

# **Cultural-Historical Activity Theory and Informal Learning as a key component of co-design practice in a community initiative.**

Mirian Calvo, Institute of Design Innovation, The Glasgow School of Art, Scotland; Dr Madeleine Sclater, The Glasgow School of Art, Scotland; Dr Paul Smith, Institute of Design Innovation, The Glasgow School of Art, Scotland.

## **Abstract**

**This paper outlines PhD research associated with Leapfrog, a three-year-funded AHRC project, which aims to analyse the impact of co-design practices in developing 'engagement tools' within community development. One challenge in co-design is identifying ways to understand holistically the context. Understanding individual and collective contextual factors simultaneously requires bridging the gap between theory and practice. Cultural-Historical Activity Theory (CHAT) interconnects all the components simultaneously illuminating a holistic approach for understanding such context. The paper focuses on the distribution of power in co-design aiming to illustrate how designers balance power and reflects on the experience of applying CHAT into practice, identifying informal learning as a key component. It elucidates how ethnographic methods can provide a deeper understanding about the context. About this, it can be concluded that a greater awareness of context, understood through the lenses of CHAT, helps designers to reveal the interconnection between individual and collective factors.**

## 1. Introduction

This paper outlines PhD research that aims to analyse the impact of introducing co-design practices in developing 'engagement tools' within community development. It is associated with Leapfrog, a £1.2 million three-year-funded AHRC project which comprises collaboration between Lancaster University and The Glasgow School of Art, alongside public sector and community partners. Leapfrog aims to design and evaluate new processes of citizenship participation. To do so, a co-design approach is being used to help foster innovation. Co-design has become a key factor in innovation (Bason, 2010). As Cruickshank (2010) reports, innovation is multidimensional; it needs to bring different activity types and knowledge together in order to achieve successful and innovative outcomes. Tools are considered key elements in the co-design process because they prompt new ways of communicating.

Community development has been gaining prominence in the 21<sup>st</sup> Century (Matarrita-Cascante & Brennan, 2012) alongside the agendas of government and non-profit organisations (Forss & Schwartz, 2011). This is a response to the increasing numbers of grassroots organisations engaged in community initiatives, seeking to enhance the quality of life of their communities. Community development is defined as the process that seeks to enable communities to decide and shape their everyday life as a collective. The paper reflects on a research project undertaken during six months working with community members on the Isles of Mull and Iona, in the Highlands and Islands of Scotland.

One challenge in using co-design in community engagement lies in identifying ways to understand holistically the context in which those activities happen. In most cases, designers reach the community with virtually no time to form sound ideas of what the socio-cultural context is like. Therefore, community members might perceive designers as outsiders or as intruders, depending on the context and on past experience. If a community has experienced well-ending projects or has an extensive engagement experience, such a community might be more open-minded toward embracing designers. Yet a community with negative experiences or lesser levels of engagement might perceive designers as intruders who come to tell them what to do. The reality is more complex because each community is made up of different members with different opinions. Furthermore, an individual belongs to more than one community participating in various communities (such as family, work and friends) with different levels of engagement in each. Together they shape an individual's 'landscape of practices' (Wenger, Fenton-O'Creevy, Hutchinson, Kubiak & Wenger-Trayner, 2015). The 'landscape of practices' shapes and modifies human perceptions. Thus, determining a theoretical research framework that is able to include all the components at play is difficult (Sam, 2012). Most of the theories isolate the components: people and community, culture and history, tools and activities (Kuutti, 1996; Nardi, 1996; Roth & Lee, 2007). However, CHAT describes and interconnects all the components simultaneously offering a framework which illuminates a holistic approach for understanding the context. The paper focuses on the distribution of power in co-design practices aiming to illustrate how designers balance power in order to shape a space of confluence where all voices can express themselves. It goes beyond the 'realm of collaboration' (Lee, 2008) in seeking to uncover rich and in-depth data from the communities' context and begins to unpick

the impact of co-design on the community. Impact is understood as the effect of an activity, such as co-design, on the three levels of the social fabric: individuals, communities and settings. Therefore, researching social impact involves paying attention to factors, processes and results and the value of the activity that generates such an impact (McKinsey&Company, 2010).

### *1.1 Participatory design*

There are myriad terms that denote the various user-designer-product relationships in development processes. The user-centred design approach, which placed people as an object in the design process and served consumer products well, was unable to address the complexity of challenges faced at the turn of the 20<sup>th</sup> Century. Participatory design refers to collective and creative design activities that seek to integrate people into the design process in order to better meet citizens' needs and desires (Sanders & Stappers, 2008). This approach arose in response to the inability of traditional design approaches, which exclude people from the design process (Cross, 1972), to develop new designs that are sympathetic to people's needs. Design co-creation refers to a creative process "placing people's wants, needs and situations at the centre of the creative process as a powerful way to generate the insights that allow us to create with people and not for them" (Bason, 2010, p.144). Co-design emerges as a new approach aiming to handle those complex challenges that involve a wide range of disciplines and stakeholders. Co-design allows them all to collaborate in joint enterprise (Burns, Cottam, Vanstone & Winhall, 2006). The act of collective creativity, when applied across the whole design process (Sanders & Stapper, 2008), includes designer-designer, designer-public, and more recently, public-public collaborations where there is no trained designer input into the design of something at all (Lee & Ho, 2012). Where designers are involved with the public in product developments in a designer-public relationship we see people as experts and designers in roles of support (Ehn, 2008). With grassroots and bottom-up social innovations, where the emphasis is on a public-led approach to design, designers are demonstrably serving as triggers for initiatives, their role being to activate and facilitate civic creativity (Lee & Ho, 2012). Indeed, concepts like co-creation, co-design, design thinking and participatory design are all intertwined (Bason, 2010). They all stem from the principle that creativity resides in everyone. Consequently, this paradigm shift in the design process also involves a shift in the role of designers who move from designing alone into co-designing with people. Therefore, designers need to acquire social skills in order to facilitate participatory design practices. Another challenge in co-design is the distribution of power amongst participants and designers. As Lee (2008) reports, the distribution of power should be equitable to ideally configure a 'space of collaboration'. In this regard, in CHAT, the distribution of power is an important determinant in enabling the community's objectives at both individual and collective levels to be achieved.

### *1.2 Understanding contextual factors*

Understanding individual and collective contextual factors simultaneously in community development requires bridging the gap between theory and practice. In community development, the outcomes cannot be determined a priori because many factors such as emergence, nonlinearity, uncertainty, adaptation and constant change interact simultaneously (Kahan, 2008). As Cross writes, "we are on a journey

from an industrial world ruled by certainty, precision, and logic to a natural world characterized by unity, unpredictability, and complexity” (Cross, 2011, p.15). This demands methodological frameworks capable of capturing the dynamic processes of social change. According to Ostrom and Ahn (2009), social capital is experiencing a resurgence incorporating factors that had not been taken into account hitherto - factors such as building trust, social conventions, norms of cooperation and partnership, networking and community engagement, as well as formal and informal organisations. As Silverman (2013) outlines, trust and empathy are key factors in ensuring that qualitative data is rich enough to produce deep insights. Recently, qualitative inquiry has been gaining relevance as a result of the challenges which have arisen from practice (Silverman & Patterson, 2015). The challenges range from a large variety of issues such as constraints in public services, the emergence of social inequalities and an increasing demand for empowering and engaging communities in the process of community development. In this sense, ethnographic research provides a set of methods that enable designers to gather richness and in-depth data, helping to understand the social life within the context.

### *1.3 Overview on learning in adult education*

In the last decades adult education learning has experienced a shift due to an increasingly specialised labour market, which requires higher levels of knowledge. For Powell and Snellman (2004) the crucial change lies in the development of creative and intellectual competencies, instead of physical skills. This change has led to the promotion of higher formal education (Molla & Gale, 2014). However, higher education is becoming increasingly expensive and therefore, attainable only by an elite part of society. This divides society between those with means and resources to maintain a welfare state and those without, enlarging the gap of social inequality. Additionally, it could be argued that formal education restricts the concepts of education and knowledge development, limiting people’s choices. Singh (2015) contends that only formal education is validated and recognised by educational frameworks, leaving aside other learning processes. Informal learning is one of them. It usually occurs outside the classroom, in community engagement settings and in co-design activities - like in this research. As Cross (2011) reports, informal learning represents between 80% and 90% of people’s live learning processes. He states that informal learning is effective because people can choose what they want to learn, from whom and when. This idea aligns with Sen’s economic model (1999) based on people’s freedom. For Sen (1999) development is a process by which people increase their capabilities, which are the options that a person or community can feasibly make and achieve. The value lies in letting people decide how they want to live. Informal learning has been identified as a key component in analysing the impact of co-design practices in this research as a result of using CHAT as the research framework to observe the context and help map the themes and patterns arising in the fieldwork. Participants learn collectively in an informal atmosphere where people negotiate in the ways of their choosing to engage and learn continuously. This brings alternatives models of learning, which are more inclusive and which promote equality.

## **2. CHAT as an overarching research framework**

CHAT has been identified as the overarching research framework because it enables one to identify key components. CHAT is an expansion and evolution of different theories coming together (Plakitsi, 2013). From Kant and Hegel, Marx and Engels, to Vygotsky, and more recently, Engeström's works (Roth & Lee, 2007). CHAT aims to bring cultural, historical and developmental notions into the understanding of people's agency (Engeström, Miettinen & Punamki, 1999). The relevance of CHAT in this research draws on the interconnectivity of its components by describing the nature of their relationships. 'Individual' is the component which depicts the person whose viewpoint is taken as reference. 'Community' embodies the participants who share the objectives. Thus, 'objectives' are the driving-force of any activity and represent participants' motivations. 'Division of labour' describes the dynamics at play, including the division of roles and the allocation of power. Applying CHAT in a broader spectrum of observation, the focus is not on the individual, but on the people involved in a social activity. Therefore, there are more factors at play, like rules or social conventions, which govern the social interactions amongst participants and the activity itself. Here CHAT helps researchers to study the process of mediation, paying attention to the context in which the activity happens, as well as on how individuals, performing actions, can interpret previous experiences in order to assimilate new activity. Finally, 'tools' are crucial for CHAT and also for Leapfrog. They have two functions: firstly, to enable people to accomplish their objectives; secondly, they become 'material culture' because they gather, carry out and transmit social knowledge. This social knowledge is collectively generated and modified around the activity (co-design) by all participants. Therefore, the knowledge is produced through a social phenomenon, which implies informal learning and 'learning by expanding' (Engeström, 2015). According to Lee and Roth (2003), CHAT views learning as a social phenomenon (as Wenger, 1998), which implies being human, belonging to a place and a community, and being always in the process of becoming. This aligns with the concept of 'being' developed by Heidegger (1968).

### **3. Ethnographic approach to the fieldwork**

In this research the fieldwork adopted a design ethnography approach, which allowed me to take a role of insider-outsider, immersing myself within the human dynamics around a co-design community process. Design ethnography borrows its methods from traditional ethnography. Yet designers use such methods for a shorter period of time, enough time to grasp and experience the context for building empathy and insight. The theoretical framework of the fieldwork was done through a Grounded Theory approach, because one of the issues of participating as an observer in community initiatives is that theory cannot lead; rather, it is the immersion in the context that explains what is happening. So, one key aspect was to establish a balance between the theory and the practice. Grounded Theory is rooted in Pragmatism (Dewey, 1925) and Symbolic Interactionism (Park & Burgess 1921), which has inherited two principles as Corbin and Strauss (1990) report. Firstly, any social interaction is continually changing according to changes in contextual factors. Secondly, nothing can be predetermined because people have the means to respond to the changing contextual factors. Thus, Grounded Theory aims to reveal the contextual factors and identify people's responses to such factors. Moreover, it allows the context to emerge, instead of being aligned within a specific viewpoint. Simultaneously, CHAT, as an overarching research framework, helped me to cluster the themes and patterns which emerged from the practice. Hence, both lenses

created a symbiotic relationship, enabling the theory to inform the practice and vice versa.

### *3.1 First visit*

The fieldwork was undertaken over six months with a total of four visits to the Isles of Mull and Iona. The first time I went there, I knew nothing about the island, its people or what it was like to live there. Reflecting back, one of the perks of being an outsider is that I did not bring preconceptions about participants and their social life. In this sense, it is important to prevent personal views from pre-configuring contextual scenarios, in order to ensure that the data emerges from proper experience. I arrived to participate in two co-design workshops as a participant-observer. Participant observation is an ethnographic method that enables the researcher adopting an insider-outsider position. As Labaree (2002) asserts, this opens the doors to study people in natural settings and to be able to gather a descriptive account of social life. However, the reality of entering the field as an insider is not an easy task. Often, establishing good relationships with participants in order to be considered 'one of them' will depend on several factors, which are shaped by changing conditions (situated experiences). Indeed, building a rapport and gaining trust takes time. I arrived on the island just in time to participate in the first workshop. I was concerned about the impressions that participants might form about me. Often first impressions are crucial in gaining trust because in my experience, when one meets another person, a reaction happens, which may be friendship or rejection, like poles that attract or repel. Obviously, this is not enough to build trust, but establishing a good starting connection certainly helps.

At the workshop, there were six participants from three different communities on the island and three designers in a small room with two tables. On each table there was a researcher facilitating the conversation with three participants. The third researcher adopted a passive role, documenting the event and controlling the flow of the workshop. I joined one of the groups. The workshop focused on the barriers and opportunities that communities experienced. Participant 1 said: "the problem is that younger people leave the island to study or find jobs and then, few come back. The island is increasingly ageing". Participant 3 was interested in maintaining the momentum in a community project she was involved in: "Ok, you can engage but how to make it sustainable?" Participant 4 mentioned the conflict between newcomers and locals, two different communities with different objectives. Newcomers come to the island attracted by the tranquillity and isolation and locals want to break such isolation in order to bring new opportunities for young people and to invigorate their economy. I appreciated that people attended the workshop for different motivations, mostly for their community's motivations. I noticed that, in the theoretical world when I engaged with CHAT, the functions and relationships among the components were clearer. Yet being there engaging with real life without any theoretical lenses, things were not so clear. It was difficult to understand the dynamics at play. Real life was highly complex and unpredictable. From my understanding, there was no collective driving-force, as the theory suggests. Followed by a stage of negotiation, to some extent, all participants agreed to focus on improving community engagement, on how to reach more people - people who do not engage in their communities. In this conversation, the facilitator had all the power because people, somehow, came seeking to be taught. They perceived the

researchers as the experts in that conversation. Here, researchers had to distribute equally the power amongst participants to ensure that all voices had a space to express themselves, although sometimes people did not want to talk. To do so, researchers needed to make explicit that the researcher's reason is to learn from them because they are the experts thanks to their experience in the field.

The following day I went to the second co-design workshop, which was in the same room containing two tables. Before talking to anyone, I took some time to observe the participants' behaviour. I felt that they needed time to acclimatise to the environment and to me. People need some time to feel comfortable. A smile and a warm welcome with a hot beverage is a good tactic to help in that transition. Five participants turned up from four different communities. We were divided into three groups (each group with a facilitator) to co-design together 'engagement tools' based on the last workshop findings. In this sense, 'engagement tools' are means to mediate in community engagement activities. A key idea in CHAT is that individuals undertake activities mediated by tools, which have been developed by other people who have previously done the activity. This means that the tools have been developed within a particular cultural and historical context. That moment could be considered the birth of 'new engagement tools' and we could be considered the first humans building these tools. As Er (2014) states, tools embody knowledge, so the type of tool is determined by the context in which it originates, ranging from methods to man-made objects. Kuutti (2001) and Er (2014) insist that tools have the ability to guide those who manipulate them throughout an activity. The interest in tools lies in their ability to mediate an activity and in their capacity to inform the user about how to carry out such activity.

One challenge identified here was that designers work in an abstract space, while participants work in a concrete space. According to Lefebvre (2003), practice is divided into these two spaces. In keeping with Lee (2007), when these two spaces converge, a new space is created called a 'realm of collaboration' - in CHAT called 'boundary space'. In setting this realm, I found myself sharing/transferring cognitive mechanisms to participants, which enabled them to be creative. I did this by bringing examples at the beginning - the conceptualising ideas phase. I also encouraged them to be enthusiasts in breaking the barriers of thinking. Creating self-awareness about their potentialities and their creativity helps in breaking the social hierarchy and therefore, in balancing power. Another insight was the identification of informal learning as a key component of this activity. People attended for various reasons, some personal and some collective. They came with different levels of social commitment. Yet all of them shared one motivation: learning how to engage better in their community. They participated collectively, sharing their creativity to shape new ideas, which are not owned by one, but by all of us.

### *3.2 Second visit*

After my first visit I realised that in a rural setting, as in this case, it was important to understand the geography and the territory where the different communities live. Therefore, my second visit consisted of a trip around the island. This took me two days in which I had the chance to experience at first-hand the isolation amongst communities. The distinctive characteristics of the local geography influence the human settlements, which make it difficult to build infrastructures such as roads and

broadband networks. The isolation shapes the lifestyle and makes the residents develop a strong bond with the place. For instance, in the interview with Participant 3, she said: “this is a very isolated place, you need space in a house because if it’s raining outside and you have a one-hour drive to the nearest shop, you need to be comfortable and happy in your own home”. As she mentioned, one big issue arising in relation to the geography and the lifestyle is the energy costs. This has led to a rise in poverty levels because it is so expensive to heat people’s homes, which are usually poorly insulated. Oil is expensive and there is no gas.

The bulk of the population resides in Tobermory, in the North, the biggest village. Craignure is the main entrance, where the Ferry Station is sited. There is no bridge, so both residents and tourists, as well as resources, pass through that point. There is a peninsula on the South called ‘The Ross of Mull’, which covers two main communities: ‘The Ross of Mull’ itself and Iona, an important tourist island close by. The North and the South operate almost entirely separately in terms of community initiatives. For instance, Participant 5 mentioned: “this community trust is developing a community plan for the Northern part, while the South has its own community plan and they are not connected somehow”. This is another consequence of the geography, because it takes a long journey to connect the North to the South (Tobermory- Fionnphort). On this territory there are also issues of power, as Participant 3 and 5 explain:

Participant 3: There is the Argyll and Bute Council. It includes a big area. They give priority to more urban council areas. Our roads are terrible because money gets prioritised in other areas. We have a community council. They don’t have much power and then, there are all these community groups and organisations, which do the job.

Participant 5: To me the issue is that there is not an overarching community to which people subscribe. As you say, people pursue their own interests, working separately addressing different areas but there isn’t anything to me that seems to hold all together. That is my impression.

I noticed that in any conversation, almost everything is referenced to a particular place. They know their territory very well and therefore, I felt the need to know it better in order to understand those conversations. Another observation was the absence of open public spaces, which directly affects their lifestyle and prevents social interaction.

### *3.3 Third visit*

I went back to the island again to attend to the ‘engagement tool’ delivery event. The designers wanted the community to take the tools, adapt them and own them. That was the objective of the session. This time, I adopted a passive observation role because I had already identified themes. I wanted to gather information about personal and collective motivations, informal learning and the division of roles. To gather the data I used field notes, reflective drawings and I recorded the session. I also conducted interviews with participants before and after the workshop in order to corroborate my impressions.

Seven people turned out from four different communities. The first part of the session involved an explanation of the tools. The designers talked and the participants listened. Slowly and steadily, participants started interacting with the facilitators, firstly by asking questions. Participant 3 asked: "and how much will it cost - this tool?" Some participants were sceptical about the whole process. Facilitator 1 responded: "well, we are not consultants, we do research, so all our tools are free and also you can download from our website anytime". I noticed that people smiled. Then, the conversation began. In the first part, it was clear that the designers transferred their knowledge-skills to the participants, who focused on following the explanations. They were learning in a more formal way. However, after that, when the conversation was already fluid and participants felt comfortable, they started sharing ideas and also questioning each other in an informal atmosphere. They were not aware that they were learning from each other because they had relaxed and had absolutely forgotten the motivations that brought them there. They were focused on simultaneously understanding and imagining how they could use and adapt the tools, but also in which situations they might use one tool or another. To some extent, they were collectively building and negotiating the meaning of those tools. They were transferring that knowledge to the tools (the tools accumulated new knowledge). CHAT suggests that those tools could be considered as 'new cultural tools'. Tools that bring a new way of doing engagement and therefore potentially transforming the practice of engagement. Yet this is still a hypothesis that needs to be evidenced.

Among the conversations that were held, Participant 8 commented that she was about to run a consultation event in two days' time with her community. In fact, participants talked together about how some of the tools could be used in such an event. At the end, I approached her to interview her. She agreed. We started talking. She told me that the event was really the inauguration of a coastal path developed by her organisation:

We are doing an event with free soup and sandwiches, and ice-cream for the children, crafting and things for kids (...) It's going to be a really good community event, and I thought it was going to be the right moment to start consultation (...) My ideas so far are, although they may have been different if I had all this tools but, I've got display boards, I can show them what the area is like at the moment, the ideas that we've got for development, a few visuals of what it could look like.

I was so interested in experiencing, first-hand, this participants' context - beyond the limits of those walls - that I asked if I could join her and 'shadow' her at the event. Again she agreed - after a moment of doubt. 'Shadowing' is an ethnographic technique used in design research to gather contextualised data, which provides rich and comprehensive insights about what people do instead of what people say they do. It involved me closely following Participant 8 for over three hours while she was setting up her stand and during the event. This technique enabled me to holistically observe her moods, body language, her pace and the way she interacted with other people. I used field notes and recorded the event in order to collect a big picture of the context through her eyes. The objective of shadowing is to become an insider in order to truly understand the individual and collective contextual factors which play simultaneously. However, I needed to build a rapport of trust with her beforehand. It is crucial that the participant can always feel comfortable throughout the shadowing

in order to get validated rich data, otherwise information can be misleading. When we met at the venue, I noticed she was in a defensive mood. It seemed to me that she was uncomfortable with my presence. I could interpret from her body language that she was wondering what were my true reasons to be there. So, I decided to offer my help to set up the stand and for anything she might need. After a while, in a moment alone, I asked her if she was intimidated by my presence. She nodded. I told her not to feel intimidated, that I was there to learn from her. I made explicit the reasons of being there: understanding the context by participating in it. I thanked her for offering me the opportunity to be 'one of them'. Then, she said:

Yes, at the beginning I was intimidated because I thought you were here to assess me, assess how I do consultation. To be honest, this is the first time I do, so I was nervous. But now that I see you helping me out, I am glad you came.

From that moment I became an insider. She introduced me to her team as her personal assistant - which was the truth. At some point in the event, I stopped shadowing her and I decided to go with the flow. I started participating as one of them. I had lunch and I talked to people about their motivations to engage in community and about the learning process through community events. Finally, I gathered deeper understanding of the community that happily embraced me and enabled me to know them better. This understanding can be summarised in the words of a man I interviewed during the event:

This community is strongly tight; nearly everybody participates in the community. They understand the sense of community and because, in that way they embrace you when you arrive, suddenly you are involved in the community doing things for the others, as well as the others do for you. They know that they cannot survive in this place without the others. They need each other.

### *3.4 Fourth visit*

My last visit consisted of an invitation to shadow Participant 4. She is actively involved in her community, which is one of the most rural areas. The community has around 110 inhabitants spread over a coastline of 12 miles. The majority of the houses are holiday homes which are unoccupied over the year except in the summer. When I met Participant 4, I formed the impression that she had a sceptical perspective of the world. She spoke little with the group and I observed her scrutinising us (the outsiders). She mainly talked to Participant 3. They all were planning how to use some ideas of the workshop in their community project. At the end of that workshop, she asked one of the facilitators if it was worth attending the next session. I thought she would not attend again. Obviously, I was mistaken, for the following day she came. Her attitude was the opposite to the day before. She was friendly and enthusiastic, laughing and actively participating in the construction of ideas. I can appreciate that people's circumstances change. Suddenly, what troubles you have one day can disappear the next and your mood changes. It was then when I built the trust. We stayed in touch over the coming months and finally she invited me to shadow her. When we met and I felt welcome. We talked about the current

projects they are developing and their issues. These included local government threatening to close the only public facility in the area, which functions as the only social and meeting space. Our conversation also focused on the combination of economic inequalities and the absence of young people.

We went to see all the developing community projects and she introduced me to some members of the community. One of them used to be deeply involved in the community but at some point left. I realised that the issue was not one of engaging people, it was more about re-engaging them. Most of them had been involved in the past, but they became exasperated and disaffected. People, like them, lost interest over time because, in their view, they didn't see their objectives translate into outcomes. I also detected a sort of apathy. Such attitudes hide a perception of community engagement as an endeavour that consumes time and effort, and it is complex and slow. Besides, many of them did not see the effects of the community problems on their daily lives, and therefore were reluctant to change.

#### **4. Discussion and conclusion**

This paper elucidates how ethnographic methods can provide a deeper understanding about the context of co-design practices within community development. On this matter, it can be concluded that a greater awareness of context, understood through the lenses of CHAT, helps designers to reveal the interconnection between individual and collective factors, which, as could be seen through the practice, act simultaneously. In this research, the immersion of designers in the social life of communities has led to establishing a relationship of empathy with the participants. Empathy is an ability of the emotional intelligence that enables people to connect on an individual level with others combining cognitive mechanisms as imagination, past experience and interpretation of body language (Decety & Ickes, 2009). It enabled me to understand the needs and desires of various participants and somehow, of their communities. Empathy can enable designers to put their creative skills to the service of participants and promote social change through the transfer of creative knowledge. In this research, the observation of people's behaviour within the co-design process and in natural settings provided me, as a researcher, with an enriched data set that, along with interviews, has enabled me to develop relevant insights that help to shape a bigger picture of the context. For instance, I identified that one shared motivation amongst participants is the need to convince or advocate (by persuasion) as many members of their community as they can. It has also helped me, as a designer, to realise the importance of acquiring social skills, such as mimicry, spontaneity or empathy, in order to build trust and rapport and to balance power relations. This entailed, for example, the blending in with the social environment and going unnoticed at times. Mimicry also allows participants to relax and not to perceive the designer as an intrusion or a threat.

Another reflection is that participatory design could be seen as an additional or alternative mode of engagement in adult education because it emphasises the place of people in their social context. Freire (2004) states that community development nurtures a collective power which has the means to solve the real issues of communities because such initiatives occur in a social environment. This social environment encourages people to engage collectively and encourages them to acquire a creative thinking approach to solve their own problems. Furthermore, it

advocates another way of learning, which draws strength from the construction of social knowledge based on consensus and negotiation between participants. The understanding of learning processes placed in a social context adds value to human resources and hidden talents that emerge from learning by participating. Creativity arises from participation and through lived experience. Informal learning scenarios can offer a greater range of possibilities in which people can choose what and how they want to learn. From the field trips, I identified that the first expression of the impact on a personal level is to acquire self-awareness of learning in informal environments. According to Singh (2015), building self-awareness in a community is key in order to understand their identity as individuals and as a community. This leads to the development of the conditions of 'deployability' and 'employability'. 'Deployability' is a term that stems from a military context, meaning forming a position of readiness for combat. In the context of this research, it refers to the capacity that people have to acquire personal skills directed to enhance engagement and participation in society. Gibbs and Angelides (2004) add that self-awareness promotes authenticity of one's self to others through the acquisition of different skills, but it also encourages solidarity and a more direct participation in the world.

## References

Bason, Christian (2010). *Leading Public Sector Innovation. Co-creating for a better society*. Bristol: Policy Press.

Burns, Colin, Cottam, Hilary, Vanstone, Chris & Winhall, Jennie (2006). *Red paper 02. Transformation Design*. London: Design Council.

Corbin, Juliet & Strauss, Anselm (1990). Grounded Theory Research: Procedures, Canons and Evaluative Criteria. *Zeitschrift fur Soziologie*. 19(6), 418-427. Retrieved 29 June, 2016, from:

<http://www.zfs-online.org/index.php/zfs/article/viewFile/2741/2278>

Cross, Jay (2011). *Informal learning. Rediscovering the Natural Pathways that inspire innovation and performance*. Pfeiffer.

Cross, Nigel (1972). *Design Participation: Proceedings of the Design Research Society's Conference 1971*. London: Academy Editions.

Cruickshank, Leon (2010). The Innovation Dimension: Designing in a Broader Context. *Design Issue*. 26(2). Retrieved 18 June, 2016, from:

[http://www.mitpressjournals.org/doi/abs/10.1162/DESI\\_a\\_00002?journalCode=desi](http://www.mitpressjournals.org/doi/abs/10.1162/DESI_a_00002?journalCode=desi)

Decety, Jean & Ickes, William (2009). *The Social Neuroscience of Empathy*. Cambridge, Massachusetts: MIT Press.

Dewey, John (1925). *Experience and Nature*. Chicago: Open Court Company. In Fielding, N & Fielding J (1986). *Liking Data*. Beverly Hills, CA: Sage.

Engeström, Yrjö (2015). *Learning by expanding: An Activity-Theoretical Approach to Developmental Research*. (1987, 1<sup>st</sup> Ed.). New York: Cambridge University Press.

Engeström, Yrjö (2006). Development, movement and agency: Breaking away into mycorrhizae activities. In Yamazumi, K (Ed.), *Building activity theory in practice: Toward the next generation*. Osaka: Center for Human Activity Theory, Kansai University (CHAT Technical Reports #1).

Engeström, Yrjö, Miettinen, Reijo & Punamki, Raija-Leena (1999) *Perspectives on activity theory*. Cambridge, England: Cambridge University Press.

Ehn, Pelle (2008). Participation in design things. *Proceedings Participatory Design Conference 2008*.

Er, Michael (2014). Activity Theory. In Coghlan, David & Brydon-Miller, Mary (Eds). *The SAGE Encyclopedia of Action Research* 1 (pp. 22-25). London: SAGE Publications Ltd.

Forss, Kim & Schwartz, Robert (2011). Introduction. In Forss, Kim, Marra, Mita & Schwartz, Robert (Eds.), *Evaluating the Complex. Attribution, Contribution and Beyond. Comparative Policy Evaluation* 18 (pp. 1-32). New Jersey: Transaction publishers.

Freire, Paulo (2004). *Pedagogy of hope*. London: Continuum.

Gibbs, Paul & Angelides, Panayiotis (2004). Accreditation of Knowledge as Being-in-the-world. *Journal of Education and Work*.17(3). Retrieved 2 July, 2016, from: <http://dx.doi.org/10.1080/1363908042000267414>

Heidegger, Martin (1968). *Was Heisst Denken?* Tuebingen: Max Niemeyer Verlag.

Kahan, Barbara (2008). Review of Evaluation Frameworks. *Saskatchewan Ministry of Education*. Retrieved 30 June, 2016, from: <http://idmbestpractices.ca/pdf/evaluation-frameworks-review.pdf>

Kuutti, Kari (2001). Activity Theory as a Potential Framework for Human-Computer Interaction Research. In Nardi, Bonnie (Ed.), *Context and consciousness: Activity theory and human-computer interaction* (pp.1-22). Cambridge: MIT Press.

Kuutti, Kari (1996). AT as a potential framework for human-computer interaction research. In Nardi, Bonnie (Ed.), *Context and consciousness: Activity theory and human-computer interaction* (pp. 17-44). Cambridge, MA: MIT Pres.

Labaree, Robert (2002). The risk of 'going observationalist': negotiating the hidden dilemmas of being an insider participant observer. *Qualitative Research*. 2(1), 97-122. Retrieved 28 June, 2016, from: <http://qrj.sagepub.com/content/2/1/97.abstract>

Lefebvre, Henri (2003). *La Révolution urbaine*. (1970 1<sup>st</sup> Ed.). Minneapolis: University of Minnesota Press.

Lee, Stuart & Roth, Wolf-Michael (2003). Becoming and belonging: learning qualitative research through legitimate peripheral participation. *Forum: Qualitative Social Research/Sozialforschung*. 4(2). Retrieved 30 June, 2016, from: <http://www.qualitative-research.net/index.php/fqs/article/view/708/1535>

Lee, Yanki (2008). Design participation tactics: the challenges and new roles for designers in the co-design process. *Co-Design*. 4(1), 31-50. Retrieved 29 June, 2016, from: <http://www.tandfonline.com/doi/abs/10.1080/15710880701875613>

Lee, Yanki (2007). *Design participation tactics: involving people in the design of their built environment*. Doctoral thesis. Hong Kong Polytechnic University.

Lee, Yanki & Ho, Denny (2012). The quality of design participation: Intersubjectivity in design practice. *International Journal of Design*. 6(1), 71-83.

Matarrita-Cascante, David & Brennan, Mark (2012). Conceptualising community development in the twenty-first century. *Community Development*. 43(3), 293-305. Retrieved 30 June, 2016, from: <http://dx.doi.org/10.1080/15575330.2011.593267>

McKinsey&Company (2010). *Learning for social impact. What foundations can do*. London: McKinsey. Retrieved 11 July, 2016, from McKinsey on Society Website: [http://mckinseysociety.com/downloads/tools/LSI/McKinsey\\_Learning\\_for\\_Social\\_Impact\\_white\\_paper.pdf](http://mckinseysociety.com/downloads/tools/LSI/McKinsey_Learning_for_Social_Impact_white_paper.pdf)

Molla, Tebeje & Gale, Trevor (2014). Higher education development and knowledge economy optimism in Ethiopia. *Knowledge Cultures*. 2(4), 110-132. Retrieved 13 June, 2016, from: <http://eprints.gla.ac.uk/109709/>

Nardi, Bonnie (1996). Studying context: A comparison of AT, situated action models, and distributed cognition. In Nardi, Bonnie A (Ed), *Context and consciousness: AT and human-computer interaction* (pp. 7-160). Cambridge, MA: MIT Press.

Ostrom & Ahn (2009). The meaning of Social Capital and Its Link to Collective Action. In Svendsen, Gert Tinggaard & Svendsen, Gunnar Lind Haase (Eds), *Handbook of Social Capital. The Troika of Sociology, Political Science and Economics* (pp. 17-35). Cheltenham, Glos, UK: Edward Elgar.

Park, Robert & Burgess, Ernest (1921). *An Introduction to the Science of Sociology*. Chicago: University of Chicago.

Plakitsi, Katerina (2013). *Activity Theory in Formal and Informal Science Education*. [Online] Rotterdam: Sense Publishers. Retrieved 18 June, 2016, from: <https://www.sensepublishers.com/media/1647-activity-theory-in-formal-and-informal-science-education.pdf>

Powell, Walter & Snellman, Kaisa (2004). The knowledge economy. *Annual Review of Sociology*. 30, 199-220. Retrieved 18 May, 2016, from doi: 10.1146/annurev.soc.29.010202.100037

Roth, Wolf-Michael & Lee, Yew-Jin (2007). "Vygotsky's neglected legacy": Cultural-historical activity theory. *Review of Educational Research*. 77, 186-232. Retrieved 18 June, 2016, from: <http://rer.sagepub.com/content/77/2/186.abstract>

Sam, Cecile (2012). Activity Theory and Qualitative Research in Digital Domains. *Theory into Practice*. 51(2), 83-90. Retrieved 18 June, 2016, from: <http://www.tandfonline.com/doi/abs/10.1080/00405841.2012.662856>

Sanders, Elizabeth & Stappers, Pieter (2008). Co-creation and the new landscapes of design. *CoDesign: International Journal of CoCreation in Design and the Arts*. 4(1). 5-18. Retrieved 9 January, 2016, from: [http://www.maketools.com/articles-papers/CoCreation\\_Sanders\\_Stappers\\_08\\_preprint.pdf](http://www.maketools.com/articles-papers/CoCreation_Sanders_Stappers_08_preprint.pdf)

Sen, Amartya (1999). *Development as freedom*. New York: Knopf.

Silverman, David (2013). *Doing Qualitative Research: A practical handbook*. London: SAGE Publications.

Silverman, Robert & Patterson, Kelly (2015). *Qualitative Research Methods for Community Development*. [Online]. Retrieved 17 June, 2016, from: [http://samples.sainsburysebooks.co.uk/9781317754527\\_sample\\_787520.pdf](http://samples.sainsburysebooks.co.uk/9781317754527_sample_787520.pdf)

Singh, Madhu (2015). *Global Perspectives on Recognising Non-formal and Informal Learning. Why Recognition Matters*. [Online]. Retrieved 17 May, 2016, from: <http://unesdoc.unesco.org/images/0023/002336/233655E.pdf>

Wenger, Etienne, Fenton-O'Creevy, Mark, Hutchinson, Steve, Kubiak, Chris & Wenger-Trayner, Beverly (2015). *Learning in Landscapes of Practice*. New York: Routledge.

Wenger, Etienne (1998). *Communities of practice*. Cambridge: Cambridge University.