Critical TEL: the importance of theory and theorisation

Madeleine Sclater[1], Vic Lally[2]

[1]Glasgow School of Art, UK, m.sclater@gsa.ac.uk, [2]University of Glasgow, UK, vic@viclally.eu

Abstract

This paper explores the role of theory in Technology Enhanced Learning, and the research community. We consider Cultural Historical Activity Theory (CHAT) as an example, but we strongly feel that our argument has broader application to the use of theory as part of the intellectual 'self-defence toolkit' that researchers and practitioners in the critical TEL community need to consider if they are to 'resist' the crises arising from educational globalisation. Theory can offer us the language, history, scope, and power that we need to be reflexively aware of both our own interests and those of others who are actors in the settings in which we are working.

Keywords

Theory, CHAT, virtual worlds

Introduction

The Alpine Rendezvous (ARV) workshop 'TEL: the Crisis and the Response', in Villard-de-Lans (2013), occurred at a significant time in terms of our own research. Among the workshop's aims were commitments to 'explore more open, participative, emancipatory and fluid models of TEL', and to 'shape a research agenda for TEL…' (*TEL: Crisis and Response | ARV 13 Crisis Forum* 2013*)*. These were bold, even daunting, statements to us as we approached a testing period of trying to write up our findings from the Inter-Life Project (a project in which Art and Design educational practices were fused with virtual research communities). However, we nailed our colours to the ARV mast by claiming that 'Central to the Inter-Life Project, and to our investigation of the value of the virtual communities we worked with, is the development of skills, and emotional and cognitive resources that young people may need to support themselves during critical transition experiences in the 'real world' (Lally 2013a). But then, in the call for proposals, we encountered: 'The TEL community is however currently poorly equipped either to resist the progress of these crises today or to enable individuals and communities to flourish despite their consequences tomorrow' (*Call for Proposals / Background | ARV 13 Crisis Forum* 2012).

Despite this prognostication ARV energised us, connected us anew with fellow critical TEL researchers, and provided a good portion of the intellectual sustenance that we needed to embark on the gruelling period of writing up our findings (Lally, V., Sharples, M., Tracy, F., Bertram, N., & Masters, S., 2012; Devlin, Lally, Sclater, & Parussel, 2013; Devlin, A. M., Lally, V., Canavan, B., & Magill, J. 2013; Lally, V., & Sclater, M., 2012; Lally, V & Sclater, M., 2013; Sclater & Lally, 2013a; Sclater & Lally, 2013b). Inter-Life was a Technology-Enhanced Learning (TEL) project, employing practices from Art and Design education, and funded by the (EPSRC) and Economic and Social Research Council (ESRC) in the UK. It

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was part of the third phase of the Teaching and Learning Research Programme (TLRP). In all we spent over five years engaged in this work. The project employed virtual worlds that may be described as 'persistent, avatar-based social spaces that provide players or participants with the ability to engage in long term coordinated and conjoined action' (Thomas and Brown, 2009 p.37). These immersive 3D worlds create the *illusion* of cognitive presence, offering co-located virtual interaction and visualisation.

In this short paper we will try to explore one of the wider implications of this work in a more expansive and speculative way. We would like to attempt this, with some trepidation, by reflecting on a theme that emerged for us from Inter-Life and, we argue, may be useful for the development of technologies that lay claim to enhancement of learning. It is based on our increasing awareness of the importance of theory and theorisation in the TEL community.

The Importance of Theory and Theorisation

As researchers and educators in Technology Enhanced Learning, the relationships we encounter or build with theory are rarely straightforward. It is a theme that cuts across much of the discussion that took place at the ARV seminar, and yet was never really explicit at the time. This theme had been particularly apparent in our work with the Inter-Life project, work that formed the basis of our contribution to the ARV seminar. We were trying at the start of that project, as an interdisciplinary team, to construct an innovative, dynamic, and informal learning space that drew upon ideas from our contributing disciplines: Education, Educational Psychology, Art and Design, and Computer Science. There was no obvious broad theoretical framework that presented itself to us. Yet we were challenged by what we would later describe, upon reflection, as the multiple 'incoherencies' that arose as our team brought together the languages and thinking of our differing backgrounds. It was a messy process. Two key questions lurked in the background: 'Can theory help?' and 'What do we want theory to do?' Even so, during these early discussions, these did not emerge explicitly.

It was clear that we needed to find something to inform our developmental discussions and align our disciplinary visions into some kind of coherence. This might inform our research planning. There was the related and very real problem of how to develop a focus for the research and the analysis of our data. We had our research questions, of course, and they had come from several theoretical strains of social theory, and Computer Science, as we had put the proposal together (see Lally and Sclater 2013a for an account of some of these). But at the point of commencing research activity we still could not answer the theory questions. Some directions seemed helpful, but others were decidedly not.

One obvious and helpful reference point, one might have thought, was Education itself. But Education still has not developed an interdisciplinary language, even after fifty years (McCulloch 2002), with the contributing disciplines providing little in the way of unified or overarching theory. So, in reality, we had no help there. John Elliott, who was one of the founding figures of practitioner research in Education, famously pointed out that we should celebrate these contradictions (Elliott 1998). This was not easy to do at that time. The work of the educational philosopher R. S. Peters, specifically his explorations in answer to the question: 'What is an educational process?' (Peters 2010), certainly helps in setting out the

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territory. The centrality of critical thought, for example, is one of Peters' themes. But this did not give us a working theory.

Where was other help to be found? One important source of 'theoretical' influence was our existing collective experiences and concerns, drawn from our own teaching and research practices (Sclater 2011). These practices certainly were evident (at least to us) in our ARV workshop conversations. These practices also emerged in different ways as we attempted to find a research focus in our Inter-Life discussions. Lawrence Stenhouse argued that educational research is a process that involves the joint development of educational praxis (practice informed by reflection and/or theory) and theory, in interaction (Stenhouse 1983). Stenhouse was concerned to articulate modes of research inquiry appropriate to education as well as to the role of practitioners in the research process. This seemed, at least, to frame a working relationship between what we already trusted in our professional educational work, and possible 'explicit' theories. We had already explored this idea, of an on-going interaction, in research, of theory and practice/praxis (Goodyear, De Laat, and Lally, 2006; De Laat and Lally, 2003; De Laat, Lally, Simons, and Wenger, 2006) , so the notion of blending our expertise with explicit theorising started to feel like positive territory.

Other help was also at hand. Halverson (Halverson 2002) for example, has clarified some of the pragmatic roles that theory can play in research. Halverson's roles include being descriptive: allowing researchers to focus through the theoretical lens, and provide a language with which to speak about it. She points out that theory can also be inferential, suggesting directions for investigation and hence guiding inquiry. Furthermore, theory can also be rhetorical, providing us with the coherence, language and confidence to talk and discuss in our research communities. Finally, Halverson argued, theory can help us to apply our findings to the real world, and help us with practical issues like designs arising from our work.

In the 1990s Stephen Ball (Ball 1995) expressed his deep concerns about the diminishing role of management theory in school effectiveness research. Ball makes the argument that without theory, educators are vulnerable to becoming technicians of policy implementation, and that theory is one of the ways in which researchers (he used the term 'intellectuals') can claim and reclaim educational research; theory is fraught with complexity, difficulty, contingency, and contradiction because that is the nature of reality. Yet, he argued, from a standpoint that related his position to the wider sociology of education, that theory was a powerful tool in educational studies. Furthermore, he went on to suggest that it was likely one of the ways in which researchers could stave off the charge of acting as 'technicians' in the educational world. Ball argued that theory could help by supporting researchers to 'think otherwise' (p 266, 268), and 'be disruptive' (p266). He also argued that it could provide a language for challenge, act as a stimulus to rigour and irony, and help to open up spaces for critical thought and reflection.

In our search for support with theory, it is notable that the TEL literature did not help much. However, there were some exceptions. Selwyn, for example, in his seminal papers on the study of educational technology (Selwyn 2010, 2012) argues for a 'critical social scientific approach'. He insists that such an approach might seek to 'identify, highlight and overcome the many contradictions and conflicts that surround the use of technology in educational settings', arguing that current inequalities and hegemonies need to be countered (2010). In his later paper, Selwyn explores the application of a range of socio-theoretical perspectives to TEL in an illuminating way, arguing for TEL researchers to 'put theories into action' to

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develop ‘socially nuanced analysis that concentrates on the social as well as technical issues…’ (Selwyn 2012).

This brought us, as a team, to Activity Theory (more accurately Cultural Historical Activity Theory - CHAT) (Engeström 2009; Roth 2004). Roth and Lee have suggested that CHAT can overcome a ‘range of troublesome dualisms in education: individual versus collective; …subject versus object…theory versus praxis’ (Roth & Lee, 2007). Originally conceived by Vygotsky and Leont'ev, CHAT takes human activity as the minimum unit of analysis. Roth and Lee point out that it is not a ‘quick fix’. It is, however, a historically and culturally robust theory of human activity, of sufficient power, we think, to enable researchers to resist political and economic trends in order to develop critical understandings of TEL.

Activity Theory, amongst others things, points to the importance of community, the importance of tools and practices, the importance of spaces and the need for evidence in order to develop theory. It takes a societal perspective that foregrounds the activity of humans and their goals. One of the key issues we faced as researchers in the Inter-Life Project was to find a theoretical framework that was sufficiently comprehensive in its scope to take account of the complexities of the interactions (actions and activities) among the participants in the Inter-Life virtual island (ILI2). That is, their intentions, motivations, goals, ideas and values, the actions and activities in which they engaged, the artefacts they created, the tools that mediated their interactions, the rules of engagement that were negotiated and established, the complexion and complexity of their emotions and the community context in which all of this activity was played out both individually and collectively over time.

The research team therefore needed a framework that was powerful enough to enable us to both understand and analyse the activities of the young people with whom we worked, framed by the research questions. In this context, the voices of the young people, their motivations and their goals were a key focus. Thus a central focus of this work was to understand the subjectivities of the young people, as they engaged in the *building of community* in which they were key stakeholders and participants. In complex settings, as our ILI2 community became, we needed help to interpret, understand and frame activity in settings that, on the face of it, contained a bewildering and incomprehensible array of disconnected elements.

CHAT, in this project, was identified as a promising candidate, as it provided a conceptual tool to enable us to understand what we were looking at (Nardi 2002), by allowing us to focus on how people *enact* the realisation of goals using tools and artefacts in social and cultural settings. Other theories considered included Actor-Network theory. Among other reasons, we felt that it did not accord the kind of pre-eminence to human agency that we thought was important (see Kaptelinin and Nardi 2006 for further discussion). We acknowledge that applying Activity Theory is difficult, because of the complexity of its conceptual structure. Activity theory is based around the notion of ‘activity systems’, by which we mean culturally and socially defined settings, which provide *tools* and *resources* in which participants can realise their goals, intentions and motivations. For example, an Art and Design studio in a higher education environment could be understood as an ‘activity system’. Similarly the home environment is another example of an activity system, both of which have a defined set of rules, boundaries, tools, mediating artefacts and divisions of labour. Inter-Life Island 2 itself, over time, became a ‘new activity system’, that developed at the intersection of home and the school (Lally 2012 p497) and which we conceived as an ‘inter-cultural space’. In this

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space, tools and resources were available to the participants to enable the realisation of their own goals, plans and agendas. This 'inter-cultural space' was shaped and developed by the participants through their interactions, including the artefacts that they developed (both individually and collectively). In turn, these re-shaped their interactions - framed by the use of the available tools. Similarly the rules of participation were also negotiated and renegotiated over time. In other words, CHAT enabled us to view human activity within the Inter-Life project as mediated by artefacts and tools that had seen successive modifications and developments by generations of people prior to their use in the project. During the course of the project, these tools and artefacts saw further development, modification and refinement by participants grounded in the everyday activity of the project (Cole 1996; Miettinen and Virkkunen, 2005) . Therefore within Activity Theory, all human activity has a historical basis. This historical perspective allows us to see that activity does not simply arise 'out of the blue' but rather is contingent upon previous interactions and activity. Activity theory, unlike many other theories, for example, 'distributed cognition', provides a 'unit of analysis'. In the case of the Inter-Life project, the unit of analysis was the activity that occurred in Inter-Life Island over the duration of the project.

Nardi (2002) contests Halverson's (2002) view that AT focuses on the individual situated in the social world. Nardi argues that the individual cannot be separated from other people, artefacts, history, community and the social world. She argues that we 'enact situations' with our bodies and our tools in a social sphere – such as in a community (in our case the Inter-Life community) along with others. In the process, we materially shape these situations based on our historical and present knowledge (tacit or explicit). In this sense, artefacts mediate *reality* for people (Halverson, 2002 p273). Engeström has further developed these ideas in his work on 'third generation Activity Theory' (Engeström 2001; Engeström and Glaveanu, 2012) which recognises and attempts to address the *challenges* in understanding dialogue, including the multiple and often conflicting perspectives of participants and the complexity of the interacting 'activity system' in which those engaged in joint creative projects seek to develop their goals. As Engeström puts it: 'Activity Theory, is a theory of object-driven activity. By *objects*, we mean 'concerns', and it is these 'objects' (or concerns) that become drivers of attention, motivation and meaning' (Engeström 2009 p304). The object of activity is emphasized especially in Activity Theory as the starting point for understanding human activities. New 'objects' are continually being shaped and changed or, indeed, freshly created, through people's interactions with them, whether these be individually or collectively fashioned. As Engeström points out, new objects are not necessarily 'intentional products of a single activity' but they can also be the 'unintended consequence of engagement in multiple activities' (2009). Engeström refers to these as 'benign runaway objects'; such objects are not usually under anyone's control and can usually have wide and unforeseen effects. In the Inter-Life project, 'benign runaway objects' were the young people's own goals and motivations that provided the focus of activity and the basis of future action. These goals and motivations were foregrounded by CHAT in both the research process and the learning design process of the project. For this study, we developed a coding schema to help us focus on the dialogue, emotions and multiple perspectives that can be created and expressed in such a space through engagement with creative practices (Lally and Sclater, 2012).

Discussion

The ARV 'Crisis in TEL' workshop really captured our mood around the time it took place. We had initially responded to the call with a paper posing the question: Can the virtual really

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impact the real? (Lally and Sclater 2013a). The paper arose from our concern to provide evidence that our work in virtual research communities - to help young people pursue their

own research agendas and find their research 'voices' - was actually effective in serving their interests as well as our own. This theme, of two research agendas and two sets of interests - that of the project participants, and our own as the funded researchers - was foregrounded in a later paper (Sclater and Lally 2013a) in which we set out some of the themes and issues that emerged, and the processes in which we became engaged, as we tried to ensure that our agenda did not dominate the VRC. But at the time of the seminar this issue of potentially conflicting agendas was still something of a major, yet unexpressed, concern.

Of the themes that emerged for us from the workshop, and later the paper, as we struggled with this concern, was the role of theory in our own work. We specifically considered Cultural Historical Activity Theory (CHAT), but we strongly feel that our argument has broader application to other theoretical frameworks. In the present paper we have also tried to extend this argument beyond reflexively considering CHAT theory in our own work to the use of theory as part of the intellectual 'self-defence toolkit' that researchers and practitioners in the global TEL community need to consider. Theory and its relationships with practice can be complex and contingent. Yet theory can offer us the language, history, scope, and power that we need to be reflexively aware of both our own interests and those of others who are actors in the settings in which we are working.

There are many issues we have not touched upon. Resistance to the large-scale industrialisation of TEL, and its ideologies, seems to us to be a key issue. But among the others that require our urgent attention, one example must be the potential for surveillance and control that is contained, even contingently, in the whole learning analytics movement in which so many TEL researchers are becoming involved. Inter-Life and its implications remind us that one can never really understand the full picture, but in a theoretically informed and open TEL community of critical researchers we can reveal more of that picture with some key questions. For example, in taking a critical and theoretical stance towards the ethical, social and political implications of our research, we need to ask: In whose interests do we act?

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Madeleine Sclater
Dr. Madeleine Sclater is Senior Academic Fellow in Digital Learning, Glasgow School of Art, UK. She is Deputy Principal Editor of the International Journal of Art and Design Education (IJADE). Over the last two decades, Madeleine has developed a strategic international research profile in the field of Education, Art and Design and Technology Enhanced Learning (TEL). With a background in Fine Art (Painting) and digital media, Madeleine has pioneered and researched new collaborative methodologies, using advanced technologies for the development of distributed creative education.

Vic Lally
Vic Lally is Professor of Education in the School of Education at the University of Glasgow, UK. He is Director of the Interdisciplinary Learning, Education, Technologies and Society Research Group (ILETS). Vic has researched and taught in many educational settings,

including the recently completed Inter-Life Project for the UK Research Councils EPSRC and ESRC. His main interests are in human learning: its 'design', philosophy and ethics, as well as the cultural and political contexts of learning. He is particularly interested in collaborative learning as a way of supporting human creativity and development.

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