

36 Emerging affordances in telecollaborative multimodal interactions

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Abstract

Drawing on Gibson's (1977) theory of affordances, Computer-Assisted Language Learning (CALL) affordances are a combination of technological, social, educational, and linguistic affordances (Blin, 2016). This paper reports on a preliminary study that sought to identify the emergence of affordances during an online video conferencing session between teacher trainees specialising in French as a Foreign Language and learners of French from an Irish university. We use Cultural Historical and Activity Theory (CHAT) (Engeström, 1987) as our epistemological framework to explore CALL affordances as they emerged in two tutor-learner triads. Deviations from the lesson plan are identified and some of the factors that promote or hinder the emergence of affordances for second language development in similar environments are highlighted.

Keywords: affordance, cultural historical activity theory, CHAT, video conferencing, language learning.

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1. Introduction

An affordance is an action possibility that is offered by an object or an environment to an organism in the environment “for good or ill” (Gibson, 1977, p. 68). It is a relational property which depends not only on the action possibilities offered by the objective features of a tool or environment, but also on the actor's perception and action capabilities. Introduced in Human Computer Interaction (HCI) by Norman (1988), the concept of affordance has since then been subjected to diverse interpretations in HCI and CALL research that have moved far beyond Gibson's (1977) original account (Blin, 2016).

Following Bærentsen and Trettvik (2002), this paper adopts an activity theoretical framework to study the emergence and realisation of affordances in the context of pedagogical interactions via a videoconferencing platform between tutor-trainees and language learners. According to this view, the features of a CALL environment only become affordances when they are related to the users' needs and activity. Furthermore, technological affordances are seen as interacting, on different timescales (Blin, 2016), with educational affordances, defined as “the relationships between the properties of an educational intervention and the characteristics of the learner that enable certain kinds of learning to take place” (Lee, 2009, p. 151), and linguistic affordances, which are relations of possibility between language users “that can be acted upon to make further linguistic actions possible” (Van Lier, 2004, p. 95).

From an ecological and activity theoretical perspective on CALL and language development (Blin, 2016), educational affordances are engineered through, for example, the design of lesson plans, learning activities or tasks, and resources, while others emerge in moment-to-moment interactions between learners or between learners and teachers, which respond to emerging contradictions (Engeström & Sannino, 2010) and are made possible by the enactment of technological affordances (e.g. use of text chat, webcam, etc.).

This paper reports on a preliminary study of videoconferencing for L2 development that sought to investigate the following research questions:

- What are the affordances that are offered by the environment?
- What are the affordances that have emerged during the online interactions?
- What triggered the emergence of these affordances?

2. Methodology

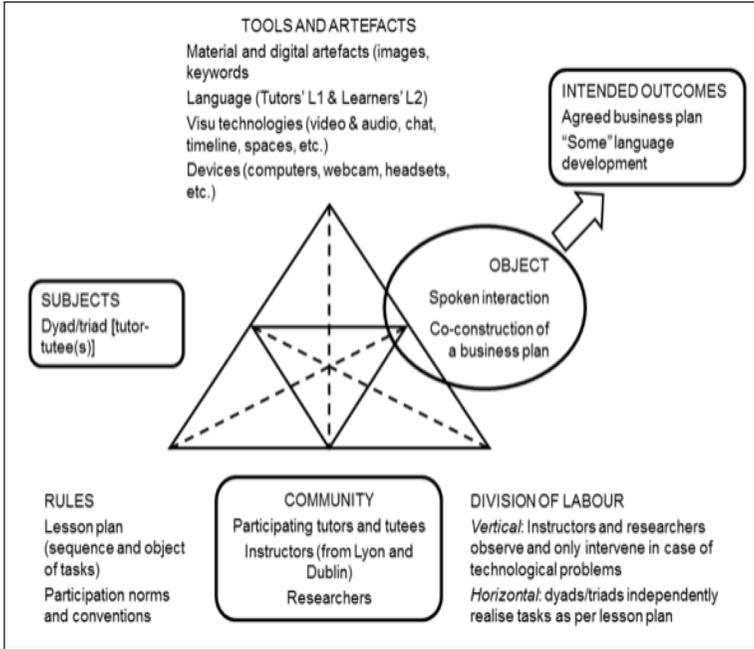
2.1. Context

As part of the online language teaching project *Le Français en Première Ligne*, Masters students of French as a foreign language from the University of Lyon 2 (France) tutored online learners of French from Dublin City University (Ireland). Six 45 minute weekly sessions were conducted via the videoconferencing platform VISU. These sessions were recorded, anonymised, transcribed, annotated and incorporated into a rich multimodal corpus (ISMAEL) which comprises a broad range of artefacts produced online and offline by both groups during the course of the project (lesson plans, multimodal feedback, reflective accounts etc.) and semi-structured interviews. This study will analyse

- the fifth session's lesson plan;
- debriefing sessions (tutors' post-session reflections);
- online instantiations of session 5 of two tutor-tutee triads.

Figure 1 represents the tutor-tutee activity system for session 5 wherein students and tutors interacted using 'tools and artefacts' as indicated below. The interaction design required students to formulate questions to study the market needs and accordingly advise the tutors to set up a food truck business plan (object). Session 5 was chosen because by this time both tutors and students had become well-acquainted with the videoconferencing interface and technical problems.

Figure 1. Activity system for session 5



2.2. Data

The fourth activity of the fifth session (micro level interaction) was chosen for analysis because tutors faced problems with the proposed activity of eliciting questions from students. Two tutors, Adèle and Melissa's (chosen arbitrarily) activity systems were analysed closely.

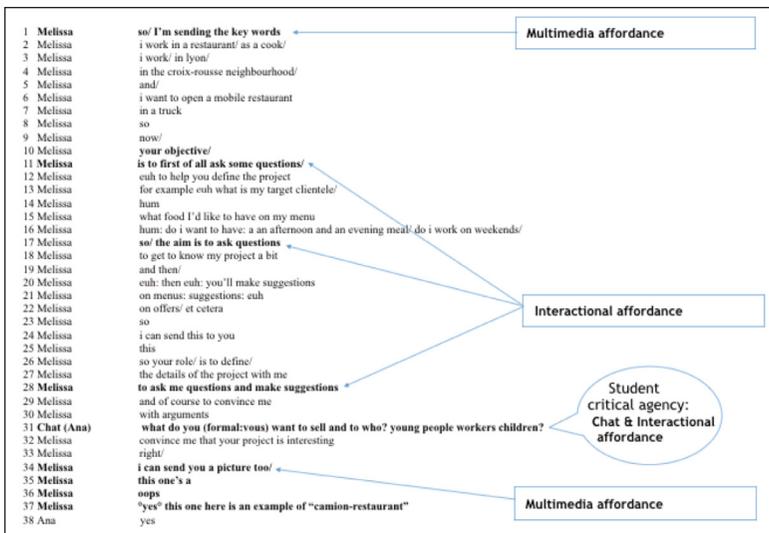
Transcripts of the recorded debriefing sessions, the fifth lesson plan, and the corresponding online instantiations of the two tutors Adèle and Melissa were uploaded on the qualitative analysis software atlas.ti. The debriefing sessions and lesson plans were coded inductively to identify disturbances perceived by tutors in the environment. The online interactions of the two tutors were then coded deductively based on the coding scheme that emerged from the debriefing sessions and the lesson plan.

3. Analysis

3.1. Micro interaction 1

The interaction below took place between Melissa and her students Ana and Alejandra. Melissa had already announced the food truck context and had asked her students to ask questions about the target market. Ana's mic was not working properly so she used chat to send the first question: "what do you want to sell and to whom?" Melissa completely overlooked the text chat sent by Ana (this happens before the extract presented below in Figure 2) and starts sharing key words (line 1) enacting a technological 'multimedia affordance'. She reiterated three times "your objective is to ask questions" hammering an 'interactional communication' while overlooking Ana's written question.

Figure 2. Design for learning for tutor Melissa and students Ana and Alejandra



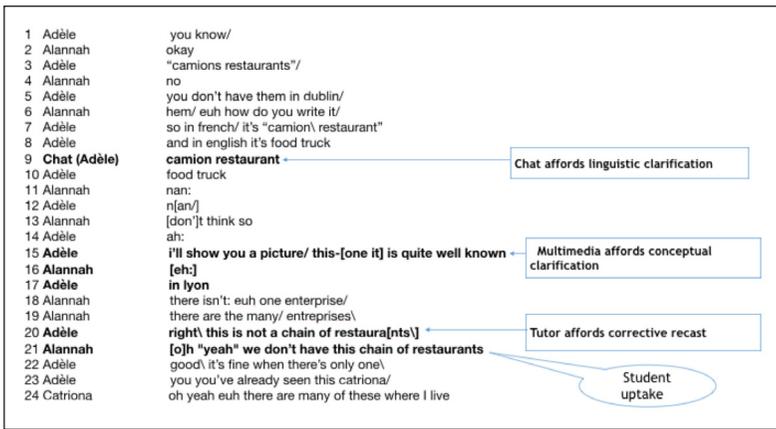
Furthermore, to help the students come up with questions, Melissa gave out questions herself (lines 13-16). This echoes the problem voiced by tutors in the debriefing session that they ended up asking the questions themselves. Ana

resent her unanswered question a couple of seconds later (line 31), affording interactional communication. The negotiation of meaning seems to be disrupted due to a lack of perception of the written mode (chat affordance) by the tutor. Instead of picking up the interactional affordance that was triggered by Ana via chat, Melissa shared a picture of the food truck as indicated in the lesson plan.

3.2. Micro interaction 2

The interaction below (Figure 3) represents the same eliciting questions activity between Adèle and her 2 students Alannah and Caitriona.

Figure 3. Design for learning for tutor Adèle and students Alannah and Caitriona



Adèle perceived that one of the students did not understand the concept of ‘camion restaurant’. This focus shift triggered two technological affordances, ‘chat’ and ‘sharing of image’ which afforded Adèle to fill this perceived linguistic, cultural and conceptual gap. In line 18, Alannah gets the meaning and tries to convey that she thought Adèle was talking about a specific food truck chain. Adèle perceived Alannah’s linguistic error and afforded corrective feedback using recast as the tutor replaces the expression “many enterprises” by the contextually accurate “chain of restaurants” (lines 20-21). This is

followed by instantaneous ‘uptake’ (line 21) as Alannah repeats the corrected expression.

4. Discussion and conclusion

The same tools and artefacts gave way to different instantiations. Disturbances such as sound problems for Melissa and focus shift for Adèle afforded new opportunities for mediated actions. Thus, Ana used chat to communicate her question that triggered technological and linguistic affordances that are not directly perceived by tutor Melissa. Adèle on the other hand uses chat and shares an image to address the linguistic, cultural and conceptual gaps for Alannah.

In doing so, the tutor-learner triads displayed different degrees of deviation from the designed script. Melissa seems preoccupied by the designed lesson plan that indicated sharing of key words and images. She fails to perceive the emergent signifiers in the environment as Ana resorts to the written mode to formulate her question. It must be noted that Melissa had no teaching experience at the time and tends to show a greater reliance on the script. Adèle with three years face-to-face teaching experience, flouts the eliciting questions activity and mediates the designed technological and educational affordances to suit the students’ needs.

We conclude that communicational or technological disturbances, focus shifts and/or change of object in activity afford new perception-action relations or affordances in the ecological learning system that are triggered by tutor or tutee agency. The realisation of these affordances allows some emerging contradictions to be resolved, but perhaps not always in expansive ways.

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New directions in telecollaborative research and practice: selected papers from the second conference on telecollaboration in higher education
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