drawing upon key sociocultural concepts relating to social interaction, this paper shows how being a learner, which is thought of as a social practice, is mediated by tools and artefacts in an internationalised classroom, which is thought of as an arena for ongoing social activity. Tools and artefacts are used interchangeably in this paper to indicate implicit and explicit instruments that are used to achieve a goal.

A. Contextualising the Study

The participant of this study is a female student who recently, along with other international and British students, engaged in social practices through her participation in a 12-month programme in the UK. Because I had known the learner for three years prior to the programme and interacted with her during the one-year course, she felt comfortable discussing learning situations. A key reason for choosing her was to understand how the process of cultural activity (i.e. a learner engaged in a social activity) occurs and is mediated in an internationalised classroom.

My aim is to explore this dynamic social activity by highlighting the learning opportunities and societal community the participant engaged in (Hodkinson, Biesta & James, 2008). Upon completion of the 12-month programme, the participant is expected to have achieved the required learning outcomes for all modules. These outcomes are designed so that the student can critically analyse learning and teaching situations within different and wider contexts. Attendance was compulsory and therefore monitored. A feature of this programme was that the lecturers are native English speakers who also participated in the activities.

B. Research Aim

The aim of the study was to explore and understand how the participant socially engaged with, and was mediated by, social and cultural tools in the ongoing flow of being in the internationalised classroom.

C. Research Questions

How do mediational tools facilitate the participant’s learning/development?
How does learning/development take place within the ongoing social activity?

II. LITERATURE REVIEW

In this section, a concise review of relevant sociocultural theory will be presented regarding social activity within an internationalised classroom.

A. Sociocultural Theory and Learning

Sociocultural theory was first developed by Vygotsky, who articulated the relationship between children’s development and society as one in which learning takes place through social interaction. Sociocultural theory was then...
further developed by Lave (1988, 1991), Rogoff (1990, 2003), and Wertsch (1991). In its current form, it posits that learning and development takes place on two different levels:

Every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (intersubpsychological) and then inside the child (intrapsychological).

This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (Vygotsky, 1978, p. 57)

According to Vygotsky, the first principle of sociocultural theory is that development occurs at various levels. He therefore proposed the following planes of development: microgenetic (development happens moment by moment in the intersubpsychological plane), ontogenetic (the appropriateness of mediational artefacts and their integration in the development of the individual), cultural/historical (the mediational artefacts in society), and evolutionary (a phylogenetic change/development across generations), all of which indicate changes in each individual’s cognitive development (Cole, 1996; Shabani, 2016).

Sociocultural theory thus conceptualises an individual’s interaction with people, objects, and events as constituting the process of cognitive development. Thus, development through human activity cannot be detached from its social, cultural, and historical context (Johnson, 2009). From a sociocultural perspective, social and cultural tools shape the higher functions of the individual, whose learning is thus contextual (Snow, 1994).

Mediation is one of the main concepts developed by Vygotsky and conceptualises interaction as socially and culturally mediated by artefacts such as language, materials, signs and symbols. All facilitate the cognitive development of the individual (Robbins, 2005) through the dialectical relationship they have with human thinking and action (Wertsch, 1991, 1998). For instance, artefacts help individuals internalise social practices that are then externalised as cultural actions or behaviours. The key question to then consider is how internalisation takes place in the ongoing activity system. Wertsch suggests that artefacts or mediational tools cannot be separated from the process of achieving a goal. For example, in the classroom the teacher facilitates the process of internalisation by supporting students in the use of mediational artefacts, such as classroom activities; the language that describes these activities; and the language used for communication in the classroom. These tools are influential because of the tutor’s perceived value and authority (see Wertsch and Rupert, 1993) which highlights the role played by the community in this dynamic activity (see Fig.2).

Language is therefore the primary mediational tool and is referred to by Vygotsky as a process of semiotic mediation. Language has both an inward (i.e. thinking in the mind) and outward (i.e. social interaction) function as a linguistic tool that mediates learning and development (Lantolf, Thorne and Poehner, 2015). The manifestation of such roles can be seen in the externalisation of language when performing tasks, problem solving, and collaborating in the classroom. The participant in this study therefore employed language as a mediational tool when engaging in the process of learning as a form of social activity. Through language, she was able to set goals and begin to take actions. These were ostensibly meaningful, conscious, and planned actions that were designed to achieve those goals and others connected to activities with different objects.

Another key principle is that of ‘social others’, who are part of the dynamic activity and play a role in learning and development (Nasir & Hand, 2006). This aligns with Vygotsky’s claim that learning takes place through social interaction (1978). For example, in the classroom the teacher and students facilitate each other’s participation in a complex activity where socialising with classmates shapes an individual’s learning and development. A More Knowledgeable Other (M KO) is one of those ‘social others’ but with greater knowledge. MKOs therefore play a vital role in the development of other students whilst also being a student themselves. For example, in a study conducted by Bligh and Fathima (2017, p. 539), one of the participants disclosed that “interacting with her partner nurtured her independent skills”. Although the context of this study is different, it nevertheless shows how MKOs can play an additional yet vital role in legitimate peripheral participation (Lave & Wenger, 1991) and thus facilitate learning/development.

To understand how the participant in this study develops, we therefore need to analyse and understand the activities in which she has engaged using activity theory. This theory, according to Kuutti (1996, p. 25) and in line with the scope of this study, is defined as a “framework for studying different kinds of human practices as development processes, with both individual and social levels interlinked at the same time” (see section 3.4). The social practices in which an individual engages, and makes use of cultural artefacts, can assist the process of learning and development (Lave & Wenger, 1991). Nasir and Hand contend that “teachers and peers strive to create learning settings which offer novices new ways of participating and thus supporting learning” (2006, p. 463). Such settings both contain and comprise cultural artefacts and meanings that learners consequently adopt, use, and modify when socialising with others to achieve goals (see Fig.1). To elucidate the internalisation process, Brown, Collins and Duguid (1989, p. 7) developed the concept of enculturation, whereby “people, consciously or unconsciously, adopt the behaviour and belief systems of new social groups”. From a sociocultural perspective, students observe and internalise the ways in which their classmates and teachers behave in the classroom. As they create and recreate meanings through the mediational tools available in their activity system, their thoughts then regulate their own behaviours (Lantolf & Appel, 1994). Wertsch (1998) argues that the knowledge formulation process, in which learners engage in social events, is one of enculturation and is replete mediational artefacts. Bligh and Fathima (2017, p. 540) argue that “[i]t is through interaction in shared
activity that he [one of the participants] adjusts his thinking and behaviour to bring about a change”. I therefore claim that, to fulfil her goal, the participant in this study observed and encultured social practices. Therefore, analysing how she acted using activity theory will provide an insight into the meaningful flow of this activity.

B. Learning in an Internationalised Classroom

An internationalised classroom is an arena for social activity. It is a form of social life where human actions are produced and ruled by cultural, political, and economic institutions (Lantolf & Thorne, 2006). When individuals engage in activity, their beliefs and behaviours are refined, generated, and internalised (Donato & McCormick, 1994). The internationalised classroom is thus social in nature and developed through rules, social interactions, and connections with people (Lantolf & Thorne, 2006).

Lave and Wenger (1991, p. 35) state that “learning is an integral part of generative social practice in the lived-in world”. This suggests the classroom environment is not simply an arena in which to learn abstract knowledge, as social and cultural practices are also learned through mutual interaction. Vygotsky contends that “[t]he process of development, the child not only masters the items of cultural experience but the habits and forms of cultural behaviour, the cultural methods of reasoning” (1929, p. 415). Regarding the role of mediation, Abreu and Elbers (2005, p. 3) claim that “[t]he experience of being participant in a multicultural classroom leads to new transitions, and demands the creation of new concepts, values and practices”. Therefore, a dynamic and complex process is taking place during the 12-month programme, which seems to be that as tools help to achieve outcomes (e.g. to understand what critical thinking is), those outcomes become mediational tools that assist in achieving other outcomes (e.g. to be able to engage critically in the assignments). Hence, understanding this dynamic process is important in elucidating the process of learning undertaken by this individual when engaging in classroom-based social activity.

III. Methodology

This section describes the methodology of this study which, drawing upon activity theory, explores, describes, and clarifies the learning process undergone by this female student during the 12-month programme.

A. Qualitative Approach

A qualitative approach was implemented in this study. As noted in section I, this paper explores one case in a dynamic context. This study is not ethnographic as the participant completed the programme prior to this report. The research falls within the interpretivism paradigm and thus assumes reality is socially constructed. The aim was therefore to understand the reality of the world as it appears to the participant through an understanding of the interpretations she offered. This qualitative approach is intrinsically subjective in its nature (Silverman, 1993), and thus the behaviours of others are interpreted through a subjective lens. A subjective, perspectival view will therefore be provided on how she views and understands the world around her, and her interpretation, or representation, of the activities in which she is engaged.

B. Research Method

An informal interview was therefore conducted to understand the ways in which the participant was socially mediated during the process of learning. For instance, Volet and Ang (1998, p. 7) argue that interviewing the participant is “critical for understanding the impact of socio-cultural and contextual factors on their behaviours”. Moreover, Punch (1998) argues that interviews enable people to provide authentic information about their own experiences. The participant’s answers to the interview questions were thus given from her perspective and provide a basis for understanding how being in an internationalised classroom mediate and co-constituted her actions. It is important to note that the participant and I shared the same language, which helped reduce the risk of misunderstanding. This meant she could choose how she wanted to describe social interactions and mediational tools in response to the questions asked. One difficulty I encountered was in encouraging her to think outside the box and provide more details about her situation. This is because less conscious actions were sometimes meaningless to her yet were important in understanding how learning took place. As part of the process, I explained any concepts the interviewee did not understand and avoided leading questions in favour of more open questions, which consequently engaged her more deeply with the content and rendered some non-conscious operations more meaningful.

C. Ethics

Ethical issues relating to the confidentiality and anonymity of the participant were taken into careful consideration. She also provided written informed consent as she was given a detailed explanation of the study, including the aims of the research and how the results will be presented, before the interview began. This redressed the unequal power relationship between the researcher and the researched. Indeed, she readily understood this herself as she was once a researcher.

D. Data Analysis Method

The question that drove the analysis was: how can the practices engaged in by the participant during classroom-based social activity be understood? Activity theory was therefore utilised in this paper as a theoretical framework for
analysing and understanding the case in its social context. As such, it helped me to orient and understand the behaviours of the participant and the way in which she used tools when taking part in social activity. For instance, understanding when and why she set goals and how she tried to achieve them enabled me to give meaning to dialectic tensions such as knowing and internalising that could lead, respectively, to performing and externalising (Lantolf & Thorne, 2006). This suggests that contradictions shape and develop the thinking and actions of individuals engaging in social activities. I argue that it is not simply about the behaviours she internalised, but, more importantly, how she developed or failed to develop social practices through the available mediational tools. The implementation of activity theory thus enabled me to critically understand the complex and dynamic process in which she engaged, individually or collectively, within the internationalised classroom.

The dynamic and complex process of development an individual undergoes (Hardman & Amory, 2015) can be understood by explaining the hierarchy of the activity (Leont’ev, 1978). This enhances and enriches the process of analysing the actual situations in which the participant engaged. However, it is important to highlight the difference between social activity (i.e. internationalised classroom) and the activity itself (see Fig. 1), which is “the broadest level process within the hierarchy and is always connected to a motive” (Lantolf & Thorne, 2006, p. 217). Thus, each activity comprises a group of actions that are consciously carried out by an individual or a group of people (e.g. writing a list of words to learn their pronunciation) and this is the actions level, while the operations level refers to less conscious operations (e.g. holding the pen to begin writing) that shape the actions. The following table shows the hierarchy of activity and indicates how activity, actions, and operations work together to achieve a goal (Leont’ev, 1981).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Carried out by a community/society</th>
<th>To achieve the objective (object in Fig. 2). The individual needs a motive, which is the intention and the drive to fulfil the activity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actions</td>
<td>Carried out by an individual or a group</td>
<td>The individual’s actions are given meaning by the activity. The actions are planned, directed, and consciously undertaken to achieve the goal.</td>
</tr>
<tr>
<td>Operations</td>
<td>Carried out by an individual</td>
<td>Less conscious, and using physical and implicit tools, these are the means through which an action is performed. Depending on the activity, an action can be a routine and is thus at the operations level, or can it be more conscious and is thus at the actions level.</td>
</tr>
</tbody>
</table>

To illustrate how the participant’s activity is mediated, the triangle developed by Leont’ev (1978, 1981) and then graphically presented by Engeström (1987) is used. In so doing, the unit of analysis is the whole activity.

![Figure 1: Hierarchy of Activity](image)

This triangle represents the second generation of activity theory. This model enabled me to understand this individual based on the cultural means (mediational tools and artefacts) and power individuals have to use and produce tools and artefacts (Engeström, 2001) to achieve objects (objectives). The object can be materialistic or nonconcrete, and shared by all participants (Kuutti, 1996). The model also enabled me to understand how a human activity is performed collectively by considering: the rules (i.e. the policies that regulate the actions within the activity), the community (i.e. the people, or one person, that share a similar object with the participant), and the division of labour (i.e. the tasks divided among the participants which could relate to their power and status). This model was applied to the participant to elucidate how she performed the activity to achieve the object (e.g. improving her English) using mediational tools. The subject (the participant), the object, and the tools of the activity system will be the focus of discussion in the next section.

**IV. DISCUSSION**

As noted previously, Vygotsky contends that an individual develops through their relationships with other people (e.g. a community such as lecturers and classmates) with the help of mediational tools (e.g. language).
A. Speaking English

The participant revealed that she preferred to sit with native speakers to improve her use of the English language (a goal) and that one of her friends was a British woman whom she preferred to socialise with (one of the principles of sociocultural theory). Her goal was in line with the notion of how “learners… can develop a view of what the whole enterprise is about and what there is to be learned” (Lave & Wenger, 1991, p. 93). This suggests her interaction with native English speakers provided her with a motive to improve her English. This enabled her to fulfil her goal (i.e. speaking English like a native) along with other objectives such as writing a critical review to achieve an outcome (i.e. successfully completing her 12-month programme). To achieve her goal, she therefore had a motive that drove her to fulfil the activity. Thus, understanding her goal was essential.

Bligh and Fathima, in their study, argued that goal-oriented communications (actions oriented by goals) provide peers with rich social interactions that “enable the construction of knowledge [fulfilling the goals towards the activity] through problem solving and shared meaning” (2017, p. 542). In the current study, it can be argued that the participant’s British friend could also function as an MKO (community) because her level of English was more advanced. Leont’ev (1981, p. 56) also argues that “[i]n the process of material production, people also produce language, which serves not only as a means of social interaction but also as a carrier of the socially elaborated meanings that are embedded therein”. For instance, during the interview, the participant stated:

When I used to talk to my friend, I used to focus on her pronunciation of the words… I like that… It makes me think how I can speak like a native speaker… It is funny I used to look at her lips and this made me think about how to say words…

Her friend’s use of verbal (speaking) and nonverbal communications (body language such as how her lips move) as mediational tools may have made other mediational tools available that were hitherto hidden (Lantolf & Thorne, 2006). This suggests the participant did not simply observe and absorb the functions and language of her friend (conscious actions carried out to fulfil her goal) as, from an activity theory perspective, tensions arose when she conversed with her friend, such as how to pronounce words like a native speaker. This promoted the hands-on utilisation of artefacts, such as turn-taking conversations, thinking about what to say, and how to say it. Thus, in accordance with Bødker (1996), when the participant began to talk her focus was at an operation level as she consciously searched in her mind for words and how to pronounce them. This suggests that she became more conscious of muscle movement, such as imagining what and how to say words, and signals are then sent to her brain. However, with practice, actions become operations that do not require full attention. This indicates a mastery of tools, as well as learning. Such a complex and dynamic mode of interaction indicates that “[t]he interweaving of our cultural and biological inheritances gives rise to higher mental functions – that is, functions such as memory, attention, rational thinking, emotion, and learning and development that come under the intentional and voluntary control of the person” (Lantolf & Thorne, 2006, p. 59). The social actions in which she engaged, performed, and lived therefore demonstrated how social interaction shaped her cognitions (Lantolf & Johnson, 2007).

B. Attending Classroom on Time

Another example presented by the participant during the interview arose when she emphasised that:

…the tutor used to speak with a strict language about being in the class on time… and this affected me… I also noticed the other students come to class on time, so I thought why I come late?… so I tried to arrive the classroom early or on time…

This suggests that MKOs and other mediational tools revealed by the participant such as the timing of the sessions, the deadlines for assignments, and the punctuality of other students, were rules that collectively worked alongside the division of labour (because the teacher or the university set the rules) and enabled her to achieve her objective. Based on Leont’ev (1981), it can be claimed that some of these rules are at an operations level because they have been mastered and are now paid less attention. For example, the participant mentioned that some students attend class on time; she seemed compliant and thus paid attention to this rule by setting a goal to attend class on time. This is her action level. To reach the operations level, semiotic resources will play a vital role in developing her higher mental functions. Other forms of regulation such as the value and authority of the tutor and strict language emphasising the need to attend class on time could be effective mediational tools that give her the ability to self-regulate (Thorne, 2003). This confirms the earlier discussion regarding the inward-outward roles played by language in developing higher mental functions (Lantolf, Thorne & Poehner, 2015). This in turn was also mediated by everyday actions and then built on by experiences during the 12-month programme. According to Rogoff (2003) and demonstrated in the study by Bligh and Fathima (2017), participants enhance their skills through demonstrations and everyday actions which, according to activity theory, impel novices to observe and become competent (when actions become operations). The emphasis is therefore on the assistance and guidance of MKOs (i.e. classmates and tutors) and how the mediational tools described previously became meaningful in fulfilling the participant’s goal to become more punctual.

C. Critical Thinking

Rear (2017) claims that Western universities place a heavy emphasis on teaching students to think critically (rules in activity theory), which is defined as the “intentional application of rational, higher order thinking skills, such as analysis,
synthesis, problem recognition and problem solving, inference and evaluation” (Angelo, 1995, p. 6). In the interview, the participant says:

… the tutor taught us to ask questions like why and how... some questions are in the handout... I think this helped me to understand and give reasons for the things I am doing... I sometimes ask myself why I am doing this... and ask myself why is this in this way... these things I learned in the classroom... my classmates ask the same questions and I started to do the same... I also tried this in the assignments... we had a lot of assignments... when I submitted the first draft... the tutors told me I need to reflect on my first draft... they taught me to ask those critical thinking questions to make my writing more critical...

According to Vygotsky, mediation constitutes the “behaviour of another human being in social interaction” (Donato & McCormick, 1994, p. 456). This suggests that, through her interaction with and observation of others (interpsychological plane), the participant practiced, built, and utilised the skills of rationalising and problem solving (this is her action level) in the internationalised classroom with the assistance of MKOs. The other mediational tools mentioned were the handout and the assignments. The language used in these tools played a vital role in enabling her to develop higher mental functions. The participant seemed very involved and engaged in activities with MKOs or those deemed to have value and authority, such as her tutors. The outcome of some of these activities (e.g. developing critical thinking skills) could then be mediational tools for other activities (e.g. writing a critical review in the assignment), which illustrates the layers of the complex activity in which she engaged. More importantly for this study, however, is to understand the process underlying the activity. Based on Leont’ev’s summary (1981), the motive of the participant was to think critically. Listening and paying attention to the teacher taught her how to ask critical questions: thus, reading and trying to understand the information in the handout, listening carefully to other students, asking herself critical thinking questions, and reflecting on her assignment were all planned and conscious actions targeted at fulfilling her goal. At the operations level, conditions gave rise to less conscious and automated means, such as looking at the teacher while speaking, looking at the words she used to read in the handout, and listening to a student who was talking.

V. CONCLUSION

Understanding sociocultural concepts and implementing them to explain people’s process of development has broadened my understanding and enabled me to look differently at those around me in the workplace. For instance, the concept of mediation has broadened my vantage point as a MKO and mediational tools will be present in any classroom. Therefore, they should be made available for students to foster their learning.

From an interpretivist perspective, reality is socially constructed and this meaning is ascribed to people’s actions within their surrounding contexts. My prior knowledge and experiences played a role in my interpretation. However, in endeavouring to achieve a fusion of horizons, I can see how I am situated in making the meanings that emerged in this study. Moreover, focusing only on some aspects and concepts of activity theory (as the focus of this study was on the subject (the participant), object and tools), and interpreting social interactions based on these, is another limitation because these may not represent the full picture regarding the process of development.

In addition to its theoretical and empirical contributions, it is also important to acknowledge the limitations of this study. One such limitation is related to the use of Activity Theory as a theoretical framework for understanding the participant. As a researcher, a full understanding of the system surrounding the activity is a must when observing the participant, and in this study the participant was not observed inside the classroom but after completing the 12-month programme. Another limitation arose when distinguishing between the levels of the activity, the actions, and the operations. Furthermore, the research time should be long enough to understand the activity, which is a recommendation for future research, and should also involve striving to understand things from the participant’s viewpoint. Despite these limitations, Activity Theory avoids applying causal explanations for the interactions in which the participant was involved. By using the activity system as a unit of analysis, it therefore helps in understanding the dynamic systems operating within our lives.

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