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► **To cite this version:**

Ciara R. Wigham. Multimodal resources for lexical explanations during webconferencing-supported foreign language teaching: a LEarning and TEaching Corpus investigation.. Corpus Linguistics 2015, Jul 2015, Lancaster, United Kingdom. 2015. <edutice-01148348>

**HAL Id: edutice-01148348**

**<https://edutice.archives-ouvertes.fr/edutice-01148348>**

Submitted on 4 May 2015

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# Multimodal resources for lexical explanations during webconferencing-supported foreign language teaching: a LEarning and TEaching Corpus investigation.

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## 1 Outline of the research question

Within the computer-assisted language learning (CALL) field, multimodal research endeavours to consider the simultaneous presence and interaction between verbal communication modes (audio, text chat) present in foreign language learning situations with co-verbal and non-verbal modes (gestures, gaze, posture, other kinesic aspects). This paper explores how trainee-teachers of French as a foreign language, during webconferencing-supported teaching, orchestrate different semiotic resources that are available to them for lexical explanations.

## 2 Study context and participants

The pedagogical context is a telecollaborative project where 12 trainee teachers of French as a foreign language met for online sessions in French with 18 undergraduate Business students from an Irish university. The participants met for seven 40-minute online sessions in autumn 2013 via the webconferencing platform *Visu* (Bétrancourt, *et al.*, 2011). Each online session was thematic and focused on Business French.

A research protocol was designed around this learning context. Data produced *during* the learning project itself was collected (webcam videos, text chat messages, audio recordings of collective feedback session with the trainee teachers, reflective reports), as well as data produced uniquely *for* the research project (observation notes, post-course questionnaires and interviews). Participation in the research study was voluntary - all 12 trainee teachers (ten females, two males) and 12 students (eight females, four males) gave permission to use their data.

## 3 Staged methodology of the LEarning and TEaching Corpus approach

The data collected have been structured into a

LEarning and TEaching Corpus (Wigham *et al.*, 2014). Reffay *et al.* define a LEarning and TEaching Corpus (LETEC) “as a structured entity containing all the elements resulting from an online learning situation, whose context is described by an educational scenario and a research protocol” (2012:15). It comprises a XML “manifest” that describes the corpus’ components: the learning design, the research protocol, the interaction data, all participants’ productions and licences relating to ethics and access rights (see Figure 1). The XML schema allows interactions from different tools and environments to be stored and described in a standardized way, facilitating data analysis.

In the CALL field, multimodal LETEC provide resources for second language development, teacher education research and also teacher training (Wigham & Chanier, 2014). LETEC differ from *learner corpora* in that they do not comprise uniquely data from test situations not focus uniquely on learners’ productions but the learning context and other course participants (tutors, native speakers...) (see Reffay *et al.*, 2008).

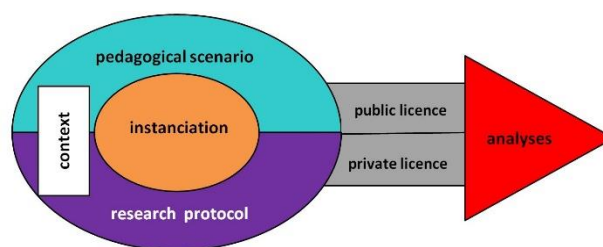


Figure 1: LETEC components

This paper will, firstly, detail the staged methodology for building a LETEC (see Figure 2), including the challenges for data collection when video recordings of the participants are concerned and how the different institutions ethical constraints were considered prior to the corpus creation and the dissemination of selected sub-sets of the corpus among the CALL research community (see also Blin *et al.*, 2014). The implications of these challenges and constraints on methodological choices will be reflected upon.

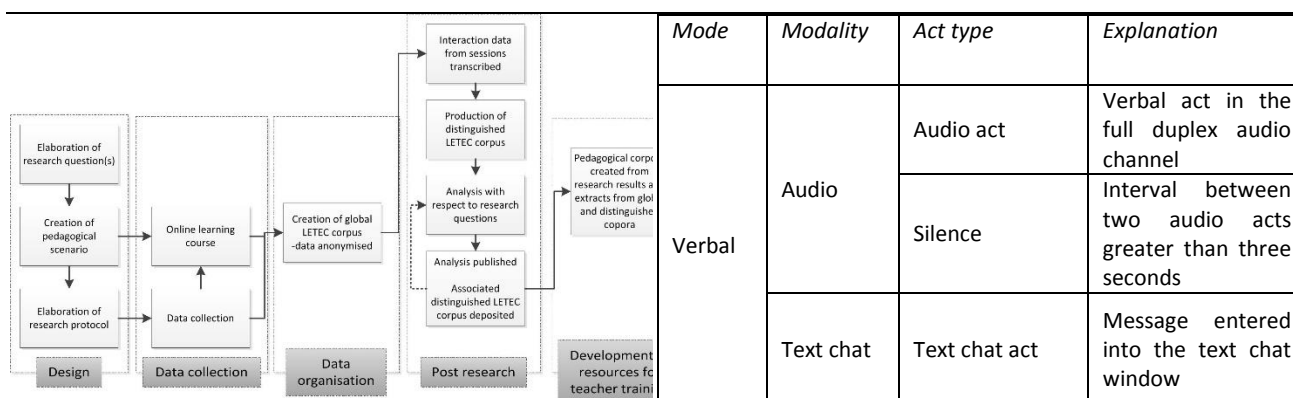


Figure 2: Staged methodology for building a LETEC

#### 4 Lexical explanations and multimodality

In the second part of the paper, the LETEC will be investigated to show how the trainee-teachers orchestrated different semiotic resources for lexical explanations. In face-to-face contexts, multimodality helps teachers explain the nuances of lexical items, reinforce verbal messages through illustration and reduce ambiguity (Kellerman, 1992; Lazaraton, 2004).

To study lexical explanations with regards to a webconferencing teaching context, a sub-set of the corpus will be used. It comprises primarily the webcam and *hors-champ* videos of three trainee teachers engaged in interactions (see Figure 3). Audio recordings of five trainee feedback sessions and extracts of trainee post-course interviews supplement the analysis.

The webcam interactions were transcribed (see Table 1) and annotated using the software ELAN (Sloetjes & Wittenburg 2008). Transcriptions of the feedback sessions were also completed. For the trainee post-course interviews, we proceeded by a global exploration phase of the audio recordings that allowed remarks and comments pertinent to our research question to be identified.

The paper will report quantitatively on the number of lexical explanations given in the webconferencing sessions examined and report on the different communication modes and modalities utilised. Then, in order to ‘zoom in’ on fine-grained detail, a qualitative analysis will examine several lexical explanation episodes to show how trainee teachers coordinated different communication modalities simultaneously to facilitate their lexical explanations.

Mode	Modality	Act type	Explanation
Verbal	Audio	Audio act	Verbal act in the full duplex audio channel
		Silence	Interval between two audio acts greater than three seconds
	Text chat	Text chat act	Message entered into the text chat window
Co-verbal	Kinesics	Communicative gestures	Gestures seen in the webcam recordings ( <i>iconic, metaphoric, deictic, beat, emblem, communicative action</i> )
	Kinesics	Mimics	Facial expressions seen in the webcam recordings and their functions (e.g. surprise, happiness, incomprehension)
Non-verbal	Kinesics	Extra-communicative gestures	For example, scratching forehead, pushing hair behind ear, ‘playing’ with pen.

Table 1: Multimodal transcription categories

An example of this fine-grained analysis is illustrated in Figure 3. The trainee-teacher combines audio and kinesics modalities to explain lexical item ‘volunteer’ (*bénévole*, in French): she combines the audio modality with a culturally specific emblem in the kinesics modality to illustrate ‘earning money’, then a self-deictic gesture to accompany the phrase ‘I’m a volunteer’ before using an abstract deictic gesture moving back and forth between the students’ and trainee teacher’s communication space to illustrate the difference in their situations. The corpus demonstrates how different multimodal resources are mobilized during lexical explanations. The trainee feedback session data and trainee interview data will complement the analysis by showing the importance that the trainee teachers attributed to the multimodal nature of the webconferencing environment.



Figure 3: Orchestration of multimodal resources during the lexical explanation of 'bénévole' with webcam and *hors-champ* views shown

## 5 Perspectives

To fully understand the contribution of multimodality to webconferencing-supported teaching, both the teacher's and learners' contributions to the interaction must be studied. This paper paves way for further analyses of the corpus that examine how the trainee teachers' lexical explanations were received by the learners. The interest of organising data into LETEC in which the pedagogical design and research protocol are described is seen here: the corpus can be examined by researchers not originally involved in the pedagogical project for cumulative analyses.

## Acknowledgements

This research was supported by the Ulysses programme funded jointly by the Irish Research Councils and the French Ministry of Foreign Affairs.

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