Designing for ab initio blended learning environments: identifying systemic contradictions

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Abstract. In recent years, Computer Assisted Language Learning (CALL) has become more accessible than ever before. This is largely due to the proliferation of mobile computing devices and the growth of open online language-learning resources. Additionally, since the beginning of the millennium there has been massive growth in the number of students studying a foreign language in the European Union (Eurostat, 2012). Unfortunately, according to the Education and Training Monitor 2016[2], within formal education at all levels, there is a lack of guidance regarding the integration of CALL tools with face-to-face classroom instruction. This is particularly in relation to lower-level language instruction. This paper presents some preliminary findings of the author's doctoral research project that addresses the question: what contradictions and tensions emerge in ab initio blended language learning courses? Capturing the development of human activity in complex learning environments and the difficulties that manifest themselves therein is a challenging methodological task. This paper proposes that Cultural-Historical Activity Theory (CHAT) is a useful conceptual tool for Blended Learning (BL) researchers in identifying emerging contradictions with complex learning environments.

Keywords: blended learning, ab initio language learning, cultural-historical activity theory.

1. Introduction

The majority of the European Union (EU) has seen continuous growth in the number of people studying a foreign language since the start of the millennium

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2. https://ec.europa.eu/education/sites/education/files/monitor2016_en.pdf

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(Eurostat, 2012). This is as a result of shifts in students' foreign language choices and the expansion of the EU in 2004. As a consequence of increasing student numbers, Member States are facing increasing pressures to provide quality language education to their students. These pressures relate to increasing class sizes and demand for additional appropriately qualified teaching staff familiar with the Common European Framework of References for languages (CEFR).

Currently, CALL resources are more available to the general public than ever. Massive Open Online Courses (MOOCs) for language learning (LMOOCs) such as those offered by Coursera and language learning apps such as Duolingo, offer learners the opportunity to interact with target languages independently. The users of these platforms can number in tens of millions. Across Europe, the importance of integrating information communication technology (blended learning) into education has been acknowledged. Unfortunately, there is a lack of pedagogical guidance in relation to how this can be achieved (European Commission, 2014).

BL formats offer many advantages to both the student and the teacher over traditional classrooms. BL is often described as the best of both traditional teaching methods and CALL (Marsh, 2012). Some of the main benefits of BL noted by researchers are increased student autonomy, increased student engagement with the target language, and the development of metacognitive strategies (Blin & Jalkanen, 2014; Scida & Saury, 2013). Unfortunately, research in this sphere of BL is limited with regard to the study of language learners at different levels, particularly with respect to levels defined by the CEFR.

The research presented here is based upon a preliminary analysis of data collected as a part of the author's doctoral study. The author sought to address the research question: 'What contradictions and tensions emerge in an ab initio BL course?'. To investigate this question, the author conducted a study of ab initio language learners' activities over the duration of a six-week introductory Irish language course at Carnegie Mellon University, Pittsburgh, USA. Initially, the learning objectives of the course were defined using the CEFR, namely the topics laid out from level A1 to A2. The design of the course was heavily influenced by recommendations from researchers in the field of CHAT, CALL, BL, and by the participants' motivations for taking the course (Blin & Jalkanen, 2014; Chapelle, 2009; Jonassen & Rohrer-Murphy, 1999; Neumeier, 2005).

Table 1 below provides a brief outline of the BL course's weekly topics and assignments.

Table 1. BL course breakdown

Week	Topic	CEFR level	End-of-week Assignments
1	Meeting people and talking about your background	A1	CALL assignment (grammar, listening tasks, vocabulary)
2	Your background and where you live	A1	CALL and speaking assignment
3	Your family	A1/A2	CALL assignment
4	Your pastimes	A2	CALL and speaking assignment
5	Daily life	A2	CALL and speaking assignment
6	Daily life and review	A2	CALL assignment

CHAT offers researchers a method to understand and describe interactions between individuals and their environment (Yamagata-Lynch, 2010). To study something from a cultural historical perspective is to study something in the process of change (Blin, 2005). CHAT provides qualitative researchers with a powerful conceptual tool with which to understand collective human activity within a complex BL environment (Yamagata-Lynch, 2010). CHAT is also well suited to the identification of contradictions in BL environments. It must be understood that contradictions do not manifest as problems exclusively.

> "Contradictions reveal themselves as breakdowns, conflicts, problems, tensions, or misfits between elements of an activity or between activities" (De Souza & Redmiles, 2003, p. 3).

Figure 1. Engeström's triangles (Burry, 2012)
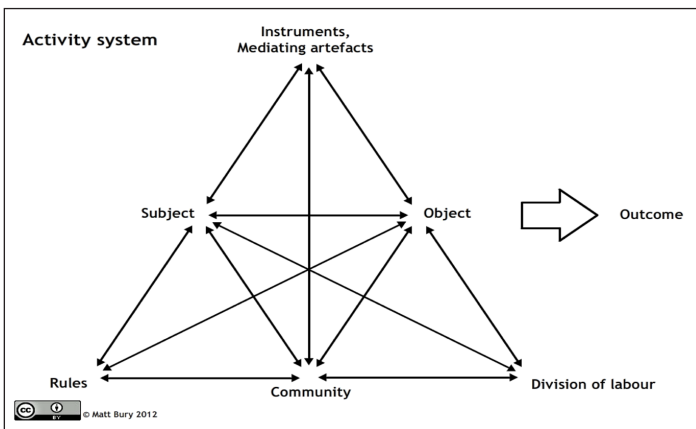
According to Engeström (1987), an Activity System (AS) is comprised of six interrelated elements. These elements are: (1) the object or goal of the AS; (2) the subject (in this study the student/participant); (3) the community; (4) the tools or artefacts; (5) the rules; and (6) the division of labour. Contradictions can occur between each of these elements and other activity systems. Figure 1 above illustrates the relationship between these elements.

2.   Method

2.1.   Participants and method

Eleven participants were recruited for this study. These participants came from a variety of educational and professional backgrounds, and ranged in age from 18 to 54. Importantly for the study, each participant was an ab initio Irish learner. Over the six weeks, 12 one-hour face-to-face classes were held. Students were introduced to the CALL tools gradually. The main technologies that constituted the courses were: Duolingo's Irish course, Anki Intelligent Flashcards, SpeakApps, and SoundCloud. The researcher used several research instruments to pursue the research question. The primary instruments used were a background questionnaire, CHAT structured observation sheets (Figure 3), and weekly student feedback sheets (Figure 2). A group interview was also conducted at the conclusion of the study.

Figure 2.   Student feedback sheet
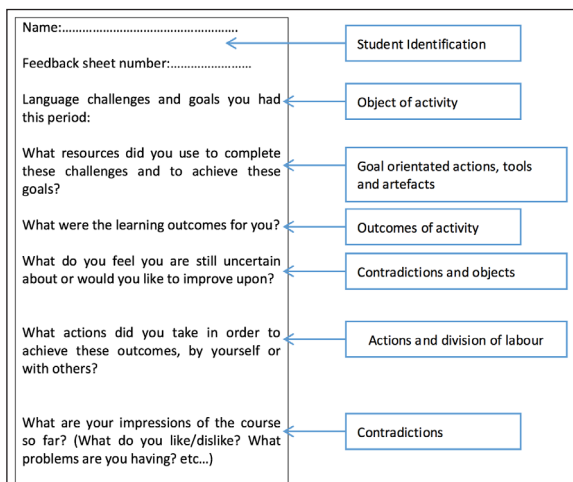
Figure 3.   CHAT structured observation sheets

Object of activity
Tools and Artefacts
Teacher:
Students:
Actions observed
Prior to class (online):
In class observations:
Division of Labour (DOL)
DOL prior to class:
Teacher DOL in-class:
Student DOL in-class:
DOL After class:
Rules
Observed Difficulties/Problems
Outcomes

2.2.   Empirical analysis

To analyse the data, the researcher engaged in data triangulation and adopted a CHAT-based coding scheme designed to identify contradictions in the language courses (Blin, 2005).

3.   Results and discussion

Eight participants successfully completed the course. Three participants were unable to complete the course due to other commitments. These participant 'dropped out' in the third and fourth weeks of the course respectively. Six of the

eight participants who completed the course participated in an optional recorded conversation with the course's teacher at the end of the study. These recordings were later sent for analysis by an Irish language educator and specialist in the CEFR. Her analysis revealed a mismatch between students' perceived ability in the language and their actual ability. Students overestimated their language ability to be at a B1 level when in fact their actual level was at A1.

In order to pursue the research question, the author applied Blin's (2005) CHAT coding scheme to the study's data to construct a model of the course's inter-related AS elements. Preliminary analysis reveals that contradictions emerged at various level within the AS as defined by Engeström (1987). One notable contradiction is the impact that the online and face-to-face activities had on participants' use of the target language with members of their wider social community. The openness and usability of the tools coupled with classroom activity reinforcements appear to have given the participants the confidence to engage others about the target language that were not a part of their formal community of learners.

4.   Conclusions

Though the findings of this study are still preliminary, this paper showcases the affordance of CHAT to identify relationships between elements that constitute a complex learning environment such as a BL course. The findings of the study will be published in the researcher's doctoral thesis in the coming year.

5.   Acknowledgements

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Edited by Kate Borthwick, Linda Bradley, and Sylvie Thouësny