

Chapter 3

Constructing Knowledge–Based Feedback in the Context of an Interactive Spoken CALL Application

Nikos Tsourakis

University of Geneva, Switzerland

Claudia Baur

University of Geneva, Switzerland

Manny Rayner

University of Geneva, Switzerland

ABSTRACT

Modern Computer Assisted Language Learning (CALL) systems use speech recognition to give students the opportunity to build up their spoken language skills through interactive practice with a mechanical partner. Besides the obvious benefits that these systems can offer, e.g. flexible and inexpensive learning, user interaction in this context can often be problematic. In this article, the authors introduce a parallel layer of feedback in a CALL application, which can monitor interaction, report errors and provide advice and suggestions to students. This mechanism combines knowledge accumulated from four different inputs in order to decide on appropriate feedback, which can be customized and adapted in terms of phrasing, style and language. The authors report the results from experiments conducted at six lower secondary classrooms in German-speaking Switzerland with and without this mechanism. After analyzing approximately 13,000 spoken interactions it can be reasonably argued that their parallel feedback mechanism in L2 actually does help students during interaction and contributes as a motivation factor.

DOI: 10.4018/978-1-5225-9618-9.ch003

1. INTRODUCTION

There is a growing interest in Computer Assisted Language Learning (CALL) applications. A major problem for many beginner students is the difficulty of finding conversation partners; given their minimal skills, they feel diffident about asking native speakers to talk with them. Some researchers in the sociolinguistic tradition, e.g. (Kubota & Lin, 2009), describe this in terms of difficulty in establishing a valid L2 identity, an analysis which, as they argue, is particularly apt for immigrant learners. Without conversation practice, it is impossible to “automatize” (Luu, 2016), and convert the conscious declarative knowledge acquired from classroom or textbook work into unconscious procedural skills. Even a simple dialogue system may however tangibly help the beginner learner progress to a level where they are confident enough to engage native speakers in conversation.

As in typical classroom courses, CALL programs need to report upon each interaction; in particular provide useful feedback to students. In the realm of language learning the role of feedback is still very controversial; a double-edged sword according to (Kluger & DeNisi), as whether to correct, what to correct, how to correct, and when to correct. Methodologists suggest for example that teachers need to focus their attention on a few error types rather than try to address all the errors (Ellis, 2009). Corrective feedback has been studied extensively in typical educational settings and has been reported to provide minimal effects in the field of First Language Acquisition (FLA). Conversely, in the field of Second Language Acquisition (SLA) researchers appear to agree concerning the significance of its role in the process of SLA (El Tatawy, 2002).

Besides educational feedback, the interaction in the context of a CALL program involves a software system that imposes several technical challenges per se. Software installation, microphone configuration, learning how to use the interface, etc., are typical impediments. An important design rule of a graphical user interface is visibility, so that all possible actions can be made visible and, therefore, easily discoverable (Norman, 2010). In this way the system can often be learned through exploration. Visual user interfaces have also significantly benefited from the introduction of the Windows, Menus, Icons and Pointers (WIMP) widgets that offered a unified interaction scheme. A new visual interface can rely on the knowledge accumulated over many years, so that users do not need to learn new ways of doing things. For example, the ‘X’ in the upper right or left corner of a window is a global signifier for closing the current window. Unfortunately, we lack such signifiers in interfaces that combine visual interaction and speech. For example, it is not obvious what a user can say or do to abort an ongoing speech recognition action. As pointed out in (Tsourakis, 2014) multimodal interfaces that normally lack this type of functionality suffer.

Interaction can become even more problematic if the student is overwhelmed by the functionalities the system offers. A typical example is the increasingly common trend in CALL applications of incorporating gamification techniques in order to increase student motivation (Baur, 2013). The main point of these kinds of systems is to give the student an opportunity to accelerate their language development by accumulating more “flying hours” of active second language use. Computers are, unfortunately, less interesting conversational partners than live human beings; if the interaction becomes too much like a mechanical drill exercise, students will easily become bored and leave. Turning the system into some kind of game may redress the balance. Videogames are notoriously addictive, and there has recently been a great deal of interest in trying to exploit this fact to “gamify” software applications (Werbach & Hunter, 2012). Gamified applications are based on elements like scores, badges and leaderboards, but the rules that govern interaction may not always be transparent to end-users.

21 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/constructing-knowledge-based-feedback-in-the-context-of-an-interactive-spoken-call-application/233084

Related Content

Reflections of Professional Practice: Using Electronic Discourse Analysis Networks (EDANs) to Examine Embedded Business Emails

Julio Gimenez (2014). *Innovative Methods and Technologies for Electronic Discourse Analysis* (pp. 327-345).

www.irma-international.org/chapter/reflections-professional-practice/76997

A Better Medical Interpreting Service: Interpreter's Roles and Strategies Under Goffman's Participation Framework

Jifei Zhang and Fei Wang (2021). *International Journal of Translation, Interpretation, and Applied Linguistics* (pp. 1-14).

www.irma-international.org/article/a-better-medical-interpreting-service/266312

Culturally Attuned Assessment and Identification Practices in the 21st Century

Wendy Gonzales and Gerardo Moreno (2022). *Bilingual Special Education for the 21st Century: A New Interface* (pp. 51-80).

www.irma-international.org/chapter/culturally-attuned-assessment-and-identification-practices-in-the-21st-century/303774

Sidney Shapiro's Translatorial Agency: A Diachronic Perspective

Honghua Liu (2019). *International Journal of Translation, Interpretation, and Applied Linguistics* (pp. 1-11).

www.irma-international.org/article/sidney-shapiros-translatorial-agency/222827

Discursive Construction of News Values in the Headline: A Case Study of BBC News Reports on Zimbabwe Crisis

Pingyan Li, Mengxiao Chen and Jianxin Yang (2019). *International Journal of Translation, Interpretation, and Applied Linguistics* (pp. 1-14).

www.irma-international.org/article/discursive-construction-of-news-values-in-the-headline/222824