Help options in computer based listening activities: Learning scaffolds or barriers?

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Second language (L2) learners experiencing breakdowns in the comprehension of instructional aural materials when working with computers are enabled to overcome such difficulties by interacting with different forms of enhanced input (i.e. enriched, salient, and modified) provided through help options. Despite of the perceived advantages of using help options, Computer Assisted Language Learning (CALL) researchers caution their use, arguing that if not used properly, they can hinder learning instead of enhancing it (i.e. Hubbard, 2000; Pujolà, 2002). This paper describes the initial stages of an on-going study aimed to construct a principled framework for the understanding, development & evaluation of help options in computer-based listening materials by drawing information from previous studies and by inquiring into the L2 learners' perceptions on the effectiveness of help option use.

Keywords: Help options, input enhancements, computer-based listening.

Introduction

One of the greatest assets of CALL-based materials is seen in the supply of various forms of enhanced input accessible to L2 learners on demand. Such enhancements, operationalized through help options, can enrich original input, draw learners' attention to specific linguistic features, and modify input to ease the demands of language learning (Cardenas-Claros & Gruba, submitted). Help options are application resources that not only seem to assist learners in performing a task, but also support language learning. In general, learners experiencing breakdowns in understanding aural input in CALL environments have access to one or more of the following: 1) transcripts and 2) subtitles to read along while listening to aural texts; 3) cultural notes to understand where aural text is contextualized; 4) word definitions presented through glossaries or online dictionaries to look up unknown words; 5) audio control functions (reward/ forward/ pause) to replay complete or partial segments of the aural materials; 6) still/dynamic pictures and videos to have a visual representation of the materials; and 7) feedback to assess task completion and learning outcomes. With these alternatives, L2 learners struggling to comprehend the aural component of a language may use help options to further advance in the understanding of the input or just use them indiscriminately to get a task done without considering the drawbacks this may bring for successful language learning. It is precisely in the second instance in which adequate learner training and guidance on how to use help options effectively becomes imperative. This paper starts by providing an account of previously conducted studies along with problems encountered. Then, expected outcomes and gains of this on-going research are described. Finally, suggestions for further research are provided.

Previous studies

In the last decade, there has been an increase in the number of studies examining help options in CALL-based listening environments. The variety of themes examined include four main categories: 1) help options use vs. non-use (Jones & Plass, 2002); 2) frequency of help option use and performance (Hsu, 1994; Liou, 1997; Pujolà, 2000; Hegelheimer & Tower, 2004); 3) students' attitude towards help option use (Jones, 2003; Liou, 2000); and 4) help options and learner variables (Hoven, 2003; Cardenas-Claros, 2005; Jones, 2006). A thorough review of these studies indicates that:

- The learning objectives determine the types of help options to be included in an activity, the interface design, and the amount of control given to the learner (Jones, 2003);
- Learners frequently use help options ineffectively (Pujolà, 2002; Tower & Hegelheimer, 2004; Cardenas-Claros, 2005; Grgurovic & Hegelheimer, 2007) or ignore them (Grgurovic & Hegelheimer, 2007). However, when learners use help options, the understanding of aural text is increased (Hsu, 1994; Liou, 1997; Grgurovic & Hegelheimer, 2007) and rates of task completion and learning outcomes seem to be improved (Jones & Plass, 2002).

- Learner variables such as proficiency level and familiarity with help options influence the frequency of use (Hsu, 1994; Hoven, 2003)
- Learner training is needed to support learners in making informed choices on when and how to use the assistance provided through help options (Pujolà, 2002; Hoven, 2003; Tower & Hegelheimer, 2004).

During the keynote speech delivered at the 2005 CALICO annual conference, help option use was identified as an important pedagogical suggestion drawn from current research on CALL that is in need of further exploration. Chapelle (2005) charged CALL scholars, with the responsibility of "helping learners be aware of the value of online help and encourage their use" (p.11). However, if it is unclear whether help option use does foster language learning or why students are not using help options, how can L2 learners be convinced of the value of help options? Or perhaps, how can class instructors make informed choices to support students to employ help options effectively?

Aim and scope

This study attempts to create a principled framework for the understanding, development & evaluation of help options in computer-based listening materials. For the development of this framework we will draw on information obtained through two sources: an investigation of learners' use of help options and an evaluation of software design features. With this in mind, the research will be conducted in two stages. In the first stage, we will be able to establish a profile of help options use/non-use when these are available. In the second stage, we will be able to identify design features that promote effective use of help options. The findings in these stages will help us shape a proposal for learner training on help option use. Specifically, the study will examine:

1. The perceptions and behaviours of L2 learners regarding the use of help options in computer based listening exercises
2. The design features in CALL listening materials that promote effective use of help options.
3. Training procedures that prompt effective help option use

Who would benefit?

A number of people will benefit from the findings obtained at different stages of this study. On the one hand, CALL material designers will gain more solid understanding of how learning variables influence help options use. This identification will assist them to further advance in the design of different components of help options (i.e. interface design, amount of control given to learners, etc.). On the other hand, CALL researchers and practitioners will be able to identify meaningful tasks that promote help option use in a way that supports language learning. Furthermore, language instructors can use the proposed training to help L2 learners support their choices for using or neglecting help option use. Finally, learners will benefit by developing autonomy and by being able to make informed choices on when to look for and how to benefit from such assistance.

Methodology

Since we are interested in preserving the voices of the participants while at the same time generating a theory that informs CALL-based material designers, qualitative research techniques will be used to collect, analyse and interpret data.

Participants

Participants will be drawn to the study using "purposeful sampling" (Patton, 1990) to obtain variation of participants and to assure information-rich cases. For stage one, we will aim to include participants from a wide range of levels of proficiency in the target language. The participants will be 15 tertiary students enrolled in an EFL program at a major state university in Colombia. For the second stage, the participants will be 3 non-native speakers of English studying computer science at a research leading university in Australia and with some background knowledge in participatory design techniques.

Materials

After reviewing a pool of CALL based materials in which the listening component is highlighted, we determined that the English Longman Interactive program© fits our research objectives the best. This decision was influenced by the number of help options offered throughout the four proficiency levels the program offers. Thus, learners working with the listening component of the ELI© program have access to

transcripts, glossary, cultural notes, audio/video control features (Figure 1). Additionally, learner-computer interaction, judged by the potential of the program to provide enhanced input, was successfully addressed as reported by the evaluation conducted by Jamieson, Chapelle & Preiss (2004). The ELI© program, conceived and created by a group of researchers under the supervision of a world leading listening specialist (Michael Rost), has also received a great deal of attention by CALL experts (see Jamieson, et al, 2004 & 2005) and has been the subject of research reported in CALL journals.

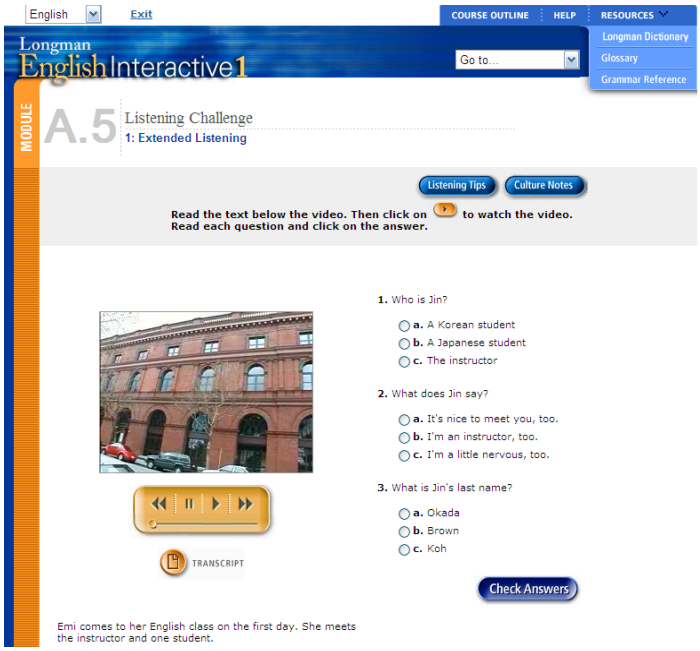

Figure 1: Help options in the listening section of the ELI ©program

Data collection and procedures

To identify reasons for learners using or not using help options, a demographic survey, a semi-structured interview, an in-depth interview and tracked logs of emerging patterns of behaviour exhibited by the participants when working with ELI will be collected. This data collection will take place in three one-hour sessions. The first session is intended to familiarize learners with the program. In the second session students will be asked to work with a listening exercise and take a semi-structured interview. The interview will prompt participants to reflect on their experience in working with the ELI © program. In-depth audio-taped interviews inquiring about particular aspects that may emerge as a result of the first interview and tracked logs will be conducted in the third session.

Data collection for the second stage will take place in a 90-minute-session. Each participant will be asked to familiarize with the software by completing a listening exercise and by exploring the help options provided in the ELI© program Semi-structured interviews will be conducted with each participant. During the interview participants will be asked to describe features of the ELI program that prompt/do not prompt help option use. Towards the end of the interview, participants will be asked to produce a sketch of what in their opinion would be the ideal way to encourage help option use.

Data analysis

For stages 1 and 2 the data will be transcribed and coded in order to identify emerging patterns of use and non-use. Specifically, to analyse the data three types of coding will be used. Through open coding we will be able to break down the data and begin the process of categorization. Axial coding will allow us to take initial categories and establish links and relationships between categories. From this type of coding, core categories will be identified and relationships with other categories will be established. Finally, selective coding will direct us to search for samples that will support and complement the core category.
For the second stage, alongside the identification of problems encountered in listening materials used in previous investigations of help options, the participants' responses and suggestions will provide us with some understanding of how design features can be improved to prompt effective help options use.

Trustworthiness features

In order to assure trustworthiness, we intend to compare the data collected through the screen capturing device and the participant responses to the first and second interviews. That is, we will triangulate the data obtained from different sources. Member checking will also be conducted by having participants read a draft of the emerging theory. In writing up the report, we will provide enough description to contextualize the study such that readers will be able to determine the extent to which their situation matches the research context, and hence, whether findings can be transferred to other contexts. We will also keep an audit trail where we will keep a detailed account of the methods, procedures, and decisions we are to make while carrying out the study.

What to expect?

An expected outcome of this study is the definition of the construct of 'help options' derived from previous studies on *help* from the perspectives of CALL, help system design, and interactive learning environments, and from second language acquisition theories. This definition will provide us with a solid framework to base our interpretations of effectiveness of help option use. By exploring what effective help option use is and by identifying what the learning needs of L2 learners are, we will be able to propose, design, and propose and design training. Another expected outcome is the creation of a software evaluation instrument that allows us to identify design characteristics that promote help option use in a way that is beneficial for language learning. It is expected that by drawing from various existing designs and by incorporating some of the techniques of participatory design (Farmer & Gruba, 2004) end-users or L2 learners will be able to suggest design alternatives to be incorporated in CALL listening materials.

Conclusion

We have argued that when using computers for language learning the opportunities for individualized instruction are increased and that help options can assist, if used properly, L2 learners in the comprehension of aural instructional materials. The potential significance of the study has been presented from the perspective of the software designer, the CALL researcher and the language teacher. The recurrent theme is that understanding why students do or do not make use of help functions helps to better serve, guide and address learner needs in CALL. The form training on help options use should take, at this point, still needs to be decided. Hubbard's (2004) five principles : 1) experience CALL yourself, 2) give learner's teacher training, 3) use a cyclic approach, 4) use collaborative debrief, and 5) teach general exploitation strategies) seem a good starting point, but still the learners' voices need to be heard.

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