A preliminary framework of help options in computer-based second language listening

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Thesis submitted in full satisfaction for the requirements for the degree of Doctor of Philosophy

June, 2011

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Abstract

One key benefit of well-designed materials in Computer Assisted Language Learning (CALL) is seen in various forms of enhanced input available to second language (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 processing. Thus, second language learners who experience breakdowns in the comprehension of aural materials can use help options to overcome such difficulties. Despite their potential benefits, however, learners tend to neglect or ignore help options.

This doctoral thesis sought to construct a preliminary framework for the conceptualization and design of help options in computer-based L2 listening. To achieve this goal, I used an instrumental case study approach and conducted four interrelated empirical baseline studies.

The first two studies, Study One and Study Two, examined reasons for help option use/non-use with fifteen adult learners of English from Colombia representing four language proficiencies: beginner, high-beginner, intermediate and high-intermediate. Participants were matched to one of the proficiency levels offered in the Longman English Interactive© program. They interacted with exercises from the listening component that provides access to help options in the form of audio control buttons, listening tips, glossed words, translations, transcripts, cultural notes, dictionary and feedback.

A series of semi-structured interviews (three in Study One and six in Study Two) were conducted and a stimulated recall was also conducted post-interaction. Data was translated and coding schemes established. Inter-translator and inter-coder reliability were calculated and coding refined. Data analysis was assisted with qualitative data analysis software. As participants behaved in different ways, data analysis was conducted across listening tasks, help options, and language proficiency. Findings in Study One and Study Two were coalesced in five themes: Relevance, Challenge, Familiarity, Recovery
and Compatibility. Factors were identified for each theme and were discussed along with data.

The two remaining studies, Study Three and Study Four, introduced participatory design practices to investigate design features of help options that promote their use in computer-based L2 listening environments. Accordingly, participatory design sessions (three for Study Three and five for Study Four) were set up. With the exception of the addition of a computer programmer for Study Four, the group of participants in each study was made up of four language learners, one HCI designer and one English language teacher. During the collaborative design sessions, participants evaluated three researcher-generated paper prototypes, designed paper prototypes for low and high intermediate proficiencies and iterated the design in paper (Study Three) and on the computer screen (Study Four).

Upon data translation and establishment of coding schemes, both inter-translator and inter-coder reliability were calculated. Data analysis was assisted by qualitative data analysis software (Nvivo 8.0). Findings are presented in two sections: ‘Design outcomes’ and ‘Interaction data’. Design outcomes across the two studies are discussed in light of five features of design: Type, Location, Sequence, Click-through and Display. The analysis of interaction data performed across studies and proficiencies yielded four themes or qualities of help options: Ease of use, Learner control, Guidance and Learning. Interaction between qualities of help options and features of design are discussed and integrated along with data.

Findings from the four empirical studies conducted as part of this investigation were contrasted with existing classifications of help options (Pujolà, 2002 and Hegelheimer, 2003) and the CoDe framework — a nascent framework for the conceptualization and design of help options — was proposed. To contribute to theory, four types of help options were introduced: operational, regulatory, compensatory and explanatory. To aid design four guidelines were suggested: 1) strive for simple and intuitive design, 2) provide different routes for interaction, 3) provide less, rather than more help options and 4) minimize potential distractions.
This investigation makes a clear contribution to further the understanding of help options in computer-based L2 listening in three key areas. First, it provides an account of reasons for use/non-use of help options for language learners from Colombian background. Second, it develops both an empirically-based and a theory-based framework for the conceptualization and design of help options in computer-based L2 listening — the “CoDe” framework. Third, it introduces participatory design practices to CALL. Each contribution is contextualized, discussed and presented with limitations and suggestions for further research.
Acknowledgments

This thesis would not have been possible without the support and inspiration of different individuals and institutions. First and foremost thanks to Dr. Paul A. Gruba for his unconditional support during this endeavor. His personal and professional advice helped me not only hone my critical thinking skills, but also spark my curiosity in unexplored areas of research. More than a supervisor he has been a true friend and I will surely miss our family-friendly meetings and his advice. Also, thanks to professors Tim McNamara and Cathie Elder for their helpful comments in this study.

Thanks to my colleagues and friends who have been so generous and have helped me throughout the different stages of this project. To my colleagues at Universidad Surcolombiana, especially to Gilma Zuniga, Edgar A. Insuasti and Lilian C. Zambrano for facilitating my data collection and for inviting me to share my research experience in the different talks facilitated for this purpose.

I would also like to express my gratitude to the people at the Interaction Design Group at the University of Melbourne. Especially to Peter Benda, Christine Satchell and Daryl Ku, for their continual support both during and after data collection and for taking the time to help me refine my ideas.

Thanks to my colleagues and friends Anne O’Bryan, Lisa Feim, Maja Grgurović, and Steven Sharp for taking the time to read individual chapters in this thesis and providing helpful feedback. To Sandrine Balbo and Michael Yeldham for their insightful comments in different papers generated by this thesis. Thanks to Cesar A. Salazar and Carlos A. Munoz for their impeccable work as translator and to Pia Charlotte for her editing skills.

I want to thank my friends at Uni, to my sista “Maureen” for her friendship and support and also for listening to my eternal soliloquies on how to present the data on Chapter Five. It has been a pleasure to laugh loudly with her to the point that other students either joined us or we had to leave for coffee. Thanks to my fellow PhD friends Therese Carr, Ha Do, Akiko Ryumon, Hyejeong Kim and Kazumi Namiki for their friendship and company. It has been pleasure to work on such a stimulating and caring
environment. I also want to thank my friends Patricia Jossiassen and Benecio for their continual support and friendship throughout the long months of writing.

I also want to thank my family for their unwavering love, support and patience. To mami-Silvia, papi-Paulo, Lele, Pablo and Mancho for their words of encouragement when the skies were not so blue. To Diego, my brother, for constantly pushing me to set up deadlines and be done with this “thing”. This surely encouraged me to work harder and deliver on time. To my in-laws from Chile for letting me take Esteban “away” from home for almost four years.

Also, Special thanks to my “hermoso” Esteban M. Gil for his love, patience, the continually helpful feedback and the unique insights he brought to our discussions from his discipline of electrical engineering. He really helped me become more systematic, disciplined and always look for connecting nodes and arcs in the data. He truly is my favorite “help option”. Last, but not least, thanks to Valentina, my “chuculita” for all the weekends, stories, games and laughs that I still owe her.
To Valentina, Alejandro, Sofia, and German Andres

a new generation of potential researchers in our family.
Declaration

This doctoral thesis contains only original work by the writer, except for the references that have been appropriately acknowledged. Sections of this thesis contain work that has been presented at conferences or appeared in earlier versions in the following publications:


The length of this thesis, exclusive of tables, bibliographies and appendices, is less than 80,000 words.

Mónica Stella Cárdenas-Claros
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<td>Audio/video control buttons</td>
<td>The control features in programs that reproduce audio or video files in a computer. Audio/video control buttons consist of rewind, forward, pause, play, stop buttons and progress bars.</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Online processing in real time of an aural stream.</td>
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<tr>
<td>Computer-Assisted Language Learning (CALL)</td>
<td>An area of applied linguistics research that studies the use of technology for language learning.</td>
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<tr>
<td>Computer-based listening</td>
<td>An area of CALL that studies the use of computers for second language listening comprehension.</td>
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<td>Camtasia 5.0</td>
<td>Screen-capturing software that records computer-learner interactions.</td>
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<tr>
<td>Cultural notes</td>
<td>Explanations of specific language situations that are unique to the target language and that are unfamiliar to people from a different cultural background. For instance gestures, expressions, body language and pragmatic clues.</td>
</tr>
<tr>
<td>Dictionary</td>
<td>An online monolingual dictionary where learners input their query by typing a word.</td>
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<tr>
<td>Corrective feedback</td>
<td>A message that follows the response entered by people in a learning situation. Feedback primarily provides learners with information about the correctness of their response.</td>
</tr>
<tr>
<td>Explanatory feedback</td>
<td>A message that appears when an answer is incorrect. It provides learners with additional information that leads them to arrive at the correct answer or that prompts them to interact with other features of the program.</td>
</tr>
<tr>
<td>Glossary</td>
<td>A list of hyperlinked words used in the aural input.</td>
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<tr>
<td>Help options</td>
<td>Embedded application resources that assist learners in performing computing operations and/or support language learning.</td>
</tr>
<tr>
<td>Human Computer Interaction (HCI)</td>
<td>The design, implementation and evaluation of the interaction between humans and computers.</td>
</tr>
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<td>---------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
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<tr>
<td>Input</td>
<td>Processable data presented to the learner either verbally or visually.</td>
</tr>
<tr>
<td>Interaction</td>
<td>The use of any help option such as translation, transcript, cultural notes, audio control buttons, listening tips, glossed words, dictionary, and corrective feedback used in order to assist learners’ comprehension of input.</td>
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<td>Interactionist perspective</td>
<td>A language learning perspective that defines three functions key for language learning: input, interaction, and comprehensible input.</td>
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<td>Listening tips</td>
<td>Suggestions on how to approach a listening exercise.</td>
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<td>NVivo 8.0</td>
<td>A software program used for qualitative data analysis.</td>
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<td>Paper prototypes</td>
<td>A simple schematic representation of an artifact made in paper using common stationery.</td>
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<tr>
<td>Participatory design (PD)</td>
<td>A design methodology in which users (language learners and teachers) are involved in early stages of design, implementation, and evaluation of an artifact.</td>
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<td>Principles</td>
<td>Research findings that are in line with research in other fields of knowledge or existing principles.</td>
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<td>Rapid prototyping</td>
<td>A design technique where design in paper is transferred to a computer screen without including functionality.</td>
</tr>
<tr>
<td>Transcripts</td>
<td>Verbatim written texts of aural input.</td>
</tr>
<tr>
<td>Translation options</td>
<td>A written text that conveys a message in another language familiar to the users, usually their first language. Translations are provided for instructions, cultural notes, and transcripts of the aural input.</td>
</tr>
<tr>
<td>User-Centered-Design (UCD)</td>
<td>A design methodology in HCI that considers the conception, design and evaluation of prototypes.</td>
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<tr>
<td>Video</td>
<td>The dynamic representations of visual and aural stimuli.</td>
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Variable speed playback An audio control button that L2 learners use to pace the speed of aural input delivery.
PART I

UNDERSTANDING HELP OPTIONS IN COMPUTER-BASED L2 LISTENING
Chapter One: 
Towards help options’ conceptualization and design

This thesis investigates the use/non-use of help options in computer-based listening instructional materials by second language (L2) learners. Help options have been available as an integral component of computer-based L2 listening materials for years and research has been conducted to investigate whether the interaction with help options influences the L2 listening comprehension processes (Grgurović, 2005; Hegelheimer & Tower, 2004; Hsu, 1994; Liou, 2000). However, the reasons that stimulate L2 learners to access or that prevent them from using help options remain little researched. In this chapter, I contextualize the study by identifying the aim, scope, and the gap it addresses. I also outline the organization of the thesis.

Context of the study

Nowadays, people using computers for language learning are, in general, presented with interactive learning environments that stimulate them to perform a number of tasks (i.e. see, listen to, drag, click, record their voices and/or take part in dialogues) believed to support L2 learning (Brett, 1995; Hoven, 1999; Rost, 2007) and promote learner–computer interaction (Chapelle, 2009). The basis of this study lies in two main areas: Computer Assisted Language Learning (CALL) and Human Computer Interaction (HCI). In the CALL context, historically defined as “the search for and study of applications on the computer in language teaching and learning” (Levy, 1997:1), the study is located within studies in computer-based L2 listening.

Given the lack of a definition in the CALL literature, I define computer-based L2 listening from the definitions of CALL (Levy, 1997) and multimedia listening (Brett, 1995) as the study of applications that expose L2 learners to aural texts capitalizing on the capabilities of the computer; that is, applications capable of providing repeated and slowed audio text delivery, transcribed texts, subtitled audio/video, captioned audio/video, translations, cultural notes, dictionaries, hints, glossed words, and feedback.
Chapter One: 
Towards help options’ conceptualization and design

(Robin, 2007). Therefore, for this study using computers to only deliver audio segments in a similar way to a cassette or CD player is not considered computer-based L2 listening.

Within studies of computer-based L2 listening, the focus of this investigation is on help options. Throughout the years, help options have been explored in CALL research under several different names: “help facilities” (Pujolà, 2002; Grgurović & Hegelheimer, 2007), “guidance support features” (Hegelheimer & Tower, 2004), “help aids” (Cárdenas-Claros, 2005; Grace, 2000), and “multimedia support resources” (Chun, 2001).

In this work the term “help options” is used to acknowledge the point that learners require a certain level of autonomy to decide if, when, and how they may wish to utilize assistance.

Help options are embedded application resources that assist learners in performing computing operations and/or support language learning. Thus, the focus of this investigation is on help options that provide L2 learners with access to: 1) transcripts, subtitles and captioned materials to read along while listening to aural texts; 2) cultural notes to understand where aural text is contextualized; 3) word definitions presented through glossaries, online dictionaries and/or annotations to look up unknown words; 4) audio control functions and bars (rewind/forward/pause/variable speed playback buttons) to replay complete or partial segments of the aural materials; 5) still/dynamic pictures and videos to have a visual representation of the materials; and 6) feedback to assess task completion and learning outcomes.

The second main area in which this study is developed is Human Computer Interaction (HCI). HCI is concerned with “the design, implementation and evaluation of interactive computing systems and with the study of major phenomena surrounding them” (Hewett, Baecker, Card, Carey & Gasen 1992: 6). Among the many theories in HCI, the study is situated in user-centered design (UCD), specifically in participatory design. Participatory Design is a set of theories, practices and studies that involve the end-user as a full participant in the design and/or evaluation of software, hardware and computer-based activities (Müller, 1992). Typically, design methods are uni-directional in nature; that is, the user is consulted at initial stages (requirement gathering), or at final stages of design (for evaluation purposes). In participatory design user involvement is paramount and essential throughout the different stages of design. I argue that this design approach
where collaborative dialogue is constructed between users (language learners and language instructors) and computer programmers can help CALL designers better understand the help option use and non-use phenomena.

**Statement of the problem**

Potentially, the use of help options by L2 learners has much to contribute to L2 development. Chapelle (1998) noted: “Only which is apperceived has the potential to be acquired” (p.22). In this sense, input enhancements operationalized as help options may immediately correct flawed understanding, draw attention to specific linguistic features, ease the demands of language processing and reduce frustrations in the use of technology. Rost (2007) suggests that when help options are part of multimedia environments opportunities for input processing are augmented because L2 learners have opportunities to interact with audio and video segments, transcripts, subtitles, cultural notes, glossaries, listening tips, and feedback. Other researchers, however, clarify that providing listeners with more help options does not necessarily lead to better learning outcomes (Hubbard, 2001; Garret, 2009; Rost, 2007). Specifically, it is effective interaction with help options that seems to promote language acquisition, as inferred from the interactionist account of language learning (Chapelle, 2005b). This theory pinpoints three factors as essential for language development: comprehensible input (Krashen, 1985), negotiation of meaning (Long, 1985, 1996; Pica, 1994) and pushed output (Gass, 1997). In computer-based language-learning environments, original input can easily be enhanced (simplified, modified or elaborated) to ease comprehension if learners suffer breakdowns in understanding. Thus, for instance, a learner struggling to comprehend aural materials can access the same input modified and presented in the form of textual information or transcripts. Negotiation of meaning or the use of the interactional modifications seems to be achieved as learners interact with help options, but as noted by Chapelle, Jamieson and Park (1996):

> If learners do not use the help options available to them in a CALL program, then the hypothesized benefits of the computer capabilities for interaction cannot in reality benefit them (p. 39).

Research on help options across language skills indicates that when L2 learners use help options, the understanding of texts is increased (Hsu, 1994; Liou, 1997; Grgurović &
Hegelheimer, 2007) and rates of task completion and learning outcomes seem to be improved (Jones & Plass, 2002; Jones, 2009).

However, despite these benefits, L2 learners frequently use help options ineffectively (Pujolà, 2002; Tower & Hegelheimer, 2004; Cárdenas-Claros, 2005; Grgurović & Hegelheimer, 2007; Rivens Mompean & Guichon, 2009) or neglect them (Grgurović & Hegelheimer, 2007; Cárdenas-Claros, 2005; Pujolà, 2002; Hegelheimer & Tower, 2004). In fact, during the keynote speech delivered by Chapelle at the Computer Assisted Language Consortium 2005 (CALICO) annual conference, help option use was identified as an important pedagogical suggestion drawn from research on CALL in need of further research:

A finding that appears frequently but is discussed seldom is that learners tend not to use help very much on their own. This finding is seldom presented in a prominent place in published studies, but if the interaction data is presented, it is frequently apparent (Chapelle, 2005c: 11).

In summary, help options provide enhanced input which is a key benefit of CALL materials, however learners tend to neglect or underuse them. This trend of non-usage is stronger in listening comprehension than in reading comprehension and vocabulary acquisition (Grgurović & Hegelheimer, 2007, Cárdenas-Claros, 2005, Pujolà, 2002; Hegelheimer & Tower, 2004). Chapelle (2005c) invited CALL scholars, researchers and practitioners to help learners be aware of the value of help options and encourage their use. However to encourage L2 learners to help themselves to help options in CALL, it is pertinent to first examine the reasons for usage or non-usage and learn what L2 learners deem relevant for comprehension purposes, a gap currently addressed in this study.

**Aim and scope of the investigation**

Studies on help options in CALL have used observations of learner use to make generalizations about the effectiveness of various help options, but the learners’ explanations for why certain options have been preferred or neglected have been largely untapped. I argue that reasons that lead L2 learners to use or not to use help options, could influence their existing conceptualizations and classifications (i.e. Pujolà, 2002; Hegelheimer, 2003) in CALL, particularly, in computer-based L2 listening. I also argue
that the guided and structured exploration of design features of help options can be used as an empirical foundation to establish guidelines of design of help options.

Accordingly, this study seeks to establish a preliminary framework for the conceptualization and design of help options in computer-based L2 listening. To achieve this aim, the help options use/non-use phenomenon is explored with 15 adult learners of English from Colombia from beginner to high-intermediate levels of language proficiency. Additionally, participatory design tenants that promote collaboration, software quality and repeated iteration are used to facilitate the structured work between users (language learners and language teachers) and software designers, predominantly from Colombia, in the design of help options for computer-based L2 listening environments.

**Overview of research design**

This investigation adopts an instrumental case study design to gain insights into help option use/non-use phenomena in computer-based L2 listening. As a baseline investigation with the aim to build theory rather than, for example, confirm the existence of identified factors or to validate concepts, the study focuses primarily on exploring the research questions. Accordingly, this qualitative investigation was conducted in four empirical baseline studies.

The two first studies, Study One and Study Two, sought to explore reasons for help option use and non-use in computer-based L2 listening. The participants, four adult ESL and 11 adult EFL learners from Colombia interacted with selected listening tasks in the Longman English Interactive© program over four weeks. Three (Study One) and six (Study Two) semi-structured interviews, along with a stimulated recall triggered through videos of recorded interaction, were conducted post-interaction. Data was analyzed following systematic procedures of enquiry for qualitative data analysis and was assisted by NVivo 8.0. Reasons that led language learners to either use or fail to use various help options were identified across help options, tasks, and language proficiencies.

The remaining studies, Study Three and Study Four, explored design features of help options in computer-based L2 listening. To achieve this, a series of participatory design sessions were conducted with two groups of participants predominantly from Colombia. Each group consisted of four learners of English, one language teacher and a HCI
designer. A computer programmer was invited to participate in Study Four. In the collaborative interaction-design sessions, participants evaluated three researcher-generated paper prototypes, designed two paper prototypes and iterated the design in paper (Study Three) and on the computer screen (Study Four). Design outcomes and collaborative interaction between participants were analyzed and qualities of help options were identified across studies using software (NVivo 8.0) to assist qualitative data analysis.

Analysis of the findings from the four exploratory studies — along with previous research studies on help options in computer-based L2 listening, in help system design environments and interactive learning environments — were used to propose the CoDe framework, a theoretical contribution for the conceptualization of and design of help options in computer-based L2 listening. The CoDe framework is made up of two components, as illustrated in Figure 1.

![Figure 1 Construction of the CoDe framework](image)

**Research contributions**

This investigation seeks to advance the study of help options in computer-based L2 listening environments through the following contributions:
Chapter One: Towards help options' conceptualization and design

- A complete account of help option use and non-use by fifteen adult learners of English from Colombia representing four proficiency levels (beginner, high-beginner, intermediate and high-intermediate). This account was constructed as learners interacted with listening tasks that matched their proficiency level from the Longman English Interactive© program.

- An empirically and theory-based preliminary framework for the conceptualization and design of help options in computer-based L2 listening. The components of the framework were constructed from findings of four empirical studies and are contrasted with principles in SLA and in web design environments. In SLA, theories that explain the importance of input and noticing (Long & Robinson, 1998; Gass, 1997; Schmidt, 1990, 1994) interaction (Pica, 1994; Long; 1996; Long & Pica, 2003, Long, 2007) and negotiation of meaning for language development were revisited and links between them were established. In web design environments principles of general design (Lynch & Horton, 2009) were matched to the guidelines suggested for design component of the CoDe framework.

- The introduction of participatory design practices in CALL, not only as a design practice, but as a methodological approach to encourage collaborative interaction between different stakeholders in CALL research and design. Although participatory design is mostly used in work environments and few studies have been introduced into educational contexts, no other study seems to have used participatory design approaches to the design of an application exclusively devoted to language learning. In this regard, it is pertinent to clarify that this thesis does not attempt to build upon the amalgam of existing theories in HCI. Instead, established techniques in PD are used to promote user involvement (L2 learners and language teachers) in CALL.

In summary, I believe that the aim of this thesis — the development of a framework for the conceptualization and design of help options supported by principles in SLA and design — represents a timely research contribution in CALL.
Chapter One: 
Towards help options’ conceptualization and design

Thesis overview

This thesis is comprised of three parts presented in seven chapters, several appendices, and a bibliography as illustrated in Figure 2.

![Thesis outline diagram]

**Part I: Understanding help options in computer-based L2 listening**

Part I: Understanding help options in computer-based L2 listening (Chapters 1, 2 and 3), outlines the nature of the investigation. Specifically, Chapter One: “Towards help options’ conceptualization and design”, establishes the motivation and rationale for undertaking this research. It also outlines the objectives and scope of the research. Chapter Two: “Theoretical foundations”, presents a critical review of different strands of literature that provide a solid background for interpreting the findings of this study. In particular, I examine and discuss studies investigating help options in computer-based L2 listening, and the help options usage/non-usage phenomena in interactive learning.
environments and in help systems design. I also review participatory design as a design approach and a research methodology.

Chapter Three: “Research design and instrumentation” describes the research design, my stance and role as a researcher and the paradigmatic position of the current study. I also provide a rich description of the materials used, emphasizing the types of tasks and the variety of pathways that support and/or constrain interaction with help options in the LEI© program.

**Part II: Empirical studies**

Part II: Empirical studies (Chapters 4 and 5), discusses the four empirical studies set up for this investigation. Chapter Four: “Help option use/non-use: learners’ interactions”, discusses the insights of four adult ESL learners and 11 adult EFL learners, captured in two independent studies (Study One and Study Two), regarding help option use and non-use after interacting with selected listening tasks from the Longman English Interactive© program. I describe the participants, data-gathering and analysis procedures. Next, I present findings in relation to five emerging themes: Relevance, Challenge, Familiarity, Recovery, and Compatibility.

Chapter Five: “Design considerations of help options in computer-based L2 listening”, discusses the design features of help options from the perspective of two groups of four language learners, a language teacher, a software designer and a HCI specialist who worked collaboratively in the conception and design of help options for a computer-based L2 listening environment. Along with a detailed profile of the participants for the two empirical studies conducted (Study Three and Study Four), and a thorough description of the data-gathering and data-analysis procedures, I present results in relation to five design features (Type, Location, Sequence, Click through and Display) and four qualities of design (Ease of use, Learner control, Guidance and Learning). In this chapter I also discuss the interaction between qualities of help options for each design feature.

**Part III: Theory and conclusions**

Part III: Theory and conclusions (Chapters 6 and 7) is the culmination of the thesis. Chapter Six: “The CoDe framework” unites the findings from the four empirical studies and introduces a preliminary framework for the conceptualization and design of help
options. The conceptualization component of the framework proposes a novel four-part classification of help options: operational, regulatory, compensatory and explanatory. The design component of the framework proposes four design guidelines that align with design principles of web environments.

Chapter Seven: “Conclusions and new directions in help options research”, concludes the thesis with a critical reflection on the key contributions and limitations of the investigation. It also presents the implications of the findings and new avenues for further research.

Summary of chapter one

Vandergrift (2007) suggests that studies on the use of help options in multimedia environments will be helpful in determining what language learners’ view as useful for comprehension purposes. However, if students do not make use of these facilities, how can CALL researchers possibly gain such understanding? In this chapter, I presented the gap, aim and scope of this investigation. The recurrent theme is that exploring the reasons why help options tend to be neglected and how design features influence help option use will serve as the basis for constructing a preliminary framework of help options in computer-based L2 listening environments.
Chapter Two:
Theoretical foundations

In the previous chapter, I introduced the study by setting out the context, aim and scope and the organization of this investigation. The purpose of this chapter is to critically review three main strands of literature that inform this study: 1) computer-based L2 listening, 2) help options in CALL and 3) participatory design. The chapter begins with a discussion of L2 listening instruction and research emphasizing computer-based L2 listening. Following this discussion, I examine studies on help options in computer-based L2 listening, identifying the research methods used and problems encountered. The chapter concludes with an examination of how participatory design, an approach mostly associated to the design of work environments, has been introduced in educational contexts and its potential for the design of computer-based L2 learning environments.

Second language listening

Compared to other language skills, people can expect to listen “twice as much as we speak, four times more than what we read and five times more than we usually write” (Morley, 2001: 69). Although SLA researchers acknowledge listening as a key second language skill that plays a crucial role in the development of other language skills (Rost, 2002; Dunkel, 1991) and in second language acquisition processes (Gass, 1997), listening remains an under researched skill (Lynch, 2009; Rost, 2002; Vandergrift, 2007; Yeldham, 2009). In this section, I review important changes in listening instruction and research that shape the conception of listening adopted for this study.

Shifting paradigms in L2 listening

The view of listening comprehension has evolved in response to the perceived needs of learners identified by the language approach in vogue (Flowerdew & Miller, 2005). Accordingly, the perception of listening being a passive skill (Morley, 2001) has shifted to be considered an active skill (Rost, 2006; Lynch, 2009) in the last decades.

Previous to the Direct Approach, language learning approaches (i.e. Grammar translation approach) did not even deem listening relevant for language development. The
main assumption of the Direct Approach was that learners would pick up the language as they were immersed in rich aural context that exposed them to the target language. This view was somewhat discarded as other methods such as the reading method and audio-lingual approach appeared. During the Audio-lingual approach, language learners were expected to recognize and practice utterances that resembled the patterns they had been exposed to, so that they could create similar utterances (Rost, 2002). Since the main goal of the Audio-lingual approach was to have learners achieve native-like proficiency, the use of materials created by native speakers ensured language teachers, in a way, that learners were not exposed to ill-formed language. This conception of language learning and teaching gave way to the proliferation of audio-taped materials and language laboratories that learners could rely on for successful language learning (Flowerdew & Miller, 2005).

With the advent of communicative language teaching methodologies, researchers began to recognize the need for learners to actively attend to, comprehend, manipulate, and produce comprehensible output (Flowerdew & Miller, 2005). So, L2 learners were expected to communicate not only with their classmates, but also with other speakers of the target language. Listening for meaning became the main focus and finding input that addressed learners’ needs and interests became essential for the development of listening comprehension (Rost, 2002).

In the last decades new advances in technologies that include multimedia resources along with developments in communicative language teaching methodologies have prompted an evolution in the teaching of listening (Rost, 2006; Vandergrift, 2007; Field, 2008). As a result of this evolution, some researchers are advocating the teaching of listening from a strategy-based perspective arguing that it is impossible for teachers to predict the many aural contexts the learners would eventually have to cope with. Since language learners are encouraged to plan and be responsible for their own learning, researchers acknowledge also a change in their goals. Rost (2007) suggests that learners, nowadays, seek not only to understand the target language speaker, but also to have access to the innumerable aural materials available on the Internet and, most importantly, to become active users of Web 2.0 tools such as YouTube, blogs and podcasts.
Trends in second language listening research

Research in second language listening has increased as evidenced by the number of books (Lynch, 2009; Rost, 2002; Flowerdew & Miller, 2005), research articles (Vandergrift, 2007; Field, 2008; Vanderplank, 2009), edited volumes (Usó-Juan & Martínez-Flor, 2006), PhD thesis (Cross, 2009; Yeldham, 2009) and complete volumes in scholarly journals published in the last few years. However, “few theoretical models have emerged for L2 listening” (Vandergrift, 2007: 205).

Field’s review (2008), although by no means comprehensive, emphasizes the different directions research on listening is taking. Similar to Vandergrift (2007), he suggests that research in perceptual processing, discourse and meaning construction, strategies use, and assessment are themes at the forefront of research in listening comprehension. In addition to the themes identified by Field (2008) Vandergrift (2007) affirms that researchers keep adding evidence to understand better the role of pragmatics in the development of listening ability along with bi-directional listening and affective dimensions of listening.

L2 listening researchers (i.e. Rost, 2007; Field, 2008; Vandergrift, 2007; Vanderplank, 2009) note the importance that multimedia listening has gained and how this has triggered new research agendas. The role of visuals in listening comprehension (Gruba, 1999; Guichon & McLornan, 2008; Wagner, 2007), the development of perception skills through the use of segments of digitized video or audio texts (Hulstin, 2003; Jensen & Vinther, 2004; O’Bryan & Hegelheimer, 2009) and the use of help options or teaching interventions (Grgurović & Hegelheimer; 2007; Wagner, 2007; Ramirez & Alonso, 2007; Rivens Mompean & Guichon, 2009; Jones, 2003 & 2009) are among others, some of the themes examined. This last trend is the focus of this investigation.

Computer-based L2 listening

Situated in CALL, studies of computer-based L2 listening seek to specifically examine how listeners interact with aural, video and multimedia productions that are designed to take advantage of the capabilities of digital technologies. In investigating students’ attitudes towards multimedia, Brett (1996) surveyed 107 EFL undergraduate students and found that 80% considered their listening ability had improved after being exposed to multimedia materials Brett found that learners showed a stronger preference towards
Chapter Two: Theoretical foundations

materials presented in multimedia format over materials presented in books, audiotapes and videotapes. Weinberg (2002) examined the advantages and difficulties of using multimedia in a listening comprehension course for learners of French. Weinberg reported that learners preferred interacting with multimedia-based materials because these afforded opportunities to interact with different presentation of input and hence learners were pushed to take control of their learning.

In a subsequent study, Brett (1997) examined learners’ performance when exposed to the same input delivered through different media: audiotape, videotape, and a CD-ROM. He reported that students scored better on four out of the six comprehension and recall tests that were delivered in multimedia format. According to Brett, results also suggest that students found input presented through the combination of multimedia features (video, audio and text) more beneficial for language learning.

Ramirez and Alonso (2007) examined the effects that digital stories had in listening comprehension with 220 children age 6 in an EFL context. The children were placed in one of the two treatments: access to stories presented in a digital format and access to stories presented in traditional ways. Ramirez and Alonso found that children who interacted with the digital stories outperformed students who did not have access to them in a comprehension measure given at the end of the academic year. In a study that investigated the integration of multimedia into a self-study curriculum and motivation, Brett (2000) found that although more than half of the participants reported having improved their listening skills, students’ attitudes towards multimedia materials were less positive at the end of the semester.

In summary, the above studies, in general, tend to show the superiority of multimedia listening over traditional means, and that novel effects that may have initially influenced gains in performance and motivation tend to decrease over time.

CALL researchers continue to turn away from comparative approaches to those that seek to examine specific roles of computer usage in second language acquisition (Levy & Stockwell, 2006). One foundation for their efforts rests in the interactionist hypothesis. In the interactionist hypothesis input is viewed as an important factor for interaction and central for language acquisition, but only if it is noticed or apperceived (Chapelle, 1998). Researchers agree that elaboration and modification of input are more beneficial than
simplification because elaboration and modification resemble the interactional adjustments used by native speakers in conversations with non-native speakers (Rost, 2002). In traditional listening studies, learners were exposed to modifications of input (thus, with the hope of increasing ‘noticing of key features of the language) through translations, pictures and scripts of the aural text prior to or after a listening episode. In studies that were situated in multimedia contexts, such modifications of input were operationalized as help options with the hope that learners could receive ‘just-in-time’ assistance as comprehension breakdowns took place (Grgurović & Hegelheimer, 2007).

One of the earliest studies that investigated modified input and how it affected listening comprehension was that of Hsu (1994). Participants in that study, she reported, made input comprehensible by using the tools for interactional modification (help options). Additionally, she reported that textual interactional modifications were effective for beginning ESL learners in listening. Hsu concluded that interaction with help options indeed promoted comprehension and to some extent contributed to language acquisition. Following Hsu, a number of studies have investigated the role of assistance in CALL.

**Help options in CALL**

Throughout history, the number and type of help options available in computer-based L2 listening environments have evolved in line with the advances in computer usability and capability (Lynch, 2009). At first, help options were mostly text-based and consisted of transcripts with annotations in the L1 language and definitions mostly resembling dictionary entries. Then, with the addition of static and interactive images, the design of help options moved from text-based to image enriched options. Thus, hyperlinked elements linked to static and interactive pictures, videos, captions and online dictionaries that offer pronunciation cues and images became key affordances of computer-based L2 listening environments (Robin, 2007). It is expected that current features of media players (play speed control and hotkeys for jumping back 2 to 10 second in a clip) be incorporated in help options in the near future.

Pujolà (2002) defined help facilities/options as “resources of the program which assist the learner in performing a task” (p. 241). For this work, help options are defined as embedded application resources that assist learners in performing computing operations
and/or support language learning. As noted on page 3, the term help options is preferred in this work to acknowledge that learner’s autonomy is essential in deciding, if, how and when to utilize such assistance. Additionally, Pujolà categorized them in two major groups: assistance and guidance facilities. While facilities of the assistance type provide learners with help for input comprehension, guidance facilities provide learners with help to act upon tasks. Pujolà further divided guidance facilities to distinguish between operational facilities and facilities that relate to language learner training (for a complete account see Pujolà, 2002).

In a related framework, Hegelheimer (2003) distinguished between operational guidance, which allows learners repair problems with the software, and task guidance that allows them to act upon language tasks. These frameworks although key for the understanding of help options present several flaws in need of attention: First, the terms “assistance facilities’ and ‘task guidance’ do not acknowledge the autonomy from the learner to decide when and if, to use assistance and this is a key characteristic of help options. Help options are to be used on demand. Second, the existing categorizations of help options implicitly suggest a given level of assistance beneficial for learning. However, research seems to indicate that help options do not only assist, but can also hinder language learning if not used properly (Hubbard, 2001; Pujolà, 2002). Third, current classifications do not acknowledge that various types of enhanced input can be and have been operationalized as help options, hence, all of them are grouped in a single category that ignores that different help options (translations, transcripts, cultural notes, for example) serve different functions.

Although current classifications of help options are widely acknowledged in the CALL literature (see Levy & Stockwell, 2006) these are mostly theoretically-based frameworks. I argue that frameworks that include listeners’ voice may provide a richer account of what they deem relevant for comprehension purposes.

Theories informing help options in CALL

Although the socio-linguistic account of language learning has also been explored to explain the interaction with help options (i.e., Hoven, 1999), two main theories have been used to inform help options in CALL. The multimedia learning theory and the interactionist account of language learning.
Chapter Two: Theoretical foundations

Multimedia learning theory

The multimedia learning theory contends that multimedia learning occurs ‘when people build mental representations from words (such as spoken text or printed text) and pictures such as (illustrations, photos, animations, or video)” (Mayer, 2005:2). This theory suggests that in multimedia learning learners engage in three key cognitive processes: selecting, organizing and integrating. Selecting refers to how incoming verbal information is represented in text base and visual information is presented in images. Organizing suggests that visual and verbal information are organized into verbal and visual mental representation and integrating is the resulting integration of verbal and visual representations with each other (Mayer, 2001, 2005). Plass and Jones (2005) identified three principles supported by research in CALL in particular, research examining the use of annotations for reading comprehension, listening comprehension, and vocabulary acquisition: the multimedia principle, the individual difference principle and the advanced organizer principle. The multimedia principle sustains that students acquire language better if input has been enhanced by text and pictures than if input is only enhanced by text. The individual preferences principle sustains that students acquire language better when they are provided with access to visual versus verbal annotation than when they do not have this choice. The advanced organizer principle states that learners acquire language better if presented with an advanced organizer prior to addressing the learning tasks.

Interactionist account

Psycholinguistic approaches to SLA view language learning as a cognitive and individual process that develops primarily within a learner’s head and then moves to the social dimension, if at all (Long, 1996; Pica, 1994). Three key elements shape psycholinguistic views of interaction in SLA: the quality and features of input (Krashen, 1985), the increased opportunities for comprehension as a result of negotiation of meaning (Long, 1996; Pica, 1994), and the opportunities for learners to notice the gap between their language production and the target forms or ‘pushed output’ afforded by feedback (Gass, 1997; Swain & Lapkin, 1995).
The interactionist theory in CALL has been used because of the affordances of the computer to provide just-in time enhanced input and explanatory feedback (Chapelle, 2009). While in face-to-face communication, comprehension is believed to increase as learners make use of interactional modifications (comprehension checks, confirmation checks and clarification requests) with their interlocutors (Long, 1996) these interactional modifications in CALL are afforded by the computer as learners make use of help options in the form of L1 translations, L2 support and multimodal annotations (Chapelle, 2003; Plass & Jones, 2005; Levy & Stockwell, 2006).

The use of help options seems to assist learners in drawing connections between form and meaning that potentially leads to language development. Thus, learners struggling to comprehend aural or written text seem to have higher opportunities to comprehend the language in the original input as a result of the interaction with help options. In a related manner, the use of explanatory feedback provided by the computer allows learners to bridge the gap between their language production and the target forms.

Table 1 summarizes the use of interactionist theory in help options research in CALL. The first column sets out the type of instructional strategy afforded by the computer, distinguishing between L1, L2 and multimodal support for reading and listening comprehension. The second column describes the focus of the research along with examples of research studies. The third and last column describe a psycholinguistics interactionist interpretation of the findings of the studies listed in the second column. Other work has used the interactionist account of language learning to inform the research design and the design of instructional materials. Hsu (1994), for instance, focused on the interaction between the learner and the computer to identify learners’ actual requests of modified input of the materials they listened to. In a related manner, Liou (1997), used the interactionist account because in her view the “design of the courseware reflected the interaction negotiation model proposed by Long” (p.87). In addition, she asserted that IVD (Interactive Video Disc) programs can create an atmosphere in which negotiated interaction can be achieved through learner-computer interaction. Grgurović & Hegelheimer (2007) went further in identifying a specific component relevant to the design of instructional materials in CALL:
“A key component of this [interactionist] theory – that only the input that is noticed or apperceived can become beneficial – provides guidance for the design of instructional materials, which should contain features that enhance input through modifications” (p.46)

Jamieson, Chapelle and Preiss (2004) used interaction as a criteria component of the principled evaluation they proposed for evaluating CALL materials. They applied the hypothesized benefits resulting from different types of interaction identified by Chapelle (2003) to evaluate different components of the English Longman Online© program.

**Table 1 Interactionist theory in help options research in CALL**

<table>
<thead>
<tr>
<th>Instructional strategy</th>
<th>Focus of research</th>
<th>Psycholinguistic interactionist interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offering help for comprehension of aural input through written L2 support</td>
<td>Video input with L2 subtitles (Borras &amp; Laffayette, 1994; Grgurović &amp; Hegelheimer, 2007)</td>
<td>L2 might provide modified input. Subtitles and transcript may provide modified input. Both types of help would provide modified input and key words should make particular forms salient.</td>
</tr>
<tr>
<td>Offering help for comprehension of aural input through L1 support</td>
<td>Help with lexical and sentence interpretation with sentence-level translations (Grace, 1998)</td>
<td>Sentence-level translations would provide modified input and prompt noticing.</td>
</tr>
<tr>
<td>Offering help for comprehension of aural input with multimodal support</td>
<td>Listening comprehension texts with verbal and visual annotations (Jones &amp; Plass, 2002)</td>
<td>Multiple forms of help might make input salient and provide modified input.</td>
</tr>
<tr>
<td></td>
<td>Help with comprehension of aural text with multimodal support (Hegelheimer &amp; Tower, 2004)</td>
<td>Access to audio control buttons might make input salient.</td>
</tr>
<tr>
<td></td>
<td>Audio input with AC buttons (Liou, 2000)</td>
<td>Access to audio control buttons might make input salient.</td>
</tr>
<tr>
<td>Offering help for comprehension of written input with multimodal support</td>
<td>Reading texts with help for vocabulary with multiple forms of annotations</td>
<td>Multiple forms of help might make input salient and provide modified input.</td>
</tr>
<tr>
<td></td>
<td>Reading texts with help for vocabulary with multiple types of glosses (Yanguas, 2009)</td>
<td>Multiple forms of glosses might provide modified input and prompt noticing.</td>
</tr>
<tr>
<td></td>
<td>Help with vocabulary in reading with multiple forms of annotations (Nagata, 1995; Jones &amp; Plass, 2002)</td>
<td>Multiple forms of help might make input salient and provide modified input.</td>
</tr>
<tr>
<td>Offering precise explanatory feedback on errors</td>
<td>Informative feedback on linguistic errors (Nagata, 1995)</td>
<td>Informative feedback would provide an opportunity to notice gaps and correct errors.</td>
</tr>
</tbody>
</table>

Note: adapted from Chapelle (2009).
Thus, learner-learner interaction within the program was judged by the quality of tasks that prompted negotiation of meaning and attention to form. Learner-computer interaction was judged by the potential of the program to provide enhanced input and for learners to obtain help in using the language. Finally, interaction within the person’s mind was judged by the potential of the program to activate the learner’s inner voice. The design of the ELO© program in general terms successfully addressed two types of interaction (learner-learner and learner-computer) but failed in addressing interaction within the person’s mind.

The above studies indicate that the interactionist account seems an appropriate framework to interpret instances of learner-computer interaction triggered by help options use. However, in order to examine such instances, it is necessary to establish clear parameters that allow researchers to identify them. One of the benefits of learner-computer interaction within the interactionist account was identified by Chapelle (2003) as that of obtaining enhanced input. But what is enhanced input and how does it relate to help options? These questions will be explored in the following section.

*Help options as forms of enhanced input*

Sharwood-Smith (1993) defined input as the “potentially processable language data which are made available by design or by chance, to the learner” (p. 167). Enhanced input then, refers to the adjustments such ‘data’ receive so that learners’ comprehensibility is increased.

Different types of enhanced input can be and have been operationalized through help options. The first column in Table 2 lists the types of enhanced input with their corresponding subcomponent as described in Chapelle (2003). The second column sets out the kind of help options used to implement enhanced input in CALL materials.
Table 2 Operationalizing help options

<table>
<thead>
<tr>
<th>Types of enhanced input</th>
<th>Help options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marked input</td>
<td>Visible links, glossed words.</td>
</tr>
<tr>
<td>Salience</td>
<td>Video/audio control features (replay, rewind/forward buttons), repeat button (aural and textual repetition), repeat button (aural repetition only), Aural annotations.</td>
</tr>
<tr>
<td>Repetition</td>
<td></td>
</tr>
<tr>
<td>Modification</td>
<td></td>
</tr>
<tr>
<td>Visual modification of</td>
<td>Still images, interactive images, video clips, transcripts, subtitles, close captioning, etc.</td>
</tr>
<tr>
<td>aural materials</td>
<td></td>
</tr>
<tr>
<td>Visual modification of</td>
<td>Still images, interactive images, video clips, visual annotations</td>
</tr>
<tr>
<td>text</td>
<td></td>
</tr>
<tr>
<td>L1. Translations</td>
<td>Textual annotations, bilingual dictionary</td>
</tr>
<tr>
<td>L2. Definitions</td>
<td>Textual annotations, monolingual dictionary</td>
</tr>
<tr>
<td>Elaboration</td>
<td></td>
</tr>
<tr>
<td>Enriched input</td>
<td></td>
</tr>
<tr>
<td>Help options</td>
<td></td>
</tr>
<tr>
<td>Cultural notes</td>
<td></td>
</tr>
<tr>
<td>Grammar explanations</td>
<td></td>
</tr>
<tr>
<td>Concordancers</td>
<td></td>
</tr>
</tbody>
</table>

Help options usually take the form of temporary input enhancements learners can access with a click of a button. Input enhancements are achieved through salience, modifications and elaborations/enrichment.

According to Chapelle (2003) input salience can be achieved through marked input (e.g., highlighting, changing font size, hyperlinking) and three forms of repetition:

- including multiple instances of the target form in the input,
- providing learners with access to control features that allow them to see or hear the input multiple times, and
- designing learning tasks that require learners to use the same linguistic form in different situations and modes.

Studies investigating salience through the effects of visible versus invisible hyperlinks in CALL (De Ridder, 2002; Nikolova, 2004) illustrate how materials can be manipulated in a way that students’ attention can be drawn to specific linguistic features. Repetition has been examined by giving learners access to (a) audio and video control features (Liou, 1997, 2000; Pujolà, 2002; Hegelheimer & Tower, 2004; Grgurović, 2005), (b) repetition buttons that include aural input plus text (Hsu, 1994; Hegelheimer & Tower, 2004), and (c) to different routes to access the same input (Heift, 2006). Aural repetition plus text (e.g., transcripts, subtitles) seem to have a greater effect in helping students...
understand learning materials than aural repetition alone (Hsu, 1994; Hegelheimer & Tower, 2004).

Modification of input refers to the “the provision of an accessible rendition of the L2 input” (Chapelle, 2003:45). Modifications can be operationalized by providing tasks with additional visual material, first language translations, and second language definitions. One of the recurring findings in help option research examining modification of input through visuals is that learners tend to remember information that is presented through a combination of visual and textual annotations more often than when learners are presented with verbal annotations only or no annotations at all (Chun & Plass, 1996; Jones, 2006; Yoshii & Flaitz, 2002). One of the main concerns when using visual modifications is the difficulty in representing polysemous expressions and abstract concepts through pictures (O’Bryan, 2005).

In research examining the use of translations as a form of modified input (Grace, 1998; Chun & Payne, 2004; Liou, 1997; Pujolà, 2002), three central themes emerged:

- Beginning learners tend to use translations more frequently than intermediate learners, and intermediate learners more frequently than advanced learners;
- The format used to present translations influences vocabulary acquisition and reading comprehension, and
- The combination of still images and translations results in better acquisition of incidental vocabulary.

As for the use of translations as a form of modified input, although access to definition-only glosses seem to help students retention of lexical items (Hegelheimer, 1998), Al-Seghayer (2001) reported that learners who looked up a combination of video clips and definitions tended to remember more unknown vocabulary than learners who looked up a combination of still images and definitions.

One concern of help option research that examines modification of input is how to provide a balance between the quantity and the quality of modifications to learners at different proficiency levels. Modifications that appear to be beneficial for some learners are unfavorable for others. For instance, lower level learners may find that different modifications of the same input confusing, but higher level learners may find such modifications beneficial for comprehension (Rost, 2007).
Chapelle (2003) suggests that elaboration may be achieved by adding grammatical phrases or clause to the text. Other ways to achieve elaboration of input is by providing cultural notes, additional grammar explanations, and access to concordancers.

At present, studies on help options appear to support Chapelle’s (2003) hypothesized benefit of learner-computer interaction (obtaining enhanced input) in line with interactionist frameworks. As further research is conducted, it is important to note that there is a need to identify how learners co-construct meaning when they interact with help options. Further, we need to investigate how learners receive assistance so that we can advance our understanding of optimal learning designs.

**Research on help options in computer-based L2 listening**

Help options in CALL have been researched in each language skill, but most studies have examined reading and vocabulary, with fewer instances in listening, grammar, and writing. Since the focus of this investigation is computer-based listening, I present studies in four categories: a) help options use vs. non-use, b) student’s attitude toward help option use, c) frequency of help option use and performance, and d) help options and learner variables.

*Help options use and non-use in computer-based L2 listening*

This category describes comparative studies where participants are assigned to one of two conditions, learning environments with access to help options and learning environments with no access to them (Table 3).
Table 3 Help option use and non-use

<table>
<thead>
<tr>
<th>Study</th>
<th>Issues</th>
<th>Help options</th>
<th>Data collection</th>
<th>No.</th>
<th>L2</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jones &amp; Plass, 2002</td>
<td>Effects of annotations in listening comprehension and vocabulary acquisition</td>
<td>Annotations: Written, visual and combination of system visual and written.</td>
<td>Tracking system</td>
<td>171</td>
<td>French</td>
<td>Students who looked up both written and pictorial annotations remembered word translations and recalled the text better than those students who looked up only one type of annotations or no annotations at all.</td>
</tr>
<tr>
<td>Hernández, 2004</td>
<td>Effects of video and captioned materials in listening comprehension and vocabulary acquisition</td>
<td>Video and captioned materials</td>
<td>Tracking system</td>
<td>115</td>
<td>ESL</td>
<td>Learners who had access to video and video and captioned materials outperformed learners who did not have access video in measures of listening comprehension. No differences in performance were found among the four groups in vocabulary acquisition.</td>
</tr>
<tr>
<td>Lin &amp; Chiu, 2009</td>
<td>Effects of an explicit vocabulary program in listening comprehension and vocabulary acquisition</td>
<td>L1 translations L2 definitions</td>
<td>Tracking systems</td>
<td>18</td>
<td>EFL</td>
<td>Students with access to the explicit vocabulary program outperformed student who did not have access to the program both in listening comprehension and in vocabulary acquisition.</td>
</tr>
</tbody>
</table>

Jones and Plass (2002) investigated the effects of pictorial and verbal annotations in vocabulary acquisition and listening comprehension. The participants, 171 English-speaking college students enrolled in a French course, were randomly assigned to one of four groups: no annotations, written annotations consisting of a L1 translation, pictorial annotations, and both, written and pictorial annotations. Students in each group could access these annotations by dragging the word and placing in the corresponding type of annotation. Thus, if a student dragged and dropped a word in the pictorial annotation a picture would be displayed. Written annotations consisted of individual vocabulary items translated into English. The researchers found that students who looked up both written and pictorial annotations remembered word translations and recalled the passage better than students who looked up only one of the types or no annotations. In delayed tests, pictorial annotations seemed to have a stronger effect in helping students remember the vocabulary items and the passage Jones and Plass suggest that their findings may extend Mayer’s (2001) Generative Theory of Multimedia Learning. For Mayer, learning is improved when a) students select visual or verbal information in a multimedia
environment; b) they separately organize the visual and verbal information into coherent representations; c) they integrate these two mental representations to establish referential connections that may then be integrated into a new mental model.

Hernández (2004) examined the effects of different types of input enhancements for listening comprehension and vocabulary acquisition. The participants, 115 ESL learners were assigned to one of the four groups: audio only, audio with captions, audio with video, and audio with video and captions. Although, no difference was found among the four groups for vocabulary acquisition, learners who had access to audio with video or audio with video and captions outperformed learners who did not have access to video in measures of listening comprehension.

Lin and Chiu (2009) investigated the effects of L1 translations and L2 definitions in listening comprehension and vocabulary acquisition. The participants 18 learners of English as a foreign language where randomly assigned to one of the two conditions: with access to the vocabulary program (11 learners) and with no access to the vocabulary program (7 learners). Lin and Chiu (2009) found that students with access to the explicit vocabulary program outperformed students with no access to the program both in measures of listening comprehension and in vocabulary acquisition.

Overall, these studies tend to agree that listening comprehension is positively affected when learners are provided with different types of help options than when learners do not have access to them.

**Students’ attitude toward help option use in computer-based L2 listening**

This category reviews studies that examined learner’s attitudes towards the provision of help options (Table 4). Liou (2000) investigated the perceived effectiveness of help option use as 20 ESL participants interacted with seven types of help options: English and Chinese script, pause and backward buttons, vocabulary, gist and background information. Liou (2000) found that learners preferred applications with more modes of input rather than those with fewer modes of input. Jones (2003) investigated students’ attitudes towards working with multimedia activities in which different types of annotations were available to students as they processed an aural passage. Jones assigned students into one of the four treatments: with no annotations, with visual annotations only, with written annotations only and with a combination of both of visual and written
annotations. Overall, Jones (2003) found that learners who selected both visual and verbal annotations tended to remember word translations and recalled the passage better than those learners who did not have access to annotations. In addition, students reported that having the ability to process aural materials aided by annotations was very helpful for the comprehension of aural texts and vocabulary acquisition.

Table 4 Student’s attitudes towards help option use

<table>
<thead>
<tr>
<th>Study</th>
<th>Issues</th>
<th>Help options</th>
<th>Data collection</th>
<th>No.</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liou, 2000</td>
<td>Perceived effectiveness of help option use</td>
<td>English &amp; Chinese script, gist, background information, vocabulary, pause and interviews backward buttons</td>
<td>Tracking systems &amp; oral interviews</td>
<td>20 ESL</td>
<td>Input with more modes was preferred by learners. Therefore, it was used more often. Access of input with larger units was preferred to input with smaller units. The backward button was more frequently used than pause/replay buttons</td>
</tr>
<tr>
<td>Jones, 2003</td>
<td>Students’ attitudes working with a multimedia environment</td>
<td>Annotations: Textual (translation) &amp; visual (pictures)</td>
<td>Tracking system &amp; interviews</td>
<td>20 French</td>
<td>The combination of visual and written annotations did assist learners in the comprehension of aural passages and in vocabulary retention. Learners found useful the interaction with annotations</td>
</tr>
</tbody>
</table>

Frequency of help options use and performance in listening comprehension.

This category reviews studies that examined the relationship between help option use and performance (Table 5). Hsu (1994) examined frequency of help option use and performance in listening comprehension as students interacted with a story delivered on the computer. The three help options examined, textual repetition (transcripts), aural repetition (replay buttons), and dictionary were requested by students when breakdowns in understanding occurred. Hsu (1994) found that the amount for request for transcripts positively related with performance in listening comprehension tests.

Liou (1997) examined “learner’s use of strategies when they interacted in IVD material designed to strengthen listening comprehension skills” (p. 24). The participants, 20 college students enrolled at a Taiwanese University produced think-aloud protocols as they interacted with eight on-line help facilities: English and Chinese script, gist, background information, idiom and word search function, video control functions (pause and rewind), and replay of oral input. Based on listening proficiency, direct students’
observation and instructor’s records, participants in this study were classified into two groups: the effective group and the ineffective group. Liou reported that participants in the ineffective group requested twice as much help than participants in the effective group. Participants in the ineffective group also used the replay of oral input help more frequently than the English and Chinese script. As for the effective group, it was found that participants in this group mostly used the English script, followed by the reply function and then by the Chinese script. In this study, the transcript (English and Chinese) was the help function most frequently used, but the frequency of help use did not correlate with performance on listening post-tests. One of the many values of this work is that Liou identified student’s strategies when using different types of help options, relevant for evaluation of multimedia materials.

Pujolà (2002) examined the frequency of use of help facilities, the patterns of use exhibited by the participants and the language learning strategies participants used as they accessed the help in the web-based multimedia program imPRESSions. The participants 22 beginner-level EFL learners, were screen captured as they interacted with seven help facilities (dictionary, cultural notes, transcripts, subtitles, video controls, ask-the-expert module and feedback). In addition, post-task interviews were recorded and direct observations performed. Participants were classified in any of the four groups of decoders- high, average, lower and poor- based on their language ability. Although Pujolà found that decoders in differing levels of proficiency behaved in various ways, the study concluded that there was no clear correlation between the use of help options and proficiency level.
Chapter Two: Theoretical foundations

Table 5 Frequency of use and performance in listening comprehension

<table>
<thead>
<tr>
<th>Study</th>
<th>Issues</th>
<th>Help options</th>
<th>Data collection</th>
<th>No. L2</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hsu, 1994</td>
<td>Interactional modifications that aid comprehension</td>
<td>Aural repetition, transcripts &amp; dictionary</td>
<td>Tracking systems &amp; oral interviews</td>
<td>ESL 15</td>
<td>Transcripts were more frequently accessed by learners followed by the aural repetition and the dictionary. Students perceived transcripts to be the most useful tool. Help requests positively correlate with aural comprehension</td>
</tr>
<tr>
<td>Liou, 1997</td>
<td>Help option use and performance</td>
<td>English &amp; Chinese script, gist, background info, idioms and word search function</td>
<td>Tracking systems &amp; oral interviews</td>
<td>ESL 20</td>
<td>Effective learners were less likely to seek help and mostly used the English script, the replay function &amp; the Chinese script</td>
</tr>
<tr>
<td>Pujolà, 2002</td>
<td>Frequency of use of help options, patterns of use and strategies used by participants</td>
<td>Cultural notes transcripts subtitles dictionary expert module video control feedback</td>
<td>Screen capturing device, direct observation &amp; interviews</td>
<td>EFL 22</td>
<td>No correlation between help options use and participant’s proficiency level was found. Learners behaved in varied idiosyncratic ways; difficult to draw global conclusions</td>
</tr>
<tr>
<td>Hegelheimer &amp; Tower, 2004</td>
<td>Frequency of help option use &amp; performance</td>
<td>Microphone button, headphone button, repeat button, ABC button &amp; Glossary</td>
<td>Records Manager feature embedded in the program</td>
<td>EFL 90</td>
<td>Help option use is better predictor of performance than time spent with the software; Textual gloss and repetitions of text and audio Were underused or ignored.</td>
</tr>
<tr>
<td>Grgurović &amp; Hegelheimer, 2007</td>
<td>Behavior &amp; performance of students using transcripts and subtitles</td>
<td>Subtitles &amp; Transcript</td>
<td>Screen capturing device &amp; interviews</td>
<td>ESL 18</td>
<td>Students in the higher proficiency group exhibited significant comprehension of the learning materials; more time interacting with subtitles than students in the lower proficiency groups.</td>
</tr>
</tbody>
</table>

In a controlled investigation, Hegelheimer and Tower (2004) used computer-based materials that constricted help options. In this study, learners had five options: a) microphone button, b) headphone button (plays recording made by the user), c) the Repeat button (sound only) d), the ABC button (sound and text) and, e) the Glossary (Table 5). The researchers found that help option use was a better predictor of performance than the time spent using the software. Moreover, Hegelheimer and Tower found that textual glosses and simultaneous repetition of text and audio were either infrequently used or completely ignored by half of the students. Hegelheimer and Tower
also noted that although low proficiency students tended to request dual input more frequently than high proficiency students, they appeared less likely to utilize it effectively.

A more recent study examined the behavior and performance of students when using a CALL multimedia listening activity that offered two types of textual help in the form of transcripts and subtitles (Grgurović & Hegelheimer, 2007). The results showed that participants varied in their use of help options, in terms of help, number of page openings, and number of instances of useful interaction. In addition, differences between the two proficiency groups were found in performance during and after the activity as higher proficiency students exhibited a much better comprehension of the learning materials.

Clearly, varied results on the relationship between helps option use and performance (positive relationship in Jones, 2002; Jones & Plass, 2002; and in Grgurović & Hegelheimer, 2007; no relationship in Liou, 1997, 2000; Pujolà, 2002; negative relationship in Hegelheimer & Tower, 2004) point to the need for further research in help option usage in listening environments.

Help options use and learner variables in computer-based L2 listening

A few learner variables have been examined in research investigating help options in listening comprehension (Table 6). Hoven (2003), for instance, compared learners’ help options use based on their proficiency level. Hoven observed variations between groups using the same piece of software in different years. Hoven found that student’s attitude towards the software changed as they became familiar with working with the computer. Hoven also found that high proficiency learners tended to use help options more frequently throughout the semester, whereas mid and low-proficiency learners tended to rely on assistance immediately before testing would take place.


<table>
<thead>
<tr>
<th>Study</th>
<th>Issues</th>
<th>Help options</th>
<th>Data collection</th>
<th>No.</th>
<th>L2</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoven, 2003</td>
<td>Comparing high and low proficiency learners on their use of help functions.</td>
<td>Grammar reference notes, replay facility, mid-task answer checking.</td>
<td>Informal focus groups</td>
<td>9 each in 3 cohorts</td>
<td>Indonesian</td>
<td>High proficiency learners tended to use help options regularly; Lower proficiency learners tended to increase help options use before tests</td>
</tr>
<tr>
<td>Cárdenas-Claros, 2005</td>
<td>Preferred help option of field dependent/independent learners and patterns of behavior</td>
<td>Dictionary &amp; Transcripts</td>
<td>Tracking system, oral interview, post-test results.</td>
<td>20</td>
<td>ESL</td>
<td>Field dependent learners used the transcripts more frequently. Field independent learners use the dictionary instead. No pattern of behavior could be exclusively associated to field dependent or independent learners</td>
</tr>
<tr>
<td>Jones, 2006</td>
<td>Effects of collaboration and use of pictorial and written annotations</td>
<td>Combination of visual and written annotations</td>
<td>Tracking system</td>
<td>68</td>
<td>French</td>
<td>Learners working collaboratively with access to combination of pictorial and written annotations were superior.</td>
</tr>
<tr>
<td>Rivens Mompean &amp; Guichon, 2009</td>
<td>Cognitive processes and strategies used when accessing audio control buttons and online dictionaries</td>
<td>Audio control buttons: rewind &amp; pause Online dictionaries: monolingual, bilingual and synonyms</td>
<td>Tracking system</td>
<td>16</td>
<td>EFL</td>
<td>Three types of strategies were used: Global viewing, split viewing and global and split viewing. The dictionary was rarely used and when used it was used inefficiently.</td>
</tr>
<tr>
<td>Jones, 2009</td>
<td>Effects of use of written and pictorial annotation between low/high spatial ability and low/high verbal ability learners in listening comprehension and vocabulary acquisition</td>
<td>Written annotations: translations and pictorial annotations: still images and combination of written and pictorial annotations</td>
<td>Tracking system</td>
<td>171</td>
<td>French</td>
<td>Little difference between high- and low-spatial-ability learners when interacting with pictorial or written annotations. High-verbality learners outperformed low-verbality learners on recall protocol and vocabulary tests when pictorial annotations were present. Regardless of spatial or verbal ability, learning gains where greater when learners accessed pictorial and written annotations.</td>
</tr>
</tbody>
</table>

Cárdenas-Claros (2005) examined help options from the perspective of the cognitive style of field dependence/independence (FD/I). FD/I was assessed by the Group
Embedded Figures Test (a perceptual test in which students are asked to locate and trace a simple figure embedded within a more complex one, see Witkin, Olman and Raskin, 1971), and by the FD/I-CALL cognitive style questionnaire (Cárdenas-Claros, 2005). In this study Cárdenas-Claros found that performance in web-based listening activities does not relate to FD and FI as measured by the GEFT or the FD/I CALL-based cognitive style questionnaire. Cárdenas-Claros found that performance in web-based listening activities did not correlate to measures of cognitive style. Field dependent learners, however, tended to use transcripts more frequently; field independent learners, on the other hand, generally used the dictionary.

Jones (2006) investigated students’ attitudes towards working with multimedia activities in which different types of annotations were available to students as they processed an aural passage. Jones (2006) found that learners who worked with the combination of visual and verbal annotations either alone or in pairs did better in translating words or recognizing words than learners who had no access to annotations. However, learners who had access to annotations and worked collaboratively had better results on the recall measures than students who also had access to annotations but who worked independently.

Rivens Mompean and Guichon (2009) investigated the use of cognitive processes and strategies used by 16 EFL learners in a French university when accessing audio control buttons: rewind and pause and online dictionaries. Rivens Mompean and Guichon (2009) found three main types of strategies used: global viewing, split-viewing, and global-and-split viewing. They also reported that the dictionaries were rarely used by participants.

More recently, Jones (2009) investigated the effects of annotations use by low/high spatial and low/high verbal ability learners in listening comprehension and vocabulary acquisition. The participants, 171 English-speaking college students enrolled in a French course, were randomly assigned to one of four groups: no annotations, written annotations consisting of a L1 translation, pictorial annotations consisting of a still picture, and a combination of both, written and pictorial annotations. Jones reported little difference between high-and-low-spatial-ability learners when interacting with pictorial or written annotations. Jones also noted that by accessing pictorial annotations, high-verbal-ability learners consistently outperformed low-verbal-ability learners on a recall
protocol and vocabulary tests. Jones (2009) also found that regardless of spatial or verbal ability, learning gains measured in vocabulary acquisition and text comprehension were greater when learners accessed pictorial and written annotations.

The few studies examining learner variables and help option use in computer-based L2 listening are unique in the sense that no other research studies seem to have examined similar variables. Consequently, the findings are limited and cannot be generalized to other learning contexts. Clearly more studies investigating if, and how learner variables affect help option use in CALL are needed.

Research methods in help option research in computer-based L2 listening

Researchers investigating help options have used a number of methods to examine learners’ actual use of such facilities. The methods more commonly used are tracking systems (i.e. Hegelheimer & Tower, 2004; Cárdenas-Claros, 2005; Jones & Plass, 2002) and screen capturing devices (i.e. Grgruovic, 2005; Pujolà, 2002) combined with interviews and observations.

Tracking systems

Tracking systems are software applications that keep numerical track of the steps learners follow as they perform learning tasks using computers. Reports can include, for example, data pertaining to page access, lapsed time and activity order. Using a tracking system, Liou (2000) found that learner’s actual behavior could be recorded over different sessions systematically and consistently. Cárdenas-Claros (2005) recorded detailed logs of student activities and was thus able to identify consistent patterns of behavior.

Tracking systems appear to be the ideal tools for collecting data as students interact with help options. However, two of the perceived disadvantages of these tools is that a) data does not include any explanation of student thoughts and processes (Liou, 2000) and b) the accuracy of the data may vary if the learning task and the tracking system are not altogether compatible (Cárdenas-Claros, 2005). Because of these shortcomings, researchers may fail to discover factors that influence learner behaviors. To overcome limitations, investigators suggest using tracking systems alongside other measures (i.e. interviews, questionnaires) to triangulate student data (i.e. Liou, 1997, 2000; Jones, 2003).
Screen capturing devices

Screen capturing devices or software applications that make visual recordings of student-computer interactions, have also been used to collect data in help options research. The perceived advantage of using screen capturing software is that researchers can view recordings over and over again which may provide detailed data that cannot normally be captured through regular observation (Pujolà, 2002). This benefit, however, may become a drawback because of the large amount of time required for data collection and processing. In addition, the size of the files may make it impossible for the researchers to easily manage data from a single source (Grgurović, 2005).

Tracking systems along with screen capturing devices seem reliable sources of data collection on help option research. However the type of numerical data revealed through logs of interaction does not lend itself easily to address research questions examining processes and factors influencing the learners’ behaviors (Grgurović, 2005; Pujolà, 2002). Therefore, it might be useful to complement data with interviews, observations and even using key segments of interaction to prompt participants’ reflection.

Problems in help options research in computer-based L2 listening

Not surprisingly, this review of help options highlights problems that commonly plague CALL research, including a limited number of participants, time constraints for students to interact with a task, and limited access to data. Other problems arise as a consequence of poorly designed software and lack of help options use. These factors are grouped into two categories: research design and materials design-related factors as illustrated in Table 7.
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Table 7 Common problems in help options research

<table>
<thead>
<tr>
<th>Factors</th>
<th>Problems encountered</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research related factors</td>
<td>Limited number of participants</td>
<td>Hsu, 1994; Liou, 1997; Chun, 2001; Chun &amp; Payne, 2004; Hoven, 2003; Pujolà, 2002; Grgurović &amp; Hegelheimer, 2007; Cárdenas-Claros, 2005; Rivens Mompean &amp; Guichon, 2009</td>
</tr>
<tr>
<td></td>
<td>Limited sources of data interpretation</td>
<td>Hegelheimer &amp; Tower, 2004; Hoven, 1999</td>
</tr>
<tr>
<td></td>
<td>Time constraints</td>
<td>Liou, 1997, 2000; Hsu, 1994; Grgurović &amp; Hegelheimer, 2007; Cárdenas-Claros, 2005</td>
</tr>
<tr>
<td>Materials designs related factors</td>
<td>Help options are difficult to find</td>
<td>Cárdenas-Claros, 2005; Liou, 1997; Hegelheimer &amp; Tower, 2004; Grgurović, 2005; Pujolà, 2002; Kaur &amp; Hegelheimer, 2005</td>
</tr>
<tr>
<td></td>
<td>Help options are neglected</td>
<td>Grgurović, 2005; Hegelheimer &amp; Tower, 2004; Cárdenas-Claros, 2005; Pujolà, 2002; Rivens Mompean &amp; Guichon, 2009</td>
</tr>
</tbody>
</table>

Research design related factors

Limited number of participants. As Pujolà (2002) points out, using a limited number of participants who behave in varied distinctive ways makes it difficult to draw conclusions. Grgurović and Hegelheimer (2007) and Rivens Mompean and Guichon, (2009) also note the limitations of data interpretation with small number of participants in mind.

Limited sources of data. Relying solely on the tracking logs in an investigation of help options, for example, may obscure the reasons behind a learner’s use or non-use. Jones (2003) completed one of the few studies that shed light on how annotations were used from the perspective of the students. In this study, Jones purposively selected 20 participants to partake in a post-seasonal interview. Participants acknowledged that having the option to process aural materials aided by annotations was very helpful for the comprehension of aural texts and acquisition of vocabulary. Grgurović (2005) inquired into students’ preference for annotations between transcripts and subtitles, and found that students preferred using subtitles because they found them less distracting and because of the participants’ familiarity with watching close-captioned movies at home transferred well to their work on classroom tasks.

Time constraints. Since most studies have taken place as part of regular classes, time limitations seem to affect research because data is elicited under very controlled situations. Kaur and Hegelheimer (2005) note that time constrains also affect student’s
interaction with help options since they are mostly worried about finishing the task during the given time rather than in making use the enhanced input.

*Material design related factors*

Help options are difficult to find or simply ignored. Cárdenas-Claros (2005) found that students resisted accessing glossed words because they had to first access related transcripts. Pujolà (2002) argued that even if learners accessed the dictionary, they did not check the definitions because by the time the dictionary was uploaded to the program, they seemed to have forgotten about it. Grgurović and Hegelheimer (2007) as well as Sun (2010) required students to use help options once incorrect answers were automatically detected. Students reported, however, they did not like the loss of autonomy and in a way found annoying having the program decide for them. Pujolà (2002) explained how the cultural notes presented as help options in the program imPRESSsions were ignored by one of the students, simply because the student did not know they actually existed.

Another aspect of materials design that researchers have pointed out (i.e. Cárdenas-Claros, 2005; Grgurović, 2005 Hegelheimer & Tower, 2004) is that flaws in the research design may contribute to the perception that materials design is to blame for low rates of help option use. In studies of online listening comprehension, dictionaries tend to be under-used or completely ignored more so than in reading comprehension or vocabulary acquisition tasks (i.e. Cárdenas-Claros, 2005; Hegelheimer & Tower, 2004; Rivens Mompean & Guichon, 2009). Although researchers have provided alternatives to learners, the paucity of help option use remains unchanged. For instance, Hegelheimer and Tower (2004) suggested that by leaving a dictionary link visible at all times students would be prompted to access it more frequently. Grgurović (2005) followed this suggestion, but students still did not access the dictionary at all.

This finding of non-use of help options has been pointed out by key CALL scholars throughout the years. Garret (1995: 348) for instance asserts that “there is ample evidence that many, perhaps even most learners routinely ignore the availability of help materials, even in tasks where we can clearly see that they need them”. A few years later, Chapelle noted that “a finding that appears frequently but is discussed seldom is that learners tend not to use help very much on their own. This finding is seldom presented in a prominent
place in published studies, but if the interaction data is presented, it is frequently apparent” (2005c:11). Nowadays, similar claims remain unchanged (i.e. Rivens Mompean and Guichon, 2009; Sun, 2010), but how has this phenomena of use/non-use of help options have been examined in other disciplines? In the next session I briefly discuss reasons for help option use/non-use in two related environments: help system design environments and in interactive learning environments.

**Help options use/ non-use in other disciplines**

Research conducted on help options in other disciplines can inform CALL. In particular, work in help system design environments and in interactive learning environments is productive. In help system design environment research, problem-based design has led to a focus on the user (Dworman, 2007; Murray & VanLehn, 2005; Willis, 2006; Ellison, 2007). As possible reasons for help option use/non-use, researchers have identified the user’s inability to locate resources of help (Dworman & Rosenbaum, 2004; Kelleher & Paucsh 2005); the user’s reluctance to momentarily abandon a task and look for assistance (Ellison, 2007; Dworman & Rosenbaum, 2004); the user’s fear of suffering dire consequences for abandoning a task, the user’s resistance to click on something called “help” and the user’s tendency to think that s/he can figure out a solution without a relying on any type of assistance (Dworman & Rosenbaum, 2004).

Researchers have also noted that the paucity of help options use in help systems design is not only a consequence of the user’s behaviors, but also of traditional design practices that do not tend to support the natural help seeking behaviors of human beings. As explained by previous tendencies to offer help as a separate component of the software (Duffy & Langstrom, 1985). To overcome this, designers agree that abundant instances of help should be embedded into applications (Willis, 2006; Hughes, 2007; Ellison, 2007). Sampsom (2007) notes how help in recent designs, “has found its way into the user’s interface through pop-ups, tool-tips, mouse-overs, and better labels and hints right were users need it” (p.22). With this type of design, assistance is offered at the right moment, without keeping users away from the task and increasing the chances for successful task completion. Additionally, as noted by Ellison (2007) users tend to see “assistance as part of the application rather than as help” (p.30).
In interactive learning environments, or computer-based instructional systems that expose learners to a learning task, help options or ‘learning support devices’ take the form of goals, lists, hints, explanations, prompts, cues, glossaries and linked environments (Aleven, Stahl, Schworm, Fischer & Wallace, 2003; Clarebout, Horz, & Elen, 2010; Clarebout & Elen, 2009, 2006; Horz, Winter & Fries, 2009; Manlove, Lazonder & de Jong, 2009).

Researchers have attempted to explain the lack of use of ‘learning support devices’ and agree that at present it is a complex theme with a strong research agenda for the future (Clarebout, et al 2009). They have also identified a variety of factors that impinge on help option use from which combinations of instructional goals (Aleven et al, 2003; Bartholomé, Stahl & Bromme, 2004), learners’ characteristics and goals (Aleven et al, 2003; Clarebout & Elen, 2006, 2009; Horz, Winter and Fries, 2009); type of learning support devices (Clarebout & Elen, 2009; Manlove, Lazonder & de Jong, 2009) and design factors (Aleven et al, 2003; Clarebout & Elen, 2006) are noted as key to explaining the non-use phenomena. Researchers tried to move the field ahead and upon identification of key causes for ineffective help seeking behavior, Aleven, McLaren, Roll, Koedinger & Lester (2004) created a Help-Seeking Tutor Agent. This model captured both productive and unproductive instances of help-seeking behavior of learners using the Geometry Cognitive Tutor. Upon testing of this model, they found that 72% of all student actions represented unproductive help-seeking behaviors. These actions included students’ overuse of hints to find answers rather than trying to understand, as well as students’ lack of use of help when it was likely to be of benefit. They concluded that the help-seeking model needed to be adjusted, but that its design was heading on the right direction. In addition, they also underscored “the importance of addressing help-seeking behavior by means of instruction” (p.238).

Findings from the above environments could be extrapolated to suggest similar approaches to clarify the help option use/ non-use phenomena in CALL. However, we argue that such reflections should not only arise from observed behaviors, but they need to explore verbal reflections coming from the language learners themselves.
The language learner as a designer in CALL

In a brief analysis of methods of software development, it was found that most methods are uni-directional, that is, designers analyze the requirements from the users, deliver a system to the users and collect data from the users (Müller, 2003). In CALL, a few studies have been conducted under the tenants of user-centered approach. Hemard & Cushion (2001) and Cushion & Hemard (2002), for instance discussed the processes and outcomes of the design and evaluation of an authoring suite. These studies are quite valuable to support the implementation of user centered-design approaches to current CALL design practices. However, they follow traditional design tenants in which users (learners and language teachers) are consulted at the beginning -for requirements gathering purposes- or at final stages of design -for evaluation purposes-. In a volume dedicated to interactions with software, Colpaert (2004) identified four possible roles of a learner: software user, language learner, communicator, and contributor to the design process. Farmer and Gruba (2006) proposed the use of participatory design for the development of CALL materials.

Participatory design

Software engineers typically use a range of techniques in the development of software that include, for example, requirements gathering, task specification and project management (Farmer, 2008). At times, as in participatory design, they involve the end-user as a full participant in the design and/or evaluation of software, hardware and computer-based activities (Müller, 1992). Three overarching principles guide participatory design: 1) improving software quality is a paramount concern; 2) design is process of collaboration with users; and 3) design processes are incremental and iterative (Blomberg & Henderson, 1990). Improving the software quality not only entails the creation and implementation of new technologies that facilitate work, but also requires a recognition that an optimization and reallocation of existing resources (i.e. re-arranging furniture and creating flexible hours) may be needed. A collaborative orientation of participatory designers ensures that end-users will be involved in key stages that include establishing objectives, designing initial prototypes, and integrating the product into work practices. Each stakeholder, it is understood, brings to the design table a unique
perspective that is essential to the construction of artifacts. Finally, iterative processes inform the design of new products that are used in real work situations, so that “users experience the new technology and designers experience the new work” (Blomberg & Henderson, 1990, p. 354).

For end-user involvement to be successful, participatory design practices need to be structured, facilitated, and interpreted in such ways that they point to directions of use for future designs and, most importantly, that can be easily translated into development (Bødker & Iversen, 2002; Müller, 2003). As opposed to methods of development that are uni-directional, participatory design emphasizes mutuality and reciprocity. Therefore, discussions concerning the product are to be viewed as belonging neither to the designer nor to the user. Instead, dialogues best take place in ways that constitute a ‘hybrid space’ or a ‘third space’ that allows for the construction of new relationships and understandings (Bødker & Iversen, 2002; Müller, 2003).

Methods to elicit data from users in participatory design rely on traditional tools like paper and pencil and ordinary office materials (e.g., labels, colored pencils, and sticky notes). Other methods include the use of photographs, collages, and low-tech prototypes (building blocks, foam, hook-and loop-attachments) that allow users to reshape existing technologies. Other methods use computer-generated scenarios and include prototypes that gradually add functionality to the artifact and that allows users to manipulate it before it is actually finished. Each of these methods seeks to elicit reflection and deeper understanding of the roles, processes, and decisions that users make when using a particular application. Additionally, each of the methods provides designers with clearer information on how such an application is operated in real work practices (Müller, 2003).

Although most research in the use of participatory design approaches has focused on its use in work environments, researchers have employed techniques to examine, for example, the role of new technologies in children’s story telling (Druin, 2002). Using participatory design techniques, Zaphiris and Zacharia (2001) developed an online community-supported Modern Greek language course in four stages: for building bridges between the designers and the anticipated users, for mapping users’ expressed and observed needs, for developing prototypes and for integrating feedback from the users and continued iteration. Zaphiris and Zacharia found that the user’s satisfaction and
commitment with the online community was increased as a result of using participatory design techniques.

Könings (2010) investigated the feasibility of participatory design in the construction of a secondary educational learning environment. The participants, 24 10th grade students and 12 10th grade teachers, were guided in their reflections about the development of the learning environment. The researchers found that both teachers and learners were positive about their roles in the design process, and saw that participatory design methods held promise for bridging the gap between the perceptions of teachers and the students.

Studies that we have reviewed emphasize end-user involvement as a means to predict successful engagement with software and, hopefully, improve learners’ satisfaction. Research on participatory design approaches in the construction of language learning environments, however, is limited. Nonetheless, we argue that basic tenets of participatory design that emphasize quality, collaboration and iterative processes can be transferred to multimedia learning environments. The goal in participatory design within such environments is to improve the quality of learning by ensuring that second language learning needs as perceived by the learners are addressed through the materials, tasks, and design. The collaborative orientation assures that not only learners’ perceptions are included in different stages of the design development, but also that designers gain understanding of SLA processes. The iteration process is accomplished as students’ feedback is incorporated through addition and corrections to the system providing in this way opportunities for learners to experience the new technology and for designers to understand the learning environment.

**Summary of key gaps in the literature**

Several gaps were identified in the literature review. These gaps are summarized and discussed in this session and form the basis of research questions.

**Why L2 learners tend not to use help options?**

Within the limited realm of studies investigating help options in CALL, some researchers pointed to the fact that learners tend not to use help options (Cárdenas-Claros, 2005; Chapelle, 2005c; Grgurović, 2005; Hegelheimer & Tower, 2004; O’Bryan, 2005; Rivens Mompean & Guichon, 2009). This trend is stronger in tasks targeted at
developing listening comprehension than in reading or vocabulary acquisition. One of the only studies that investigated how learners used annotations in listening, Jones (2003) found that the combination of visual and written annotations did assist learners in the comprehension of aural passages and in vocabulary retention, but this study did not inquire into the triggers to using such annotations.

Researchers have also reported that in studies of online listening comprehension, dictionaries tend to be under-used or completely ignored (i.e. Cárdenas-Claros, 2005; Hegelheimer & Tower, 2004; Rivens Mompean & Guichon, 2009). Although alternatives that address design have been provided to learners, the paucity of help option use remains unchanged. For instance, Hegelheimer and Tower (2004) suggested that a dictionary link visible at all times would prompt its use. Accordingly, Grgurović (2005) incorporated this suggestion in the design of an astronomy unit, but students still neglected the dictionary. Why? Unless we inquire into the learner’s experience insights and explanations are incomplete.

**How can learners be involved in design?**

Researchers have identified several design issues that may explain the paucity of help option use in computer-based listening. Amongst the most salient are: uploading time (Pujolà, 2002), design in layers (Cárdenas-Claros, 2005; Pujolà, 2002), location of help options in ‘hidden’ places (Pujolà, 2002) and pre-determined learning paths (Grgurović & Hegelheimer, 2007). Interestingly, these concerns do not only pertain to help options, but plague CALL design in general. The lack of a unified theory of design in CALL along with the increasing number of fit-for-purpose materials has made of CALL design a quilt where different practices are bound together. CALL researchers are incorporating established design practices from the field of Human Computer Interaction.

However, as noted by Müller (2003) most design methods of development are unidirectional in nature. That is, users’ requirements are gathered, designers design for the users, but the user is never taken into account throughout the design stages. Other design practices within the realm of user-centered-design involve the user, but only for evaluation purposes. Participatory design, instead, encourages the collaboration of users throughout the design process, not only in the evaluation. What remains unclear is how
participatory design can be incorporated in the creation of a computer-based L2 listening environment.

**How can help options be classified and conceptualized?**

In Pujolà (2002) help facilities are divided into two major groups: assistance and guidance. Facilities for assistance provide learners with help for comprehension of learning materials; guidance facilities provide learners with help to act upon tasks. In a related framing, Hegelheimer (2003) sees two functions: operational guidance that allows the learner to repair problems with the software; and task guidance, that allows learners to act upon language learning tasks.

Although these classifications have been essential for the understanding of help options, they are not sufficiently fine-grained to conduct close analysis of empirical listening data. That is, they do not acknowledge that various types of enhanced input can be, and have been, operationalized as help options. Accordingly, help options are then grouped in a single category (i.e. ‘assistance facilities’ or ‘task guidance’). In this sense, broad classification schemes obscure the point that differing options are specifically designed for differing functions. For instance, when a transcript resource is accessed, the original input undergoes an aural-to-visual modification with the intent to assist comprehension. Rather than modifying input, however, a cultural note resource may enrich original input by supplementing relevant information. In ways such as these, frameworks must be complex enough to acknowledge that different resources have different purposes that, of course, are then used by listeners who themselves differ in many ways.

**How can the use/non-use of help options in CALL be investigated?**

Most research on help options in CALL has been conducted under positivistic paradigms for research. Although key for gaining understanding on patterns of behavior and strategies (Cárdenas-Claros, 2005; Rivens Mompean and Guichon, 2009); establishing the relationship between help option use and performance (Grugurović & Hegelheimer, 2007; Hegelheimer & Tower, 2004); and for examining the relationship between proficiency level and help option use (Jones & Plass, 2002; Grgurović & Hegelheimer, 2007; Lin & Chiu, 2009) the insights gained do not provide a complete
account to explain the help option use/non-use phenomena. Therefore, the use of qualitative grounded approaches may help in the construction of a complete account of the learner’s experience.
Chapter Three: 
Research design and instrumentation

In the previous chapter, I discussed several strands of research in CALL, HCI and SLA that inform the current study. The main purpose of this chapter is to describe the research design and instrumentation used in this investigation. Accordingly, I begin the chapter by outlining the research questions, the research design and some methodological considerations. Then I provide a rich description of the materials, sites of the investigation and data collection procedures. Lastly, I briefly describe the procedures for data transcription, data translation and data analysis.

Research questions

The discussion of the background literature in Chapter Two highlighted several key gaps in previous research investigating help options in CALL. One gap seeks to understand help options in computer-based L2 listening based on the L2 learner’s experience to understand what they deem relevant for comprehension purposes in aural environments. A second gap seeks to examine design features of help options that stimulate their use. A third gap seeks to identify learning tasks that stimulate help option use. My work here focuses on the two first possibilities, the learner experience and design features, to investigate three primary research questions:

Research Question 1: What prompts participants to use help options in a computer-based L2 listening activity?

Research Question 2: What inhibits participants from using help options in a computer-based L2 listening activity?

Research Question 3: Which design features of help options promote their use?
Methodological issues

In this section, I describe the philosophical foundations underpinning this investigation along with the qualitative approaches.

Paradigmatic position of the study

The paradigmatic position in which a study resides is influenced by the researcher’s view of the world and this belief system is reflected in the chosen paradigm (Guba and Lincoln, 2005). Although in this study, I am the main instrument of data collection, data analysis, and theory generation, knowledge, in my view, is co-constructed and nurtured from previous and current experiences of the different people that intervene in a particular situation. Accordingly, the interpretation of findings of this investigation is the result of systematic reflection and cyclical analysis after continuous discussions with participants, classmates, fellow PhD candidates, and research supervisors. The interpretation of findings is also shaped by the feedback provided by other CALL scholars and HCI specialists that read my work or attended the local and international conferences were this work has been presented.

Being a Colombian L2 language learner and a CALL materials designer, my view in this endeavor is partially influenced by previous successes and failures. I am an insider, who on a number of occasions, experienced the frustrations of not being able to understand aural input in communicative situations as a result of living in four English speaking cities with quite distinctive pronunciation (North Carolina, Iowa, Washington DC and Melbourne). Through this experience, I have learned to resort to other clues to overcome such communication problems. In this sense, I can relate to L2 participants in my study. Also, as a novice material designer, with more experience and knowledge on how pedagogically principled language learning materials should be designed rather on the operationalization of such materials, I have pondered the reasons as to why learners do not use materials in the intended way. This stance, in my view, puts me in a solid and informed position to examine the reasons for help option usage and non-usage in computer-based L2 listening.
Role of the researcher

The role of the researcher lies somewhere on a continuum whose opposing ends is that of passive observer and active participant (Strauss and Corbin, 1998). My role in this study lies at mid-point given the previous experience I had as a researcher when pursuing an MA degree in CALL. For my MA thesis, I examined the relationship between textual help options (dictionary and transcripts) and the cognitive styles of field dependence/independence in computer-based L2 listening. As part of the task component materials I developed an online unit for L2 academic listening with access to various help options. Despite the time and effort invested in the principled design of help options for this unit, participants barely use them. Similar findings were reported by other researchers and this sparked my interest in the topic.

As the primary investigator, my role as a data collector in Study One and Study Two is tainted by my limited experience with interviewing techniques. This is reflected in the quality of the first interviews conducted. I also acknowledge that L2 learners are not observed in their natural learning setting, which in general consists of face-to-face interaction with other learners and instructors in a classroom setting. In fact, the learning activities resemble the type of activities they would normally accomplish as part of extra-curricular activities. Concerning Study Three and Study Four, I was a complete novice when it came to conducting participatory design sessions. In fact, I adopted the mindset of software designers who seek practicality as well as theoretical constructions.

Research design

Previous research on help options in CALL pointed to the need of theories to situate and analyze help options in a relevant framework of language learning (Chapelle, 2003; Doughty & Long, 2003; Heift, 2006). The limited body of research examining help options in computer-based listening poses an issue for the construction of such a framework and a thorough understanding of the help option phenomena from the perspective of users (language learners and teachers) and designers. My aim as a qualitative researcher is, therefore, to explore L2 learners’ reasons for help option usage or lack thereof. Also, after providing opportunities for collaborative dialogue between
language learners, language teachers and software designers, I seek to identify design features of help options.

The experience of the participants when interacting with help options is interpreted following an emic perspective. That is, by interpreting a specific behavior or belief in terms that are meaningful to them (Mackey and Gass, 2005). In a similar fashion, the collaborative dialogue resulting from the interaction between L2 learners, software designers and language instructors is interpreted from their own perspective.

The initial research design in this study dictated conducting two pilot studies with few participants to explore, both the use/non-use of help options phenomena and design features. Upon data analysis it was decided that the findings of these studies (Study One and Study Three) were quite valuable to give them the status of pilot studies. Therefore, it was decided to set up two new studies (Study Two and Study Four) that could be enriched and shaped by the first experience without having to discard the findings altogether. The reflections regarding the research design on the first experience were taken into account to improve data collection, analysis and participants selection. The coding schemes and resulting data analysis helped to substantiate/reject findings for the new studies.

Case studies

In this study, I adopt an instrumental case study design to gain insights into the help option use/non-use phenomena. A case study is an in-depth investigation that examines a single individual, group or case and it is generally descriptive, non-experimental, exploratory and inductive in nature (Guillham, 2000; Merriam, 1998; Yin, 2003).

I chose a case study design given the holistic insights it could provide into the multiple reasons for help option use/non-use (Merriam, 1998; Yin, 2009). I also selected multiple cases to ensure thorough understanding of the phenomena under investigation and to strength any claims stemming from the research (Miles and Hubberman, 1994; Yin, 2009). The number of cases was limited to fifteen in Study One and Study Two and to two in Study Three and Study Four to ensure sufficient time to explore each case in-depth (Patton, 2002).
As a baseline study with an aim to build theory, this study is informed by the three phase approach proposed by Strauss and Corbin (1988) for theory-generating studies: domain-modeling, concept development and theoretical development. Strauss and Corbin (1988) note that in the domain-modeling phase, the researcher gains understanding of the subject matter under investigation. In other words, the researcher identifies key issues and themes. In the concept development stage, in their view, the researcher establishes the influence between concepts and the domain knowledge to generate descriptive relationships between them. Lastly, Strauss and Corbin (1988) note that in the theoretical development stage the identified relationships between concepts and the domain knowledge are tested against other concepts and a theory is built to explain that phenomena.

Following Strauss and Corbin (1988), I set up four independent, but interrelated studies that shape a nascent theory (CoDe framework) generated from the findings of this investigation. Study One and Study Two aimed at examining reasons for use/non-use of help options in computer-based L2 listening. Study Three and Study Four sought to explore design features of help options that promote their use in the same environment. The findings from studies One and Two along with previous studies on help options in CALL, interactive learning environments and help system design were used to construct the conceptualization component of the CoDe framework. Also, participants from studies One and Two were asked to reflect on design issues that prompted the design of paper prototypes used in Study Three and Study Four. Findings from studies Three and Four nurtured the design component of the CoDe framework.

The decision of setting up four studies was mainly because, at the time of the investigation, there were not any systematic studies that had examined neither the help options use/non-use phenomena, nor design features of help options in CALL. Moreover, after several discussions with my research supervisors we agreed that data resulting from a single study was going to potentially limit the generation of concepts and the identification of relationship among them and the domain knowledge. In contrast, two studies pursuing the same goal seemed a more solid starting point to refine, test and validate the concepts and relationships arising from each independent study.
In this section I describe the different materials used for data collection, data analysis and theory generation.

**Task component materials**

Task component materials correspond to the specific learning tasks participants interacted with, completed and reflected upon. The number and type of task component materials varied across studies. In general, the materials used where the LEI© program (across studies) the English listening lounge (Study Four), Randall’s ESL cyber-listening lab (Study Four), and three researcher generated prototypes (Study Three and Four).

In order to decide on a single package for Study One and Study Two that reflected the working definition of help options adopted in this study (see discussion on page 17) three software packages were evaluated: the LEI© program, Rosetta Stone©, and TellMeMore©. Following Chapelle (2001), the software evaluation conducted is judgmental and qualitative in nature and was conducted between May and July 2007. The evaluation is the result of my interaction with each piece of software in three occasions, in three different languages and in two proficiency levels. Thus, I evaluated the first level of the Rosetta Stone© for learners of German, the second level of TellMeMore© for learners of Italian and the second level of the LEI© program for learners of English as a Second Language (Table 8).

**Table 8 Programs and levels evaluated**

<table>
<thead>
<tr>
<th>Software</th>
<th>Language</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosetta Stone ©</td>
<td>German</td>
<td>Level 1</td>
</tr>
<tr>
<td>TellMeMore©</td>
<td>Italian</td>
<td>Level 2</td>
</tr>
<tr>
<td>Longman English Interactive©</td>
<td>English</td>
<td>Level 2</td>
</tr>
</tbody>
</table>

For evaluation purposes I established a set of criteria informed by relevant literature and it is summarized in Table 9. The first and second columns in Table 9 list the criteria definition and supporting studies. The third, fourth and fifth column assesses each piece of software. After comparing the qualitative judgments, it was decided that the online version of the LEI© program fully addressed the research objectives of the study for
several reasons: The LEI© program is based on communicative approaches for language learning and favors a skills-integrated approach. The LEI© program also offers a number of help options that afford opportunities for learner-computer interaction through the provision of different types of enhanced input. Additionally, the LEI© program was conceived by a leading listening specialist-Michael Rost.

The LEI © program was used across the four empirical studies for various purposes. While in Study One and Study Two the LEI© program served to prompt participants’ reflections regarding help option use/non-use, in Study Three and Four the LEI© program was used to familiarize participants with the definition of help options in computer-based L2 listening.
### Table 9 Criteria for software selection and evaluation

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Studies</th>
<th>Longman English Interactive©</th>
<th>Rosetta stone©</th>
<th>Tell me more©</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courseware conception</td>
<td>Jamieson, Chapelle &amp; Preiss, 2005; Hubbard, 2006; Susser &amp; Robb, 2004; Ruiz, 2005; Iwabuchi &amp; Fotos, 2004, Reeder et al, 2004</td>
<td>*Based on communicative approaches to language learning *Skills-integrated approach</td>
<td>*Based on behaviorist approaches to language learning *Learners need to learn vocabulary, before they develop other skills</td>
<td>*Based on behaviorist approaches to language learning</td>
</tr>
<tr>
<td>Courseware based on Second Language Acquisition (SLA) principles</td>
<td>Susser &amp; Robb, 2004; Iwabuchi &amp; Fotos, 2004; Hubbard, 2006; Bastaens &amp; Martens, 2000</td>
<td>*Consistent design *Easy to find way around *Help options open in additional windows without learners having to abandon the task *Graphics and sounds clear and easy to access *Learners can follow different learning paths</td>
<td>*Consistent design *Easy to find way around *Graphics and sounds clear and easy to access *Highly-guided *Fixed learning paths</td>
<td>*Consistent design *Easy to find way around *Learners have to momentarily abandon a task to access help options *Graphics and sounds clear and easy to access *Too many choices for learners without much guidance</td>
</tr>
<tr>
<td>Courseware and multimedia Instructional design: Interface Navigation Text quality Graphics and sound Cognitive aspects of screen design</td>
<td>Hubbard, 2006; Reeder et al, 2004; Iwabuchi &amp; Fotos, 2004; Hubbard, 2006; Bastaens &amp; Martens, 2000</td>
<td>*No timing *User input limited in some sections (listening) *Feedback directs users to locate correct answers *Wide range of help options: glossary, transcripts, tips dictionary, cultural notes, video control features, grammar notes, translations.</td>
<td>*Timing *User input limited in most sections *Feedback limited to check marks and crosses to determine correctness *Limited help options: annotated words</td>
<td>*No timing *User input limited in most sections *Feedback limited to check marks and crosses to determine correctness *Limited help options: glossary, grammar and explanations</td>
</tr>
<tr>
<td>Operational description: Timing Control options/Interactivity User input Input judging Feedback Help options</td>
<td>Hubbard, 2006; Reeder et al, 2004; Iwabuchi &amp; Fotos, 2004; Hubbard, 2006; Bastaens &amp; Martens, 2000</td>
<td>*Available on-line and in CD-ROMS *Additional plug-ins easy to download *Clear navigation for website</td>
<td>*Available on-line and in CD-ROMS *Additional plug-ins easy to download *Website takes too long to open</td>
<td>*Available on-line and in CD-ROMS *Additional plug-ins easy to download *Lots of death links in the online version</td>
</tr>
<tr>
<td>Technical considerations system requirements, additional support</td>
<td>Hubbard, 2006; Reeder et al, 2004; Iwabuchi &amp; Fotos, 2004</td>
<td>*To be used as self-access and/or integrated to a syllabus</td>
<td>*To be used as self-access and/or integrated to a syllabus</td>
<td>*To be used as self-access and/or integrated to a syllabus</td>
</tr>
</tbody>
</table>
## Chapter Three: Research design and instrumentation

<table>
<thead>
<tr>
<th>Learner fit</th>
<th>Learner variables such as age, learning style and language background are addressed</th>
<th>Learner variables such as age and learning style are addressed</th>
<th>Learner variables such as age and learning style are addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential for language learning &amp; materials</td>
<td><em>Input enhancements include: salience, modification and enrichment</em></td>
<td><em>Input enhancements are limited to modification of input</em></td>
<td><em>Input enhancements are limited to modification and enrichment of input.</em></td>
</tr>
<tr>
<td><em>Varied opportunities for learner-computer interaction</em></td>
<td><em>Repetitive opportunities for learner-computer interaction</em></td>
<td><em>Language tasks mostly resemble classroom tasks</em></td>
<td><em>Language tasks resemble classroom tasks</em></td>
</tr>
<tr>
<td><em>Language tasks resemble real-life and classroom tasks</em></td>
<td><em>Language tasks resemble real-life and classroom tasks</em></td>
<td><em>Habit formation through repetition</em></td>
<td><em>Habit formation through repetition and interaction</em></td>
</tr>
</tbody>
</table>

### The Longman English Interactive© program

The Longman English Interactive© (LEI©) is “a four-level, video based, integrated skills program” (Longman, 2008) that can be accessed online anywhere and at anytime or in CD ROMS. Although the four levels contain similar characteristics, some differences exists in the conception for levels 1 & 2: beginner and high beginner and levels 3 & 4: intermediate and high intermediate.

#### Levels 1 & 2: Beginner and high beginner

These levels are organized into three five-unit modules that emphasize general English and prepare the learner to communicate successfully in everyday situations. Alongside the course overview and review sections for each module, these levels are made up of eight sections: Listening, Vocabulary, Speaking, Grammar, Listening challenge, Pronunciation, Reading and Writing (Table 10).

#### Levels 3 & 4: Intermediate and high intermediate

These levels are organized into three-four unit modules that are distributed in eight sections: Video listening, Vocabulary, Speaking, Grammar, Listening task,
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Pronunciation, Reading and Writing. Levels 3 & 4 revolve around the story line: a drama about a newspaper reporter and a soccer star that accepted a bribe. Other than differences in the Video listening and Task listening sections, the remaining sections in levels 3 & 4 follow the same structure used for levels 1 & 2.

Table 10 Structure of the Longman English Interactive© program

<table>
<thead>
<tr>
<th>Levels</th>
<th>Proficiency</th>
<th>Modules</th>
<th>Units</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Beginner and high beginner</td>
<td>Three (A, B &amp; C)</td>
<td>5</td>
<td>Listening&lt;br&gt;Vocabulary&lt;br&gt;Speaking&lt;br&gt;Grammar&lt;br&gt;Listening challenge&lt;br&gt;Pronunciation&lt;br&gt;Reading&lt;br&gt;Writing</td>
</tr>
<tr>
<td>3-4</td>
<td>Intermediate and high intermediate</td>
<td>Three (A, B &amp; C)</td>
<td>4</td>
<td>Video listening&lt;br&gt;Vocabulary&lt;br&gt;Speaking&lt;br&gt;Grammar&lt;br&gt;Task listening&lt;br&gt;Pronunciation&lt;br&gt;Reading&lt;br&gt;Writing</td>
</tr>
</tbody>
</table>

Listening sections in the LEI© program

Although it is acknowledged that the Pronunciation and Speaking sections in the four levels of the program also include listening tasks that require learners to use bottom-up processes to identify and reproduce model sounds, sentences and dialogues, this study focuses on the listening tasks that favor top-down processes. In top-down processes learners rely on context and prior knowledge (topic, genre, culture, etc.) to build a framework for comprehension (Vandergrift, 2007). Thus, the listening tasks selected for participants were part of the Listening and Listening challenge sections and Video listening and Task listening sections for levels 1 & 2 and 3 & 4 respectively.

The listening section of the software is presented into subsections and these are further presented through activities (Table 11). Levels 1 & 2 are made up of two sections: The Listening and Listening challenge sections. In the Listening section students work in the focus on comprehension activities watching a thirty-second video and completing
multiple choice questions. The *Listening challenge* section is further divided into *Extended listening activities* and *More listening activities*.

Level 3 and Level 4 are made up of two sections: the *Video listening* and the *Task listening*. The *video listening* follows the storyline of the drama and is divided into three activities: *Pre-listening*, *Listening for information* and *Listening for ideas*. The *Pre-listening* activity helps learners activate schemata and prepare them for the main exercise. In the *Listening for information* learners complete comprehension exercises.

In the *Listening for ideas* activities a new video is introduced and learners complete comprehension questions presented in multiple choice format. In the *Task Listening*, students complete charts, tables and forms after listening to ‘real world’ recordings (e.g. advertisements, instructions, and interviews).

*Help options in the listening section of the LEI© program*

Availability of help options depends on the level and activities as seen in Table 11. In Levels 1 & 2 students have access to audio/video control buttons, cultural notes, feedback, glossary, grammar reference, listening tips, Longman dictionary, translations and transcript. In Levels 3 & 4 learners have access to all the help options except for listening tips.

The audio/video control features are available at all times regardless of the level and the sections. Audio/video control features allow learners to stop, pause, rewind, reply and forward the text at any point during interaction with the aural text and completion of listening comprehension of exercises (Figure 3)

The culture notes are accessible in all the sections for levels 1 & 2 and in the listening for information section for levels 3 & 4, cultural notes contain, in general, explanations of gestures (i.e. rolling the eyes) and situations that can be interpreted differently by L2 learners.

The feedback is provided by the program through check marks and crosses. If an answer is marked as incorrect, an explanation logo, consisting of a red “E” appears next to the sentence. If the student clicks on it, a new window opens with directions to listen to the specific segment where the correct answer can be found.
The listening tips are only accessible in the extended listening activities for levels 1 & 2. The listening tips offer suggestions on the order questions should be read, texts played and questions answered. Listening tips open in a pop-up window.

![Figure 3 Help options in the LEI® program](image)

The transcripts are accessible in Focus on Comprehension and Extended listening for levels 1 & 2 and Listening for ideas in levels 3 & 4. Transcripts contain the scripted dialogues from the video. They open in a pop-up window and can be read as learners interact with the aural text.

The translations are available in all the levels of the program. Translations can be accessed for two types of texts: instructions and the text for learning. Translations for instructions are generally presented in front or in the same window where instructions appear. Translation for learning task can be accessed through the transcript and the
cultural notes. The video accessible in most activities for levels 1 & 2 and 3 & 4 includes dynamic visual elements that support the aural text and it is fully exploited in the comprehension exercises (Figure 4).

![Figure 4 Help options in the LEI© program](image)

A set of other resources listed as Longman dictionary, Glossary and Grammar reference are available for students regardless of the level. These resources are located on the homepage requiring from students to abandon the task to access them.

The Longman dictionary allows the student to look for any word, even if it is not used in the unit. Each definition consists of three types of entries: grammatical category of the word, context in which the word is used and sample sentences.

Glossary contains lexical items found in the module. Glossary can be accessed through the transcripts or through a separate module from the homepage.
Grammar reference lists different grammatical themes. Once learners click on the selected grammar point, they are instructed to further explore the topic by expanding the menu of options that narrow down the topic.

Table 11 Distribution of help options in the listening sections of LEI© program

<table>
<thead>
<tr>
<th>Level</th>
<th>Sections</th>
<th>Activities</th>
<th>Audio/video control</th>
<th>Pronunciation</th>
<th>Cultural notes</th>
<th>Feedback</th>
<th>Glossary</th>
<th>Listening tips</th>
<th>Longman dictionary</th>
<th>Translations</th>
<th>Transcript</th>
<th>Video</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Focus on comprehension</td>
<td>Watch video Complete multiple choice questions</td>
<td>✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Focus on language</td>
<td>Watch video Cloze dictation</td>
<td>✓  ✓  ✓  ✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 &amp; 2</td>
<td>Extended listening</td>
<td>Watch a video Complete multiple choice questions</td>
<td>✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Listening challenge</td>
<td>Listen to audio Do one of these: Multiple choice Matching exercise Drag and drop Filling forms</td>
<td>✓  ✓  ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More listening</td>
<td>Predict the topic through a multiple choice question ✓</td>
<td>✓  ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-listening</td>
<td>Watch a video Select answers from multiple choice questions</td>
<td>✓  ✓  ✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video</td>
<td>Listening for information</td>
<td>Watch a video Complete sentences using options from a drop-down menu</td>
<td>✓  ✓  ✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 &amp; 4</td>
<td>Listening for ideas</td>
<td>Listen to audio Do one of these: Drag and drop Matching exercise Filling forms</td>
<td>✓  ✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Task listening</td>
<td>Topics vary</td>
<td>✓  ✓  ✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As the investigation progressed, the participants in Study Three suggested including additional listening websites for evaluation in order to minimize the potential effects of influencing the design outcomes. Therefore two new websites were selected to help
familiarize the participants with the definition of help options for Study Four. The websites were selected given their free availability, the rich provision of help options and their marked differences in design. The selected websites were the English listening lounge and the Randall’s ESL cyber-listening lab.

**The English listening lounge**

The English listening lounge is a listening website that was used to familiarize the participants with help options in Study Four. This American-based testing company is currently run by Gary Buck, a world leading testing listening specialist. The English listening lounge is a free website that offers a variety of listening exercises that can be classified by domain, level, topic and passage. There are five help options in the English Listening Lounge: audio control bar, transcripts, feedback, and a set of additional information: passage context description, reader description and details. The audio control bar is located on the right side of the webpage. The audio control bar can be rewound, replayed and stopped at any time by the user (Figure 5).

![Figure 5 Help options in the English listening lounge](image)

Transcripts are presented in a text box below a static picture representing the speaker. Transcripts need to be activated by the user. The text box is small and this required from listeners to scroll down to read complete texts.
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The set of additional information of the passage consists of passage description, reader description and details. The passage description appears on top of the static picture and summarizes the content of the passage. The reader description appears on the right side below the audio control bar. In the reader description, demographic information such as sex, age and occupation is provided. The details box is located under the reader description. Here the listener finds information about the topic, length of the passage, accent of the reader, gender and speed. All these information options are presented in text boxes that are automatically activated as the listener enters/ chooses a listening passage.

![Figure 6 Feedback in the English Listening Lounge](image)

Questions, transcripts and feedback are activated on the same text box (Figure 6). Comprehension exercises are presented as open questions that learners are expected to answer on their head. The feedback does not mark listeners’ correctness, instead presents both questions and answers and the listener task is to compare his/her responses with the ones presented in the Q&A box.
Randall’s ESL Cyber-Listening Lab©

The Randall’s ESL cyber listening lab is a free website ran and maintained by Randall Davis. This website was also used in Study Four. As language learners access the Randall’s ESL cyber listening lab they are to select from a number of listening exercises. In general each listening exercise is aided by five help options: audio control bar, transcript, glossed words and a list of key vocabulary and idioms.

![Image](image.png)

**Figure 7 Randall’s ESL cyber-listening lab**

Each listening exercise is contextualized and provides the learner with information about the proficiency level targeted, the topic, type of text, the speakers and the length (Figure 7). Also, to activate schemata a series of questions are asked for students to reflect in the pre-listening activity. Idioms that are used in the aural text are listed on the left hand side and definitions and examples are provided.

Then learners can access directly the listening exercise. There are no audio control buttons provided, but a progress bar, volume settings and time display (Figure 8). The website offers three-item multiple choice comprehension questions after each listening exercise. Transcript can be accessed at any time, but they are strategically located after the comprehension questions as a hyperlink called “Quiz script’. Once learners click on
the transcript a new window opens and a control bar appears and a verbatim text is presented for students to read along as they listen to the texts.

Words in the transcript are hyperlinked to definitions presented in a list of key words option that appear at the end of the transcript. Information about the word type, a short definition and an example sentence is given in each word entry (Figure 9).

![Figure 8 Help options in the Randall’s ESL cyber-listening lab](image)
After listening and completing the comprehension exercises, learners submit their answers and feedback on their performance is given. Answer correctness is given in percentages and a list of correct answers is displayed immediately after submission.
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For post-listening activities, learners are presented with vocabulary exercises that require from them to order mixed-up sentences and match up sentences containing vocabulary presented in the aural input. Additionally, video snapshots related to the topic of the aural input are presented for learners to complement the unit. Each video has a different set of questions. Transcripts are provided, but no access to glossed words or key vocabulary lists is given.

Researcher-generated paper prototypes

Paper prototypes are normally designed as the size of standard paper-A4 (21.6 cm x 27.6 cm) in usability testing conducted with individual users (Rettig, 1994). However, as Studies Three and Four were conducted in collaborative parties, A3 paper (29.5 cm x 42.0 cm) prototypes were designed to ensure visibility to all the participants of the different artifacts (buttons, video screen, and pop-up windows) displayed in the interface.

In designing the paper prototypes I followed Müller’s (2003) suggestions and used overlays, sticky notes, pens and magazine cuttings. I also associated each help option with different colors to represent the interaction that takes place when this is accessed. For instance, I used ‘light yellow’ for the transcript button and the pop-up window associated with it.

I designed three researcher-generated paper prototypes to ensure variation in design and were used Study Three and Study Four. Using more than three prototypes required from longer evaluation sessions or less opportunities for participants to share their insights. The three prototypes (A, B & C) were constructed using relevant information from participants in Study One and Study Two, a qualitative analysis of the interfaces used in previous studies on help options in CALL (Appendix D3) and analysis of commercially available software. Each prototype addresses a particular proficiency level. Thus, prototype A addresses learners at low proficiencies, prototype B learners at advanced proficiency and prototype C learners at intermediate proficiency.

Prototype A

In prototype A, the input is presented through a video located on the left frame, followed by a set of questions. Five help options (translation, transcript, glossary, cultural
notes and listening tips) are grouped and presented in a toolbar on the top frame of the screen (Figure 11). The toolbar starts on top of the frame for questions.

![Figure 11 Prototype A](image)

Prototype A addresses beginners who tend to rely on their first language in order to better comprehend the aural text. Thus, the sequence of help options starts with a translation button. The translation option displays a drop-down menu with different languages for learners to customize depending on their linguistic and cultural background. The second help option is the transcript followed by the glossary. These two help options go together, because one is embedded in the other. The sequence of help options finishes with cultural notes and listening tips given the L2 learners’ assumption that they do not directly assist in the comprehension of listening materials (See discussion on page 104).

The video/audio control buttons are located under the video screen. Feedback is activated once the L2 learner submits his/her answers and is represented by check marks and crosses. A dictionary box appears in the lower right frame. Pop-up windows appear on the right-hand side of the interface.

The help options are presented through buttons that are accessible at all times and which are one-click-away from the user.
Prototype B

Similar to prototype A, the video is displayed on the left. Help options are grouped in a single button labeled “help options” located on the right-hand side of the interface and visible at all times (Figure 12).

![Image of Prototype B](image)

**Figure 12 Prototype B**

When clicking on this button the user is presented with a drop-down menu that displays six help options in the following order: cultural notes, listening tips, transcripts, translation, glossary and feedback. The sequence of help options selected for this prototype addresses intermediate and high intermediate learners who are expected to have developed strategies to overcome initial breakdowns in understanding and to use help options that do not only contribute to listening comprehension, but that broaden knowledge of the target language. In this prototype cultural notes and listening tips are presented as first and second options to encourage L2 learners to use them. Transcripts antecede translations and glossary for the same reason. Feedback is presented as the last option to persuade learners to access other help options prior to checking for correctness. Although intermediate learners expressed their inclination to use a dictionary if available, there is no dictionary option in this model. Users need to follow a two-step process in order to access any of the six help options listed above. First they click on the help option button, then on the help option of their choice.
**Prototype C**

![Figure 13 Prototype C](image)

In prototype C five help options are located along the top frame of the screen: transcript, glossary, translation, cultural notes and listening tips. Different from the alignment used in prototype A, the help option buttons cover the entire screen. Since prototype C addresses high-beginners, the transcript button is presented as the first help option (Figure 13). In this way, learners unable to understand the aural text can rely on written information prior to checking for understanding. Cultural notes and listening tips are offered as the last help options based on learners belief that these do not assist text comprehension. A more elaborated type of feedback is introduced in this prototype. The feedback appears next to an answer that has been marked as incorrect and learners are encouraged to listen to a specific segment where the answer could be deduced. This prototype does not offer a dictionary option. The pop-up windows open on the top-left frame of the screen and the video appears on the lower-left frame. Help options are one-click-away from the user and the help options label is not used at all.

Note that subtitles/captions, although a common form of assistance for L2 listening were not considered as an option in the design of the prototypes because learners in Study One and Study Two did not consider them relevant for the learning environment. Perhaps
the fact that the LEI© program only offered written text in the form of transcripts influenced their insights regarding design of help options. Moreover, except for Grgurović and Hegelheimer (2007), the review of the interfaces of previous studies on computer-based L2 listening did not offer subtitles/captions as an option. This might be partially explained by the amount of technical expertise required from CALL materials designers to synchronize both text and audio at the time of the investigation.

It is likely that if the facilities for captioning materials existing nowadays were available at the time of data collection, these would have been incorporated in the design.

The idea of including subtitles/captions was explored in the participatory design sessions, mainly in Study Four, but it was rapidly discarded because most participants opposed this idea. Language learners, for instance, considered that with subtitles/captioned materials the goal of understanding aural texts shifted from listening to reading. Software designers pointed to the potential technical issues not only with bandwidth, but with the prices of Internet service. Back in 2008, internet usage was charged based on the size of the downloaded material and this in the computers programmers view represented a big drawback for users. The HCI specialist and language teacher argued that having an on/off option for subtitles along with transcripts represented an invasion of options that learners might not be able to cope with.

Data collections materials

A series of questionnaires, interviews protocol, guiding questions for focus groups or participatory design sessions and stimulated recall protocols were designed and conducted to collect data across the four empirical studies.

Questionnaires and surveys

Surveys are one of the most common methods for collecting data in L2 research (Brown, 2003). In surveys, he notes, people react in written and oral form to a series of questions that in general inquire about attitudes and opinions. A main advantage of questionnaires is the systematic nature of data collection since all participants are asked the same questions.

I designed an entry survey to collect both demographic and background information from the participants (Appendix B1) across Studies One and Two. The entry survey is a
paper-based questionnaire made up of three sections: demographic information, language learning experience and computer use experience. Information about age, sex and program of studies was collected in the demographic information section. Participants’ experience learning English in terms of length of language exposure, emphasis of instruction was collected in the second section. The third section asked participants about their experience with technology for language learning.

Semi-structured interviews

Janesick (2000) defines interviews as a "meeting of two persons to exchange information and ideas through questions and responses, resulting in communication and joint construction of meaning about a particular topic” (p.30). The type of interview is basically determined by the control exercised by the researcher during the interviewing process and the format of the questions (Mackey & Gass, 2005). Thus, structured interviews tend to be the most rigid and controlled type of interview while unstructured interviews are the most spontaneous and free flowing. Semi-structured interviews lie at a mid-point and, although flexible, researchers in general ask guiding interview questions. In semi-structured interviews the interviewer needs to listen carefully to the participant’s response and follow his/her lead, to explore a topic more openly and in depth (Esterberg, 2002).

For Study One and Study Two a number of semi-structured interview protocols were constructed for learners after they interacted with selected listening tasks of the LEI© program. Thus, the amount of interviews conducted were determined by the number of times participants interacted with the listening tasks in the LEI© program. Accordingly, participants in Study One were interviewed in three different occasions and participants in Study Two in six occasions. These interviews were conducted in Spanish and were guided by interview schedules prepared in advance.

The first and second interview protocol consisted, in general, of open-ended questions that encouraged participants to think about their experience interacting with help options in the LEI© program. Specifically, it inquired about the participants’ overall experience with the program, how the exercise was approached, the approximate number of times they used help options, and the situations that triggered their use (Appendix B2). These
interviews were conducted in a flexible manner with the interviewer following up areas of interests as they arose.

The third interview or the stimulated recall protocol was unique for each participant. Each question was formulated using relevant information brought up by the participants during the first and second interview (Study One) and the four previous interviews (Study Four) together with key segments of interaction captured through Camtasia Studio 5.0.

**Focus groups**

Focus groups or participatory design sessions were conducted in Study Three and Study Four. Participatory design sessions were conducted as lively, working collaborative parties where each participant had a turn to share his/her insights. These sessions were conducted in Spanish to address potential communication problems arising from a lack of language competence in English.

**Research instruments**

I used several research instruments to assist with data collection, data analysis and presentation. These include: Sony digital audio recorder, Express scribe, MS Office suite, NVivo 8.0, Camtasia Studio 5.0, TZM microphone, a quad display unit and a six foot tripod screen. A brief description for each instrument and a rationale for its use are outlined in Table 12.
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Research design and instrumentation

Table 12 Research instruments

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sony audio recorder</td>
<td>Sony digital audio recorder with in-built microphone</td>
<td>Used to record interviews and as a back-up for participatory design interactions</td>
</tr>
<tr>
<td>Express scribe 5.0</td>
<td>Open source digital audio transcription software</td>
<td>Free professional audio player that supports different audio formats. It requires little training. Includes variable speed playback and supports different media</td>
</tr>
<tr>
<td>Microsoft office suite</td>
<td>Office suite</td>
<td>Used for diagram and document production both in analysis and reporting stages of the investigation</td>
</tr>
<tr>
<td>NVivo 8.0</td>
<td>Qualitative research analysis software</td>
<td>Used for analysis of qualitative data. It has key features such as code-and-retrieve and code-and-link-into-models facilities relationships</td>
</tr>
<tr>
<td>Sony video camera</td>
<td>Sony digital video camera with in-built microphone</td>
<td>Positioned on the ceiling of the IDEA lab, this camera captured students interactions as they collaborated in the participatory design sessions</td>
</tr>
<tr>
<td>PZM microphone</td>
<td>Pressure zone flat microphone</td>
<td>Used to capture high-quality audio of participants interactions and utterances</td>
</tr>
<tr>
<td>Quad display unit</td>
<td>Unit that displays images of four cameras simultaneously</td>
<td>Used to adjust the recordings from four different angles</td>
</tr>
<tr>
<td>Camtasia 5.0</td>
<td>Screen capturing device</td>
<td>An unobtrusive program that captures people-computer interactions in the form of videos</td>
</tr>
<tr>
<td>Six-foot tripod screen</td>
<td>Screen to display enlarged images</td>
<td>A screen used by an individual participant to show interaction with the proposed design</td>
</tr>
</tbody>
</table>

Summary of materials and instrumentation

Table 13 provides an overview of the instruments used in the research to prompt, collect and analyze data. Although studies Three and Four shared similar goals, the exploratory nature of these studies demanded a further refinement of data collection and subsequently of the task component materials.
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Research design and instrumentation

Table 13 Summary of materials and instrumentation

<table>
<thead>
<tr>
<th>Studies</th>
<th>Materials</th>
<th>Data collection materials</th>
<th>Research instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>One and Two</td>
<td>Listening component of the Longman English Interactive © program</td>
<td>Entry questionnaire</td>
<td>Sony audio recorder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Semi-structured interview protocols</td>
<td>Camtasia Studio 5.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stimulated recall protocols</td>
<td>Express Scribe</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Microsoft office suite</td>
</tr>
<tr>
<td>Three</td>
<td>Listening component of the Longman English Interactive©</td>
<td>Oral interview protocols</td>
<td>Sony digital video</td>
</tr>
<tr>
<td></td>
<td>Three researcher-generated paper prototypes (A, B, C)</td>
<td>Focus group protocols</td>
<td>recorder</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PZM microphone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quad display unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Express Scribe</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Microsoft office suite</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NVivo 8.0</td>
</tr>
<tr>
<td>Four</td>
<td>Listening component of the Longman English Interactive©</td>
<td>Oral interview protocols</td>
<td>Sony digital video</td>
</tr>
<tr>
<td></td>
<td>Randall’s ESL cyber listening lab ©</td>
<td>Focus group protocols</td>
<td>recorder</td>
</tr>
<tr>
<td></td>
<td>English listening lounge©</td>
<td></td>
<td>PZM microphone</td>
</tr>
<tr>
<td></td>
<td>Two researcher-generated prototypes (B &amp; C) and</td>
<td></td>
<td>Quad display unit</td>
</tr>
<tr>
<td></td>
<td>one paper prototype designed by participants in Study Three</td>
<td></td>
<td>Express Scribe</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Microsoft office suite</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NVivo 8.0</td>
</tr>
</tbody>
</table>

Sites of the investigation

The data was collected in four waves of data collection and in two different countries. The data sets for Study One and Study Three were collected first and took place in Melbourne, Australia. The data sets for Study Two and Study Four were collected later in Colombia and Australia respectively (Table 14). The decision of traveling to Colombia to recruit participants was mainly triggered by the lack of ESL learners from Colombia in Melbourne. The initial research design was conceived only with participants from Colombia, however, for Study Three we were forced to invite language learners form Chile and a language instructor from Argentina. In 2008, the number of Colombians immigrating to Melbourne enrolled in English classes was scarce and this meant lots of problems to ensure full participation and involvement of the participants for Study Two. Moreover, given the relatively large number of participants for a qualitative study (16) and the selection criteria established (see page 85) where participants from four
distinctive proficiency levels (beginner, high-beginner, intermediate and high-intermediate) were sought, traveling to Colombia was seen as the most practical option.

Site One: Melbourne, Australia

The language learners in Study One, Study Three and Study Four were enrolled in English Language Intensive Course for Overseas Students (ELICOS) courses offered by private language institutes in Melbourne. Melbourne is the second most populous city in Australia and the first in the state of Victoria with four million inhabitants. According to the International Education Statistics report (2008), about 25,000 international students enroll each year in ELICOS in the state of Victoria.

Most ELICOS courses follow a curriculum to which learners adhere to when they join a class. A new course never starts with a fixed number of students, instead learners come and go after achieving the goals set up for the previous level, drop the class, or just go back to their countries. Use of computers is highly encouraged in most of these classes.

Study One was conducted in the personal studio of the main researcher and Study Three and Study Four were conducted in the IDEA lab at The University of Melbourne. The IDEA lab is usability testing lab equipped with the latest audio and video recording technology to collect data without any disruptions.

Site Two: Neiva-Huila, Colombia.

Study Two took place in Neiva, the capital city of the Huila department. Neiva is a small city located in Southeastern Colombia with about 400 thousand inhabitants. Neiva is mostly an agricultural city with only one state university and a few private universities. The participants in Study Two were enrolled in English classes in the department of foreign languages at Universidad Surcolombiana. The foreign language department runs two main programs: the Interlingua program and the Modern Language Program.

The Interlingua program teaches English as a foreign language to approximately 900 students per semester in four proficiency levels. The students who attend these classes belong to different disciplines in the undergraduate programs offered throughout the university. The purpose of the Interlingua program is to equip students with necessary tools to read, write and communicate in English by emphasizing a skill-integration
approach from early levels. Access to a computer lab is encouraged, but not compulsory for all the students.

The Modern Language Program is a four-year undergraduate program that forms language teachers and researchers in the region. All the students learn English as part of their formation, but elective classes in French and Italian are also offered. From the fourth semester onwards, courses on pedagogy, literature and research are taught in English. Students are required to take the Michigan Test, a language proficiency measure, in the fourth and final semester of their program of studies. Scores from the Michigan test make up 40% and 60% of student final grade in semesters four and eight respectively. The use of multimedia is highly encouraged by some of the newly recruited staff, but not compulsory for students.

This site was chosen for Study Two for several practical reasons: I graduated from the university and I worked as a language instructor and a researcher before attending graduate school. I knew many of the teachers and administrative staff in the foreign language department and because of this close-relationship with the faculty, I was allowed to contact students from the different programs.

**Procedures**

In this section I describe the procedures for data management and analysis. Specifically, I describe procedures for transcription, translation and data analysis.

**Ethical issues**

Christians (2000) suggests that research studies need standard measures to establish ethical behavior. These measures include informed consent, confidentiality and privacy, minimizing risk of harm and acknowledging the role of the researcher. Accordingly, the Human Research Ethics Committee (HREC) at the University of Melbourne and at Universidad Surcolombiana granted permission to conduct this study. Participants from the four empirical studies were provided with printed plain language statements in both English and Spanish (Appendix A1 and A2). The statements were also explained verbally to them on an individual basis. As a requirement of both universities, the consent forms outlined to the participants the aims of the research, the procedures, as well as the potential benefits of the investigation. This form also ensured the anonymity of the
participants, stressed the voluntarily nature of their participation and defined the monetary compensation for their work. Students willing to participate signed the respective consent forms (Appendices A1 and A2) and kept a copy for their personal records.

**Data collection**

Given the design of the study where four empirical baseline studies were conducted, data was collected in four different rounds as illustrated in Table 14. Note that the name assigned to each study does not necessarily represent the chronological order in which data was collected. Thus, for instance, the data for Study Three was collected before data for Study Two. The specific procedures for the data collection are further described in chapters Four for Study One and Two and chapter Five for Study Three and Four.

**Table 14 Schedule of data collection**

<table>
<thead>
<tr>
<th>Rounds of Study data collection</th>
<th>Goal</th>
<th>Dates</th>
<th>Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1 Study One</td>
<td>Explore help options use/non-use phenomena from the perspective of L2 learners</td>
<td>June – July, 2008</td>
<td>Melbourne</td>
</tr>
<tr>
<td>Round 2 Study Three</td>
<td>Explore design features of help options using participatory design techniques.</td>
<td>June- July, 2008</td>
<td>Melbourne</td>
</tr>
<tr>
<td>Round 3 Study Two</td>
<td>Explore help options use/non-use phenomena from the perspective of L2 learners</td>
<td>November-December 2008</td>
<td>Colombia</td>
</tr>
<tr>
<td>Round 4 Study Four</td>
<td>Explore design features of help options using participatory design techniques</td>
<td>October, 2009</td>
<td>Melbourne</td>
</tr>
</tbody>
</table>

**Data management**

I spent three months to finish the transcription and translations of the data sets from Study One and Study Three. During the translation process, memos were written and reflections were noted in the audit trail, but no data analysis was conducted after the data for Study Two was collected. I had planned to have this analysis ready prior to collecting data for Study Two and Study Four but that would have implied postponing data collection in Colombia from October 2008 to May 2009 and this in practical terms did not favor the study. Given the type of thematic analysis employed in this investigation, it was determined that the transcription of materials for Study Two and Study Four,
although ideal, would mean adding a number of hours of work given the vast amount of information collected. To solve this issue, I translated four complete data sets from Study Two directly from the aural interviews and the complete data sets from Study Four (see detailed description on page 98).

**Translation procedures**

In addition to the potential semantic loss and/or the difficulties moving from one linguistic code to capture the cultural linguistic meanings embedded in a linguistic expression, Temple and Young (2004) consider that the translation of data in qualitative research represents a major source of misinterpretation of findings. To address this concern, standard measures were taken to ensure transparency in the translation process of the data. I translated eight complete data sets for Study One and Study Two. That is thirty-six interviews of the seventy-two conducted. To enhance validity I followed Miles and Huberman (1994) suggestions and an external translator translated four interviews from each study, which corresponds to 22% of the data. The translator randomly selected the documents for translation from a pool of thirty-six interviews that were presented in an MS Word document (Appendix E2). Then, I sent him the corresponding documents and he translated from English to Spanish. Individual participants’ interventions were counted as text units and these were compared with the original data to calculate the reliability index using an equation introduced in Miles and Hubberman (1994). Inter-translator reliability reached 87.5%.

\[
\text{Inter-translator reliability} = \frac{\text{Number of agreements}}{\text{Number of agreements} + \text{Number of disagreements}}
\]

For Study Three and Study Four I translated seven complete datasets that correspond to the collaborative work in the participatory design sessions. Each session lasted over an hour. The external translator randomly selected three to four pages from each participatory design session and the documents were sent accordingly. That is 12% of the data. Similar to the procedures followed for Study One and Study Two, inter-translator reliability for Study Three and Study Four reached 91.1%

The translator's performance was enhanced by his abilities and experience in a number of areas: Although he was born in a place different from the city where the study was
conducted, he grew up there since he was eight years old and lived there for nearly thirty years. Also, as a former English as a Foreign Language professor at the site of the investigation he clearly understands the idiosyncrasies of the language learners selected. His academic credentials also support his performance. He undertook undergraduate and graduate studies in English teaching methodology. He has lived in the American Midwest for over six years where he obtained his Master of Arts in the teaching of Spanish language and culture, and where he has been teaching Spanish language and culture at tertiary level since 2003. At the time of the translations he was a doctoral candidate in Spanish applied linguistics. During his postgraduate studies he took several CALL-related courses. He also had good understanding of the key issues of the research study and bilingual knowledge of the key terms involved because of our regular online discussions during the study.

**Data analysis**

Merriam (2002) suggests that regardless of the research paradigm used, a study to be trustworthy needs to be “valid, reliable and conducted in an ethical manner” (p.30). In this qualitative study specific strategies were used to enhance the quality (credibility, dependability and transferability) of the research. Table 15 outlines many of the procedures undertaken for the four studies set up as part of this investigation.
### Table 15 Research procedures (based on Merriam, 2002)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Procedures used in the present research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credibility</strong></td>
<td></td>
</tr>
<tr>
<td>Triangulation through multiple sources of evidence</td>
<td>Using multiple data collection methods (questionnaires, interviews and tracking logs). Involving participants from different contexts (Colombian educational context and Spanish speakers enrolled in ELICOS courses in Melbourne) and different language proficiencies (beginner, high-beginner, intermediate &amp; high-intermediate). Investigator triangulation: use of coding schemes from different perspectives after discussion with colleague, fellow PhD students, supervisors and feedback from other scholars. Data source triangulation: Data obtained after three (Study One) and six (Study Two) opportunities for interactions with the LEI © program.</td>
</tr>
<tr>
<td>Member checks</td>
<td>Regular consultation with research colleagues. Limited member checks. Except for the design component of the study where I regularly consulted with a HCI specialist and PhD students from Information Systems how results could be presented from a design point of view, participants did not read our initial analysis to determine how our interpretations reflect their answers.</td>
</tr>
<tr>
<td>Peer review</td>
<td>Discussion with colleagues and supervisors to test tentative interpretations. Submission of three papers (theoretical framework, help option use and non-use and design of help of help options using participatory design) to key scholarly journals to test and verify interpretations.</td>
</tr>
<tr>
<td><strong>Dependability</strong></td>
<td></td>
</tr>
<tr>
<td>Use of reliable instrumentation</td>
<td>Use of different questioning techniques. Inter-rater reliability of the translations for study One and Two (0.87) and for Study Three and Study Four (0.91.) and the coding schemes (0.95) and (0.81) respectively. Use of screen capturing device, to stimulate participants opinions based on observations not on their recall of events.</td>
</tr>
<tr>
<td>Use of readily traceable analysis procedures; Audit trail</td>
<td>Decisions regarding changes in procedure, materials, data analysis and/or interpretations of data analysis were recorded in an audit trail (Appendix H1)</td>
</tr>
<tr>
<td>Make decisions transparent</td>
<td>Decisions regarding the selection of materials and participants, data translation, data analysis and interpretation is made transparent throughout the study and supported by argument, evidence and rich descriptions of the decisions and principled criteria to base such decision.</td>
</tr>
<tr>
<td><strong>Transferability</strong></td>
<td></td>
</tr>
<tr>
<td>Rich thick descriptions</td>
<td>Detailed description of sites of the investigation, participant profiles, data collection procedures and data analysis. All major stages of the research are documented and can be tracked back in the audit trail (Appendix H1)</td>
</tr>
<tr>
<td>Tie prepositions to existing literature</td>
<td>As this is a baseline study, Study One and Study Three were exploratory in nature. Findings were substantiated with data from two additional studies (Study Two and Study Four) that were conducted in a different site of investigation. Where relevant, findings were compared to existing literature not only in CALL but in related disciplines such as help design environments and interactive learning environments. Also, findings were tested against principle in SLA and the design of web environments.</td>
</tr>
<tr>
<td>Use multiple cases, maximum variation</td>
<td>Although it is baseline research and participants come from the same linguistic background, inclusion of a moderate number of participants (15 for Studies One and Two and 13 for Studies Three and Four) at each proficiency level and with a range of experiences with computer-based L2 listening increased the insights of findings.</td>
</tr>
</tbody>
</table>
Summary of chapter three

In this chapter, I discussed different methodological issues and research design used in this investigation. In the first section, I outlined the paradigmatic position of the research and the theoretical concepts of the qualitative approaches adopted in the study. In the next section, I outlined the criteria for materials selection and I provided a rich description of the LEI©, the Randall’s ESL Cyber-listening lab and the English listening lounge. I also included a thorough description of data collection materials, research materials and sites of the investigation. Finally, I detailed the course of data collection ethics, and data management.

In the next part of the thesis, “Part II: empirical studies”, I present the results of four empirical baseline case studies set up for this investigation. The first two studies (Study One and Study Two) are presented in Chapter Four correspond to individual case studies. The remaining studies (Study Three and Study Four) are discussed in Chapter Five and are collective case studies.
PART II

EMPIRICAL STUDIES
Chapter Four:

Help option use/non-use – Learner interactions

In the previous chapter, I described the methodology adopted for this study as well as the methods and instrumentation. In this chapter I contextualize and present the results of two empirical studies (Study One and Study Two) that sought to identify triggers of help option use/non-use in computer-based L2 learning environments.

Structurally, the chapter is presented in three sections. In the first section ‘collecting the data’ I present participants’ profiles and detail the procedures for data collection for Study One and Two. In the second section ‘data analysis’ I provide a rich description of the procedures employed for data analysis and identification of themes. In the third section “findings” I present results in five emerging themes: relevance, challenge, recovery, compatibility and familiarity. Each theme is defined and discussed along with integrated data.

Collecting the data

Study One: Help option use/non-use

Study One sought to explore the perceptions and behaviors of L2 learners regarding help option use/non-use in computer-based listening environments. Accordingly, students interacted with some listening exercises from the Longman English Interactive (LEI) program where seven help options were available for learners on demand (See a thorough description on page 57).

Participants selection

Posters for Call for participants were placed in three key language institutes in Melbourne in May 2008, but no one attended this call. The participants were recruited using snow-ballling technique that is one person suggested the others. I contacted 13 people in total and four met the research criteria for participants’ selection. The criteria included: being enrolled in an English class, having completed education at undergraduate level in Colombia, showing ability to reflect about their own learning style and most importantly being able to verbalize such reflections. Potential participant’s
ability to reflect on their learning style was assessed during a short telephone conversation where they were asked about how they best learned English. The clarity of students’ answers as well as the level of articulateness were key factors for their selection.

The initial criteria for participant’s selection also sought to include participants whose proficiency level could be supported with the results of any commercially available proficiency test such as the TOEFL or IELTS. After brief conversations with most of the participants, I found out that participants who had test results available were, in general, people who had spent two or more years in Australia and their ability to comprehend aural input was far better than the levels targeted by the LEI© program (see discussion in the 55). In addition, the criteria looked for participants with some experience in using computers for listening comprehension. Not surprisingly, most people had no formal experience in computer-based L2 listening and computers had only been used for vocabulary and grammar drilling exercises. Given these shortcomings, participants with no experience with computer-based listening or results from a high stakes proficiency test were invited to participate in the study.

The proficiency level of the students was determined based on two different criteria: participants’ self-reported assessment of their ability to understand aural input, prior to and after interacting with selected listening tasks from the LEI© program and results of their performance provided by the scores in the same program. Once participants were pleased with the exercise and they obtained at least 70% of correct answers, the proficiency level was determined.

**Participants profiles**

The four selected participants were invited to participate in the study. A small amount of money to cover transportation expenses to and from the data collection site was given to each participant for their voluntary work.

**Beginner**

Camila, 23, completed her undergraduate degree in finance in Colombia. She is from a major city on the Pacific coast in Colombia. Although she had been in Australia for two months at the time of data collection, she had only attended two weeks of English
instruction in Melbourne. She studied English both in high school and at university level, but she noted how the emphasis of instruction was limited to reading and completing grammar based exercises. During the interview, she also acknowledged language learning was not one of her strengths. In fact, she perceived herself as a weak and lazy learner. Interestingly, she self-assessed her ability to comprehend aural input much better than her ability to speak, read or write in English. Her experience learning English with computers was limited to reading song lyrics and watching videos on YouTube. Given her language learning profile and after observing her interact with selected Level 1 LEI© listening tasks, Camila met the criteria for the beginner level participant.

High beginner

Julio, 25, had been in Australia for two months and had been attending classes in a pre-intermediate class for six weeks. Julio holds an undergraduate diploma in business from a major research university in western Colombia. Similar to other participants, Julio studied English in high school and at university level. He noted that the emphasis of instruction was on grammar and reading comprehension. He rated his ability to speak and understand spoken English better than his ability to read and write in English. To improve his listening ability he regularly downloads lessons from ‘La Mansion de Ingles’ a website for Spanish speakers that encourages aural translation of formulaic expressions in English. To match Julio’s proficiency level accurately, he worked with a range of LEI© comprehension exercises from levels 1, 2 and 3. He found exercises in level 3 too challenging; therefore he worked with exercises from the last lesson in level 2.

Intermediate learner

Maria, 29, graduated from a top private university as a lawyer in Colombia. She had lived in Melbourne for four months and was enrolled in an upper intermediate class. Maria’s experience living abroad (Thailand two months, USA one month, and Amsterdam two weeks) gave her the chance to use the ‘basic English’ she learned in high school and at the University. She self-assessed her ability to speak and understand spoken English much better than her ability to read and write. Apart from class activities, Maria watches movies with subtitles in English to improve her listening ability. Her experience using computers for language learning is limited to grammar completion exercises and
reading along with song lyrics. Maria worked with LEI© level four listening exercises, but she reported feeling the texts were fast-paced for her level and this caused frustration. Hence, she worked with Level 3 exercises.

*Upper Intermediate learner*

Lina, 26, holds an undergraduate diploma in international business from a major research university in Colombia. At the time of data collection, she had attended classes for 24 weeks and was enrolled in an advanced English class. Despite living in Australia for eight months, she rated her ability to understand spoken English as weak and stated that her ability to read and write was much stronger. She uses computers only for grammar and vocabulary training. From time to time she watches music videos with subtitles, but she is more interested in fashion than language learning, and she would like to pursue this in the near future. Lina initially worked with exercises in level four, but she found them quite challenging. Then she was asked to work with Level 3 and she reported that this level matched better her ability to comprehend spoken English.

*Summary of profiles*

Participants represent different idiosyncrasies as expected coming from a culturally diverse country like Colombia. They all hold professional degrees in different programs of study and have some experience working in their fields. Their age ranged between 23 to 29 years old. No participant, except for Maria, had lived abroad prior to living in Melbourne (Table 16).

Participants, in general, have limited to no experience with the definition of computer-based listening adopted for this study. Rather than a learning tool, they view computers as music, video, and media repositories that they access, but not always with the goal of language learning in mind.
Table 16 Study One – Profile of the participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age</th>
<th>Field of knowledge</th>
<th>Role</th>
<th>Length of stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camila</td>
<td>23</td>
<td>Finances</td>
<td>Beginner</td>
<td>2+ months</td>
</tr>
<tr>
<td>Julio</td>
<td>25</td>
<td>Business administration</td>
<td>High-beginner</td>
<td>2+ months</td>
</tr>
<tr>
<td>Maria</td>
<td>29</td>
<td>Law</td>
<td>Intermediate</td>
<td>4+ months</td>
</tr>
<tr>
<td>Lina</td>
<td>26</td>
<td>Business administration</td>
<td>Intermediate</td>
<td>8+ months</td>
</tr>
</tbody>
</table>

Procedure

Prior to data collection, all participants signed the consent forms to comply with ethical procedures to protect research participants at the University of Melbourne. Data was collected between June 3rd and 28th 2008. Each individual session was scheduled at least five days apart from each other. All the sections were conducted in Spanish to help participants feel at ease during the interview, to encourage deep reflection and to prevent communication problems due to language proficiency. Participants interacted with listening exercises from the Listening and Task Listening sections for levels 1 & 2 and Video Listening and Challenge listening for Level 3 of the 2008 online version of the Longman English Interactive© program (see thorough discussion on page 55). The LEI© program was run on a 17-inch DELL Inspiron 9400 laptop with 1 GB RAM memory and Intel T2200 at 1.73 GHz processor. Monitor resolution was set up at 1024 x 768. Internet access was through ADSL2+ broadband running at a theoretical maximum of 20Mbps, and Firefox 3.0 was used as the Internet browser. Learners were to choose between using earphones and listening directly from the computer’s built-in speakers. They were also free to choose whether to use an external mouse or the built-in pad. Colors were adjusted to maximize contrast.

First session

The goal of the first session was twofold: 1) to familiarize participants with the working definition of help options adopted for this study and 2) to determine each participant’s proficiency level. Therefore, in the first session participants completed an entry survey, they underwent training on how to use LEI© and their proficiency level was matched to one of the proficiency levels targeted by LEI©.

The paper-based survey inquired about demographic information as well as participants’ experiences both with language learning and with computer use (Appendix
B1). Upon survey completion, I asked follow-up questions to clarify their responses. These responses were audio recorded.

Then, I showed participants how to use the LEI© program, particularly the listening section and accompanying comprehension exercises. This training covered four steps: A short theoretical discussion of help options, a brief description of where the listening component fit in the overall structure of LEI© program, a thorough demonstration of where and how to access help options in the listening exercises, and additional time for software exploration.

Upon training completion and based on the responses from the interview, learners worked on selected listening exercise at their own pace and under no time pressure. I matched each participant’s proficiency level to a listening exercise from LEI©. After learners completed the selected listening exercise, I conducted a semi-structured interview to have the participant self-assess his/her performance. Once participants were pleased with the exercise and they obtained at least 70% of correct answers, the proficiency level was determined.

Second session

The second session is a one-hour individual session. During this session, I reminded participants how to access LEI© and asked them to work on selected listening tasks and complete the accompanying comprehension exercises (Table 17). The activities in the LEI© are presented in order of increasing difficulty. Therefore, the first activity selected for each participant was randomly selected from the identified level of proficiency. The second activity was two/three lessons ahead from the first one. There was no time pressure imposed. The time individual participants interacted with the LEI program varied greatly from participant to participant, but on average participants worked for 50 minutes in the LEI ©. Although outlined in the consent forms, I did not remind students that their work was recorded using a screen capturing program. This measure was pertinent to ensure that they did not alter their behavior as they worked with the program. Camtasia Studio 5.0 ran on the computer as a background program to capture learners’ interactions in video format.
Chapter Four:
Help option use/non-use – Learner interactions

Table 17 Study One – Activities participants interacted with in the LEI©

<table>
<thead>
<tr>
<th>Participant</th>
<th>Session</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camila Beginner</td>
<td>1</td>
<td>Level 1.A5 The first day</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Level 1.B5 Shopping trip</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td>Julio High-beginner</td>
<td>1</td>
<td>Level 1.A5.Sound advice</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Level 2.C3 Somewhere around here</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level 3.A1.Another busy day</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td>Maria Intermediate</td>
<td>1</td>
<td>Level 3.A2.Breaking news</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Level 3.C4.Dean’s challenge</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td>Lina High-intermediate</td>
<td>1</td>
<td>Level 3.A3.A job for Talia</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Level 3.C3.The truth revealed</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Stimulated recalls</td>
</tr>
</tbody>
</table>

Then, I conducted a semi-structured interview to have participants reflect on the previous interaction. The questions asked about their experience working with the software, number of times help options had been accessed, and reasons for use and non-use. Responses were audio recorded.

**Third session**

For the third session, I selected key video segments of the interaction that showed help option use or lack thereof. Each video segment was saved as an individual file and was played for the participant to watch while I questioned what was happening and what triggered him/her to use or not to use that particular help option. Individual interview protocols were designed for each participant (see discussion on page 71) and interviews were audio recorded.

Learners were allotted one hour in each section to work with the listening tasks in the LEI © program, however, the actual time of interaction varied greatly among participants. Some participants worked for over 45 minutes (Maria, & Julio) and others simply completed the listening task in less than 30 minutes (Camila and Lina).
Chapter Four: 
Help option use/non-use – Learner interactions

Study Two: Help option use non-use

Study Two sought to explore the perceptions and behaviors of L2 learners regarding help option use/non-use in computer-based listening environments. Accordingly, the study was conducted with learners of English from Colombia. Learners interacted with some listening exercises of the LEI © program where seven help options were available for learners on demand. Similar to Study One, participants’ self-reported assessment of their ability to understand aural input and the scores obtained after completing a selected listening exercise were used to determine their proficiency level.

Participant selection

As intended, participants were enrolled in one of the English classes offered by the language institute and the program of modern languages at a major research university in southwest Colombia. After receiving clearance from the head of the foreign languages department, the recruitment of the students began during the second week of October 2008. The first step in the process was to post ads on key bulletin boards at the university. Despite offering monetary compensation for participating in the study nobody answered this call. The second step was to ask previous colleagues to suggest students from their classes, but six out of eight students that were contacted were not willing to participate due to schedule clashes with other academic commitments. Then, I asked one of the tutors of the library who is a foreign language student to help me locate participants. He suggested three participants and I arranged individual appointments with them. The rest of the participants were recruited using snowballing techniques (Patton, 1990). That is, one participant suggested a new one.

The initial criteria for participant’s selection were to include people from different proficiency levels and fields of knowledge. Not surprisingly, the proficiency level of participants from programs other than the Modern language program was far lower than I expected even if they were enrolled in English 4 classes. Except for an electronic engineering student, all other participants selected to work in Level 3 and Level 4 came from the modern language program (Table 18).
Chapter Four:
Help option use/non-use – Learner interactions

Table 18 Study Two – Profile of the participants

<table>
<thead>
<tr>
<th>Level</th>
<th>Name</th>
<th>Age</th>
<th>Sex</th>
<th>Program of studies</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginners</td>
<td>Yolima</td>
<td>19</td>
<td>F</td>
<td>Journalism</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Mayra</td>
<td>21</td>
<td>F</td>
<td>Arts-Dancing</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Pablo</td>
<td>26</td>
<td>M</td>
<td>Arts-Painting</td>
<td>10</td>
</tr>
<tr>
<td>High beginner</td>
<td>Andrea</td>
<td>22</td>
<td>F</td>
<td>Education: Hispanic literature</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Eduardo</td>
<td>24</td>
<td>M</td>
<td>Business</td>
<td>3</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Sandra</td>
<td>18</td>
<td>F</td>
<td>Foreign languages</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Duvan</td>
<td>26</td>
<td>M</td>
<td>Electronic engineering</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Rosa</td>
<td>18</td>
<td>F</td>
<td>Foreign languages</td>
<td>1</td>
</tr>
<tr>
<td>High intermediate</td>
<td>Elena</td>
<td>20</td>
<td>F</td>
<td>Foreign languages</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Vilma</td>
<td>18</td>
<td>F</td>
<td>Foreign languages</td>
<td>1</td>
</tr>
</tbody>
</table>

The criteria also aimed at including an equal number of male and female participants. However, most of the male participants that were contacted either did not agree to participate in the study, dropped out of the study after one or two sessions and/or their level was far better than the ones targeted by the LEI© program.

After a series of obstacles were overcome (see Appendix H1), from a pool of 19 people (8 men and 11 women), 13 participants were interviewed, but only the data from 11 are complete and hence analyzed for the study.

Profiles of the participants

The participants are eight female and three male students enrolled in one of the several English classes offered by the foreign language department at a major research university in south west Colombia. Participant’s ages range from 18 to 26 years old. The profiles of the participants are grouped by proficiency level, which was determined by contrasting their self-assessment and performance scores on selected listening exercises in the LEI© program.

Beginner learners:

Yolima, Mayra and Pablo were the beginner learners. Yolima was a student of journalism and although she liked studying English, she acknowledged that it was difficult for her to understand spoken language because of her limited vocabulary. She had some experience with computer based listening as a result of training in high school where they used the English Discoveries program© (EduSoft, 2000) once a week for
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three months. She rated listening as one of her weakness. From time to time she reads along with song lyrics and goes to karaoke. Mayra and Pablo are both undertaking arts related studies. Neither of them has had experience with computer based listening and it is the first time they use computers for language learning. They both rated listening as their worst or second to worst ability in English and partially blame it on the poor teaching practices of the rural areas where they completed their high school. Apart from class materials, they do not seek opportunities to use the language.

High beginner learners

Andrea and Eduardo were the high beginner learners. Andrea was a senior student undertaking linguistics and Hispanic studies. Andrea had never used computers for language learning, but she watched movies in English with Spanish subtitles. During the interviews, she reported that her ability to read and write as well as her vocabulary knowledge is much better than her L2 listening ability. Eduardo studied business administration. He had taken English classes on-line offered by a community college in the region (SENA). Despite his passion for heavy metal music and being the lead singer in a band, Eduardo rated his listening ability as quite poor.

Intermediate learners

Sandra, Rosa and Duvan were the intermediate learners. Sandra and Rosa were classmates in the first semester in the modern language program. They both have had some experience with computer-based listening because as part of their training they are required to go to the lab and use the English Discoveries © software (EduSoft, 2000) as a self-access resource. Rosa likes reading along with song lyrics and loves going to karaoke with friends. Sandra frequently watches movies in English with Spanish subtitles.

Duvan was in the final year of electronic engineering. His experience with computers came from interacting with English Discoveries© (EduSoft, 2000) in an intensive English class he took at a community college and from working with websites in English. He has also taken some private English lessons. The three participants in general rated poorly their ability to understand spoken English and emphasized that reading and writing are their strengths.
Upper intermediate learners

Although in different semesters, Elena, Sofia and Vilma were enrolled in the modern language program. Sofia was the only participant not familiar with computer-based listening; Sofia rated her ability to understand spoken English as very poor. In contrast, Elena and Vilma consider listening as one of their strengths.

Summary of the participants profiles

Before pursuing undergraduate school, six participants studied English throughout the six years in high school and five for four years. Most participants are confident in their ability to read, and write in the target language, but their confidence declines when it comes to listening and speaking. The majority of the students have used computers for learning English except for Mayra, Pablo, Andrea, and Sofia. Most of them have used English Discoveries either as part of class instruction or as a self-access resource. They have also used websites to download music videos and sing along with transcripts in karaoke activities. Except for Vilma and Elena who are foreign language students and who are required to take a proficiency test at the end of the fourth semester, no other student has ever taken a high stakes test. No participant has lived in an English-speaking country before this investigation (Table 19).
Table 19 Summary of participant profiles

<table>
<thead>
<tr>
<th>Name</th>
<th>Years of study in high school</th>
<th>Months of study at the University</th>
<th>Time in an English speaking country</th>
<th>Proficiency test</th>
<th>Skills assessment</th>
<th>Use of computers for language learning</th>
<th>Use of listening materials for self-study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yolima</td>
<td>6</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>G,R,V,L,S,W*</td>
<td>Yes-English discoveries</td>
<td>Music</td>
</tr>
<tr>
<td>Mayra</td>
<td>4</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>R,V,W,G,LS</td>
<td>Yes-English Discoveries</td>
<td>No</td>
</tr>
<tr>
<td>Pablo</td>
<td>4</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>V,G,R,W,S,L</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Andrea</td>
<td>4</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>R,V,W,L,G,S</td>
<td>No</td>
<td>Movies and TV programs</td>
</tr>
<tr>
<td>Eduardo</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>G,V,W,R,S,L</td>
<td>Yes-Sena Virtual</td>
<td>Movies and heavy metal</td>
</tr>
<tr>
<td>Sandra</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>G,W,V,R,L,S</td>
<td>Yes-English discoveries</td>
<td>Class related materials</td>
</tr>
<tr>
<td>Duvan</td>
<td>6</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>R,G,V,W,L,S</td>
<td>Yes-English discoveries</td>
<td>Internet lyrics</td>
</tr>
<tr>
<td>Rosa</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>R,V,G,I,S,W</td>
<td>Yes-lyrics</td>
<td>Songs</td>
</tr>
<tr>
<td>Vilma</td>
<td>6</td>
<td>16</td>
<td>0</td>
<td>Michigan test Score 67</td>
<td>S,V,R,L,W,G</td>
<td>Yes-English discoveries</td>
<td>TV programs, songs, videos</td>
</tr>
<tr>
<td>Elena</td>
<td>6</td>
<td>20</td>
<td>0</td>
<td>Michigan test 70</td>
<td>W,S,L,R,G,V</td>
<td>Free internet programs</td>
<td>Music, movies, videos</td>
</tr>
<tr>
<td>Sofia</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>R,W,G,V,S,L</td>
<td>No</td>
<td>Songs</td>
</tr>
</tbody>
</table>

Changes from Study One to Study Two

Upon thorough reflection on the procedures undertaken for data collection during Study One, a series of changes were implemented for Study Two. These changes include:

- Interviewing style was modified to be less intrusive. In Study One I kept paraphrasing the participant’s responses, thus, interrupting the flow of the interview and altering some participants’ answers.

- Questioning style was more accurate. I noticed that for Study One some help options were not even mentioned in the interview and some reasons were not fully explored, so data seemed incomplete. To overcome this I listed the help options and made sure students gave me their comments on each one of them.
• Objectivity was sought. Some interviews in Study One show that I subtly led participants to tell me the answers that I wanted to hear. Questions were neutral, I think, and were formulated to reflect more objectivity.

• Deeper reflection in the participants was encouraged. Subtly, I pushed them to think harder and verbalize better and compared their answers to previous answers to find consistency in their arguments. I also included hypothetical questions where participants assessed the way help options could be used by learners from different proficiency levels. Advanced learners were asked to reflect on their previous experience when learning English and beginners were encouraged to hypothesize about forms that could be used/non-used to improve learning outcomes.

**Procedure**

Data collection took place between November 15th and December 13th 2008 in Neiva-Colombia. Similar to Study One, data was collected in three 1-hour individual sessions. However, individual sessions included more exposure with the software and more questioning as learners completed single activities.

Due to heavy construction work at the Colombian university it was impossible to have a suitable room allocated for data collection. As a result, my personal studio was adapted to serve such purpose. The studio was isolated from the rest of the house and interviews were mostly scheduled early in the afternoon to guarantee some quiet time from neighbors. Similar to Study One, students interacted with the 2008 online version that was made available between the second week in November and the second week in December. The LEI© program was run on the same computer used in Study One (see thorough description in page 89). Similar to Study One, one-hour sections were planned for interaction with the LEI© program. However, the actual time of interaction varied greatly among participants. Most participants interacted with the listening tasks in the LEI© program for over 50 minutes (Yolima, Duvan, Sandra, Vilma, Pablo), others completed them in less than 40 minutes (Andrea, Mayra, Sofia, Rosa) and others in less than 30 minutes (Elena & Eduardo).
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First session

Similar to the first session in Study One, participants completed an entry survey, were trained to use the LEI© program and their proficiency level was matched to one proficiency level targeted by LEI© program.

Second session

During the second sessions participants interacted with a set of listening exercises and were interviewed immediately after completing individual exercises (Appendix C1). That is, instead of being interviewed upon completing the lesson, participants were interviewed after completing individual activities. Students’ responses were audio recorded and students’ interactions with the computer were screen captured using Camtasia 5.0.

Third session

Data was collected during the third session in two different segments. During the first thirty minutes, participants were provided with paper and pencil and were given five minutes to explore the software on their own with a view to suggest or improve or aspects they liked about the program. Then, participants used their notes for the interview and follow-up questions were asked.

During the remaining time, key video segments were used to stimulate the recall protocols. Similar to Study One learners were asked to reflect deeply on why they used help options or what prevented them from using them. For this part of the interview, hypothetical situations were included to encourage reflection. The hypothetical situations asked participants to think about what they would do if their proficiency level was higher or lower or if additional/ limited help options were available.

Preparation for data analysis

The complete datasets of the four participants in Study One were transcribed and translated. For Study Two, however, after listening to individual interviews and completing an annotated profile for use and non-use per participant (see Appendix E1), the complete datasets of one listener per proficiency level were selected for translation. Thus, the datasets of Yolima (beginner), Andrea (high-beginner), Sandra (intermediate)
and Sofia (high-intermediate) were translated from Spanish into English. These specific listeners were selected because of their rich and complete verbal protocols. Key individual interviews were also translated (Appendix E2).

Table 20  Study One and Study Two – Data analysis procedures (based on Cresswell, 2007)

<table>
<thead>
<tr>
<th>Data analysis and representation</th>
<th>For case studies</th>
<th>Analysis and presentation procedures in the study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Study One</td>
<td>Study One&lt;br&gt;Data was properly labeled and transcribed&lt;br&gt;Participants interventions were numbered.&lt;br&gt;Data was translated&lt;br&gt;Inter-translator reliability calculated and changes in data incorporated.</td>
</tr>
<tr>
<td>Data managing</td>
<td>Study Two</td>
<td>Study Two&lt;br&gt;Individual profiles of help option use/non-use per participant were created.&lt;br&gt;Principled selection of data based on participants’ articulateness and data richness was conducted.&lt;br&gt;Selected data was translated and inter-translator reliability calculated (87.5)</td>
</tr>
<tr>
<td>Create and organize data files</td>
<td>Study One</td>
<td>Translated data was read several times.&lt;br&gt;Data was printed and pencil margin annotations incorporated.</td>
</tr>
<tr>
<td>Read through texts, make annotations, create initial codes</td>
<td>Data was uploaded in NVivo 8.0&lt;br&gt;Open coding was established by help option.&lt;br&gt;Open coding by help option and by use/non-use was also established.&lt;br&gt;Questions for future inquire were discussed in the audit trail (Appendix H1)</td>
<td></td>
</tr>
<tr>
<td>Describe cases and its contexts</td>
<td>Study One and Two</td>
<td>Demographic information and experience with language learning and computer-based listening collected in the first session of data collection.&lt;br&gt;Profiles of participants were refined during the study</td>
</tr>
</tbody>
</table>
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Once data was properly translated, labeled, and text units were numbered, I conducted data analysis. Following Creswell (2007), the main procedures for data analysis are summarized in Table 20.

During the different cycles of data coding, I kept track of the main changes in the coding scheme (see Appendices H2-H6). I justified the changes, noted the perspective from which the data was coded, and then different screen shots of the coding conventions were taken to monitor how my interpretations of the data were changing (F Figure 14, 15 & 16).

### Coding and preparation for coding

Table 20 provides an overview of the methods I used to code the data for Study One and Study Two. These procedures are explained in detail here:

After translation and transcription of the semi-structured interviews, I read them several times to get a feel for the data. I uploaded the files to NVivo 8.0 and started open

<table>
<thead>
<tr>
<th>Classifying</th>
<th>Use categorical aggregation to form patterns and themes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reasons for use and non-use were grouped and displayed in a visual diagram and commonalities pinpointed.</td>
</tr>
<tr>
<td></td>
<td>Themes across help options were identified and clusters established (Appendix H3)</td>
</tr>
<tr>
<td></td>
<td>Visual representation of themes and definition of factors and examples from the data were established</td>
</tr>
<tr>
<td></td>
<td>Study Two</td>
</tr>
<tr>
<td></td>
<td>Used the establish framework for analysis.</td>
</tr>
<tr>
<td></td>
<td>Clusters were defined.</td>
</tr>
<tr>
<td></td>
<td>Other emerging data classified accordingly</td>
</tr>
<tr>
<td></td>
<td>Inter-coder reliability established (0.95)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interpreting</th>
<th>Use direct interpretation Develop naturalistic generalizations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Summaries of NVivo patterns for each case were presented in MS Word files for easy overview of cases and within case analysis.</td>
</tr>
<tr>
<td></td>
<td>Cross case analysis were also conducted.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representing and visualizing</th>
<th>Show in-depth representation of cases through texts, tables and figures.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analytical cycles presented in chapter 3 and use of interpretative commentary, illustrated by matrices and tables (Appendix H5 &amp; H6)</td>
</tr>
</tbody>
</table>
coding. NVivo 8.0 was used to assist in the sorting, organization and coding of data (Dornyei, 2007). As it was the first time I used NVivo 8.0, I followed Miles and Huberman’s (1994) advice to examine the data with an open mind. Additionally, fellow PhD students who had used NVivo 8.0 before suggested no to define any codes in advance. Accordingly, I created free nodes in NVivo without defining them. I basically grouped them all by generic themes. I let the data rest for a couple of weeks and then went back to coding. I ended up with 22 free codes (Figure 14).

![Figure 14 Study One and Study Two - Open coding sample](image)

I tried to trace back the original texts, but I did not number the text units of the interview. Hence, I started from scratch and prepared the data to be uploaded. This time I numbered participants’ interventions by text units. I also created a list of codes in MS Word and defined them (Appendix H2).

As I defined them I saw some commonalities and jotted down memos per participant and notes in NVivo 8.0 (Bringer, Johnston & Brackenridge, 2004). Once the codes were defined in the Word document I recoded the data in NVivo 8.0 separating reasons for help option use/non-use by individual help option. These codes were also in the form of free nodes. I conducted NVivo 8.0 queries in three categories: help option use regardless
of the facility used, help option non-use regardless of the help option, and use/non-use by individual help options. Also, I tried to establish patterns of behavior by individual cases, across tasks and sessions (Appendix H3).

Not surprisingly, learners exhibited different behaviors and after conversations with other colleagues, it was determined that three episodes of interaction were not enough to establish individual patterns of behavior. I printed the results of the query and prepared a Word document outlining reason for usage/non-usage across participants, tasks and sessions (Appendix H4). With these reasons in mind, I searched for commonalities within and across cases. These cases were determined by proficiency level and type of help option (Figure 15).

![Figure 15 Study One and Study Two – Axial coding by help option](image)

I created a concept map of the different help options and the reasons for use/ non-use. I coded the data again, but this time I identified reasons for use/non-use regardless of help option. Once this was established, themes were defined and clusters were created. I also grouped free nodes into larger themes. The themes were defined and data was checked against the definitions. Clusters were reviewed and frequency counts performed. Once the codes were defined, a second rater coded 20% of the data. Inter-coder reliability index reached 0.95 (Appendix H5).
Most themes were supported by the opinion of five to ten different participants (Table 21). Other themes were supported by a single participant, but the insights were so powerful that I decided to leave the cluster in the framework of analysis of Study One, expecting to substantiate and/or sharpen analysis with findings from Study Two (Appendix H6).

![Figure 16 Study One and Study Two – Axial coding by themes](image)

The final coding is summarized in Table 21. In the first and second column the themes and respective clusters are listed. The third column lists the number of coding entries associated to each cluster and the fourth column lists the number of participants associated with the coding entries. Thus for instance, the cluster of task completion is supported by 36 entries produced by seven different participants.
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Table 21 Study One and Study Two – Summary of coding categories

<table>
<thead>
<tr>
<th>Themes</th>
<th>Clusters</th>
<th>Number of coding entries</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance</td>
<td>Task completion</td>
<td>36</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Text comprehension</td>
<td>68</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Real life use</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Language learning</td>
<td>33</td>
<td>7</td>
</tr>
<tr>
<td>Recovery</td>
<td>Language problems</td>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Technical issues</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Working memory capacity</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Confirmation</td>
<td>26</td>
<td>8</td>
</tr>
<tr>
<td>Challenge</td>
<td>Self initiative</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Self reliance</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Familiarity</td>
<td>Experience</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Software interface</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Compatibility</td>
<td>Distraction</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Mismatch</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Results and discussion

A total of 72 interviews and stimulated recalls that lasted approximately eight minutes each were recorded and 32 were fully translated (Appendix E2). After transcription and translation of the data sets, I followed established procedures for the systematic interrogation of qualitative data (Miles & Huberman, 1994) and used NVivo 8.0 (QSR, 2008) to facilitate data analysis. At the start of analysis, I quickly noted that the participants behaved in a wide variety of idiosyncratic ways; accordingly, I did not seek to identify the individual patterns of listening behaviors. Instead, I focused my attention on the identification of individual instances of help option use/non-use across participants, tasks, and sessions. Cyclical coding, and recoding, resulted in five themes: Relevance, Challenge, Familiarity, Recovery and Compatibility.

Theme one: Relevance

*Relevance* refers to the perceived value that a learner assigns to a help option for assistance with text comprehension, task completion, language use and other aspects of language learning. In other words, how much help option use/non-use influences each of the factors described in Table 22.
Table 22 Theme one: Relevance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definition</th>
<th>Sample data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text comprehension</td>
<td>Whether and how the use of help options facilitate the understanding of aural input</td>
<td>Well the thing is that …I think that at this moment I don’t see how those cultural notes can help me understand the text and answer the questions. So, what’s the point of understanding the culture, if I don’t understand their language? First I need to learn the language and then I get interested in their culture. Regarding cultural notes, I just don’t see how that can help me. I saw the translation there but I just said to myself ...no… what for (Camila, p3.1. Text unit 12)</td>
</tr>
<tr>
<td>Task completion</td>
<td>The degree of perceived relevance of help option use for completing comprehension activities</td>
<td>I usually play the video twice. The first time I get familiar with what they say. The second time I get to understand more because I focus much more on what the questions ask. So, by looking at the questions I know what I need to focus on. That’s why I rewound the text. To see where exactly I could find the answers (Lina, p1.1.Text unit, 12)</td>
</tr>
<tr>
<td>Language learning</td>
<td>The notion that the use of help options is conducive to improving other language skills or sub-skills</td>
<td>R: Why did you decide to read along? M: Because I wanted to take advantage of that, as I knew it was a listening exercise, then it would be better if I read it…it is much easier R: but if the goal was to listen? M: pronunciation…as you read along you get to know how words are pronounced (Maria, p3.1. Text units 23-26)</td>
</tr>
<tr>
<td>Real life language use</td>
<td>The way listeners see that help options usage may relate to real life communication contexts</td>
<td>I like [the type of feedback] that takes me back to the segment where I can find the answer…this is a listening exercise and it reflects much more what happens in real life…because…for example, once my friend Martha called me and I understood she said “how are you” and I understood she said “where”… you see how easy that is? well she just repeated the part I misunderstood and this type of feedback does exactly that, because my friend is not going to tell me, “I am not greeting you, I want to know where you…” she just said “where” and with that I realize that I misunderstood the question (Maria, p3.1. Text unit, 17)</td>
</tr>
</tbody>
</table>

As part of this theme, text comprehension refers to whether, and how, the use of a help option facilitates the understanding of the aural input. Julio, Camila and Andrea, beginner learners, do not think that ‘cultural notes’ are key options for comprehension. In their view, such options actually interfere with comprehension because their ‘assistance’ is seen to be peripheral to understanding the aural input. These findings partially support Pujolà (2002) who reports that low decoders tend not to use cultural notes because of their questionable relevance for text comprehension. Moreover, as cultural notes are in English and students failed to recognize that there was a translation button embedded in the same window, they neglected their use in subsequent encounters. Camila notes:
[when I accessed the cultural notes] I saw everything was in English, as I told you before, if I see that everything is in English… then, what [the listening tips] if I don’t understand anything? (p3.1. Text unit, 4)

Other participants such as Andrea, although aware of the importance of culture for language learning, noted that factors like familiarity with the context of the conversation, text length and images from the video assisted understanding without resorting to cultural notes. Andrea notes:

A: …I find that culture is important, but in this case as the video is short and there were images I did not find [cultural notes] relevant (p 1.1. Text unit, 80)

Andrea also adds:

I did not find [cultural notes] necessary because [the conversation] was like a common daily conversation and I don’t think it needs further explanation (p 2.2. Text unit, 34)

Some intermediate learners also shared this view. Sandra, Sofia and Rosa, for instance, note that dynamic images assist their understanding of the situation lessening the value of cultural notes:

In my opinion, the videos are clear enough to understand the situation. So, the cultural notes seem not to be necessary… but, if the actors were English people maybe the cultural notes would be important. You know, to learn about the differences between the two countries… (Sofia, p3.1. Text unit, 20)

R: The cultural notes? Did you use them?
C: No, I didn’t think they were relevant because [in the video] there were no behaviors different from the ones in our culture (Rosa, p2.1. Text unit, 23)

Vilma and Maria, on the other hand see cultural notes as key options that assist text comprehension. In their view, regardless of how close the behaviors displayed in the video are to their own behaviors, they note that cultural notes aids text comprehension

I find it really important to know when you can use certain expressions. For instance, I found something about the pronunciation in there and they talked about when the man makes the commas with his fingers-which it is something we also use-….There was an explanation for this and it said that you do this when you are not sure about something you are about to say. Therefore, I think it is really nice to find all of those aspects that help you understand the conversation (Vilma, p1.1.Text unit, 64).

Audio control buttons were also key to aid text comprehension for some participants. For instance, Rosa and Sandra noted that audio control buttons allowed them to control
the flow of information. Rosa, for instance, when facing a video that she considered more demanding used the pause button to stop and make sense of the conversation

… the video was faster. Then, that makes it more difficult to understand. So, I had to use the pause button in the video to make sure I understood the main idea of what they were saying (Rosa 2.1. Text unit, 4)

Sandra resorted to the rewind button to listen several times to a specific segment that affected comprehension.

R: Why did you use the rewind button?
S: Because I was not able to understand the sentence…what we were told in the dialogue so I rewound it to listen to it again. I rewound it like four times, in that way...just the part I needed to listen to (Sandra 1.2. Text units 15-16)

Julio reported having played the video three to four times to understand it, but after several failed attempts, he accessed the transcripts. Audio control buttons appear to be more helpful at intermediate proficiency levels where learners have better knowledge of the language. This finding aligns with O’Bryan and Hegelheimer (2009) who found that repetition allowed one low-intermediate student to obtaining a more complete understanding of the input as opposed to the disjointed summary the learner reported during the first time listening to the text.

Andrea, Vilma, Julio and Sandra support the assistance of the video for text comprehension. They feel that images and actions help them understand better what happens in the video. Other participants like Yolima find it unnecessary and at times distracting. In an opposing view, when questioned if the text without a video would be more difficult to understand, Lina acknowledges the key role of the video in understanding, but only if learners understand a bit.

It would be a bit more difficult, but just a bit more difficult because the person who does not understand anything at all even by looking at [the video] would not understand. I think they [Images and sound] complement each other (Lina, p1.1. Text unit, 20).

Other help options were seen as not relevant for comprehension. Although the LEI© program offers a dictionary, it is not readily accessible in the main frame of the interaction. To gain access to it, listeners need to completely abandon the listening exercise and go to the home page. In this study, learners refer to the glossary as the dictionary. Regardless of proficiency level, Andrea, Camila, Julio, Maria, Sandra, Sofia
and Yolima did not find the glossary relevant for text comprehension because most unknown words were in the questions or in the instructions, not in the text. Maria summarizes this view:

This time it happened to me the same than the previous time I worked with the exercise. The unknown words for me were not highlighted. So how I was expected to look them up in the program if those words were not highlighted?...
I knew that just highlighted words are in the dictionary. That’s why I had to access Google which was the only tool I knew (p2.1. Text unit, 82)

Also, Yolima and Camila considered that the glossary did not aid text comprehension because they came across definitions in English that they were unable to understand given their limited proficiency in the language, Yolima summarizes this view:

The other thing is that when you use the dictionary to know what a word means, you need to find this meaning in Spanish, but what the dictionary does is giving you the description of that word totally in English, which I do not find useful at all. So, it is good in English but it would be better if you had the opportunity to find the same definition in Spanish, as well because if you use the dictionary it is because you have no idea of the meaning. (p3.1.Text unit, 8)

In a related manner, Camila found that listening tips did not help text comprehension because the information was in English and she simply could not figure out what they said:

Did you access the listening tips button?
C: No…let me see… Let me have a look at it that I do not remember…. Yes, I used it I clicked on it, but I did not find it relevant because it was in English and I did not understand what it said. It did not make any sense to me, so, I just closed it Camila, p1.1.Text unit, 4).

Most participants at low proficiency levels see transcripts and translations as helpful options for comprehension. Camila, Yolima and Julio find that transcripts do aid comprehension, but only if the texts are not too demanding for their level. Julio in particular experienced frustration after listening to a text several times. Despite the fact that he read the transcript, he still was not able to understand the message of the text. Sandra, similarly, accessed the transcript to overcome a comprehension breakdown, but her proficiency level helped her determine that she just needed to understand a particular segment of the text to be able to comprehend the overall message.

Yes… I used the transcript once I had listened to [the video] about five – six times that I couldn’t understand, I couldn’t understand, I couldn’t understand so
I had to use the transcript but I didn’t read it all… it was just the bit I could not understand… (p1.2. Text unit, 32)

Andrea and Camila used the translation tool to overcome comprehension problems. Andrea in particular used the translation option because she was aware of the different meanings a word can take in English and this, in her view, posed additional processing demands for the comprehension of aural texts:

The translation is better because as you read you relate different parts in the text while if you read just the word you tend to wonder if the meaning is the appropriate for the context you are reading. While the whole text gives you a general idea about what is being spoken in the conversation so that you can relate it all. But if we look up word by word we do not know if that is an adjective or a noun as I told you before (p.1.1. Text unit, 62)

In summary, it seems that listeners who have a general grasp of the text, benefit from the interaction with help options such as the transcript, audio control buttons, and video much more than those whose proficiency level do not afford them opportunities for comprehension. Texts that were way beyond the listeners’ proficiency level cannot be understood even after repeated interaction with help options. These findings are in line with those of Rost (2007) who noted that learners at higher proficiencies tend to benefit more from interaction with help option than learners at lower proficiencies.

A second factor in this first theme, task completion, refers to the degree of perceived relevance of help option use for completing comprehension activities. In the LEI© software, for example, such activities are presented as multiple choice questions, gap filling, and matching exercises (Table 11). A rather common behavior exhibited by participants was to use the audio/video control buttons to pace their own understanding. For instance, Camila, Yolima Sandra and Julio segmented the text using the pause button to answer individual questions and complete the exercise. Camila describes this behavior:

C: The video control buttons? Yes, I used them.
R: How did you use them?
C: I did not listen to the whole text. I listened to it by parts then I listened to the first question and…
R: Did you read the question first?
C: Yes, I read it once… then I listened to the video and answered the question. Then I went to the following question. I read it, listened and went back and
R: And, why did not you listen to the whole text instead of pausing it constantly?
C: To answer the questions one by one. (p2.1. Text units 108-114)
Rather than using the pause button, Lina listened to the complete text first and then used the rewind button to answer individual questions. Julio and Andrea, too, accessed the translation to arrive to the correct answer and finish the activity. Andrea used the transcript, not only to understand the text, but also to complete the comprehension activity, she explains:

Because the two people in there are talking too fast so I need to use the transcript at least to know what his and her names are. They speak so fast that I get lost and cannot figure out what the relationship between them is. When listening I can find out that they are in a restaurant or so, but with the transcript I also can also identify some of the words that I already know for instance, they mention a sandwich and how they prefer it and that way I can answer the questions (p.3.2. Text unit 4).

In their study, Aleven and colleagues (2003) and Clarebout and Elen (2006) suggest that help seeking behavior is highly associated to motivation. Learners, they reported, looked up help for completing tasks rather than learning. This analysis partially aligns with these findings. Julio and Andrea, for instance, were mostly concerned with answering the questions correctly rather than learning, therefore, most of the help options they used (e.g., transcripts, audio control buttons, translation) were used to arrive at the right answer.

The third factor, language learning, highlights that help option use is conducive to improving other language skills or sub-skills and/or to learn more about general knowledge. Transcripts, translation and glossaries were seen as key for learning. For instance, Duvan accessed transcripts, not only to self-assess his performance, but as a way to learn, he notes:

R: What if the questions are all correct. Wouldn’t this [using the transcript after checking for correctness] be a way to assess yourself?
D: Yes, but in a way it would not be complete. In this situation more than assessing yourself it is a matter of learning because you are learning expressions, you are learning unknown words (p2.1. Text units 21-22)

In a related manner, Sofia noted that transcripts were important not only for arriving at the correct answer, but also as good language learning opportunity.

Well, the thing is that the transcript is very important for me, although it is not very necessary to answer the questions. Indeed, the idea of doing a listening exercise is more than having the answers correct…it is a matter of learning (Sofia, p2.1. Text unit, 69).
Maria, Sandra, and Sofia, Duvan, Vilma and Yolima used help options to learn vocabulary and pronunciation, and become aware of syntax. Interestingly, Yolima is the only beginner learner who saw the potential of transcripts to further her knowledge of English. Perhaps her previous experience with help options when using the English Discoveries © software in a way contributed to this insight.

Duvan, Sofia, Maria, Rosa, Vilma and Yolima use transcripts to bridge the gap between phonetics and spelling in English. In Spanish, vowel and consonant sounds are pronounced the same regardless of the place they take in a word or syllable combination. In English, phonemes may sound the same, but are spelled differently. These participants, aware of such differences, at some point, listened and read along with the transcript to ‘learn’ pronunciation.

Sofia and Yolima expanded the view of using transcripts from learning pronunciation to becoming aware of syntax, Yolima explains:

   The transcript is important because I can read and listen in that case...In that case I am both learning to pronounce and to see how it is written. How the text is composed...but when I only listen, it is very complex... (p2.1. Text unit, 27)

Duvan, Sandra, Sofia and Vilma also saw the potential of the transcript for vocabulary learning. Sandra notes:

   ….in addition there will be some words that you did not know so, [the transcript] can be good to learn some vocabulary too. So I say the transcript is really good if you want to learn some vocabulary (Sandra, p2.3. Text unit, 34)

Other help options were also seen as key for language learning. Sofia, Sandra and Vilma, who were intermediate learners, considered glossaries as a good tool to learn vocabulary and even to develop grammar awareness. Sandra noted that although the definitions were in English a L2 learner does not need to be an advanced learner to understand them:

   I think the glossary is ok because they are explaining in English, but you do not necessarily have to know English to understand and you develop more the grammar part and that is good... (Sandra, p1.2. Text unit, 50)

She explained that the simple language used for defining each entry along with the accompanying examples contribute to this understanding

   I think the glossary is really good, the explanations provided are very concise because they help you understand what the word means and in addition you are
given an example, which is very important for me. If you do not understand with just the explanation for instance in my case, I remember a word. I read the glossary and understood although not at all but I read the example and I could have everything clear. So the examples help a lot, do not remove them because I liked them a lot (Sandra, p3.2. Text unit, 22)

Help options such as audio/video control buttons, feedback, and video were not found relevant for language learning.

*Real life language use*, the fourth factor in this initial theme, refers to the way listeners see that help options usage/non-usage at the computer may relate to real life communication contexts and activities. Maria and Sofia, for example, decided not to use the rewind and forward buttons because they wanted to know how much they were able to understand in the first attempt. This, in their view, resembled the use of language in real communication contexts where people use different clues to understand his/her interlocutor, not only repetition. Maria summarizes this view:

It is what I see in daily life, a person who has a conversation with me is not going to go back to repeat the conversation, and from what you do in a conversation with a person that’s when you get it... So, you keep talking to that person and you are aware you did not understand everything but you get bits and pieces and it is ok...even if you don’t understand everything...that’s why I did it this way here [without using the audio control buttons] because nobody is going to repeat a conversation for me, nobody... or who is going to tell me: “Hello Annie, how are you?” several times until I get it? Nobody! Even if you don’t understand everything, you get bits and pieces and from there you build up the message (p1.1. Text unit, 21)

Similarly, at some point, Sofia and Vilma neither used the dictionary nor the transcripts because in their view people do not normally have dictionaries or transcripts available to repair communication breakdowns resulting from lack of understanding. However, when Vilma came across a comprehension exercise that involved a set of short songs, she resorted to the transcripts because she viewed the potential of transcripts key to ‘learning’ the lyrics, she explains:

That is exactly why I try not to use it that much. In this case they were just songs and in order to learn them the transcript turns to be useful...but when they are other kind of exercises, I think it is better just to listen to the text so that the exercise consists completely in listening and understanding something just by listening because of what I said before: when we are interacting in the real life we will not have available any dictionary or transcript but you will have just to listen and answer (Vilma, p3.2. Text unit, 102).
In contrast to the view where help options were neglected to mimic language use contexts, Camila relied on the video for understanding in much the same way she relies on body gestures when she has difficulties in face-to-face interactions, she explains:

The video clip did help me understand because it showed a woman entering a store and asking how much is this and that ... I liked it a thousand times more when there is a video instead of just listening without video. In fact, when I talk to someone a lot of the times I understand better because they point things to me... the object... then I start understanding that certain object is called that way because the other person pointed it to me. A lot of times I don’t understand but with people’s gestures, I understand what they are talking about (p3.1. Text unit, 15).

Maria accessed the ‘feedback button’ option, not only to assess her performance, but also to benefit from the salient input presented in the form of the repetition of key segments. In fact, she thinks that this type of feedback (available in Level 3 and Level 4) resembles the communication strategies used by native speakers to help her interlocutors repair perceived difficulties in understanding. In her view, native speakers do not explain but rather repeat key words:

I like [the type of feedback] that takes me back to the segment where I can find the answer…this is a listening exercise and it reflects much more what happens in real life...because.. for example, once my friend Martha called me and I understood she said “how are you” and I said “good and you”, then she said: “where”... you see how easy that is? well she just repeated the part I misunderstood and this type of feedback does exactly that, because my friend is not going to tell me, “I am not greeting you, I want to know where you…” she just said “where” and with that I realize that I misunderstood the question (Maria, p3.1. Text unit, 17)

Interestingly, Grgurović and Hegelheimer (2007) found that participants accessed ‘subtitle’ options as a way of transferring behavior learned when watching movies, a real life situation, to the computer-based learning environment.

**Theme two: Challenge**

The second theme, Challenge, refers to the participants’ belief that learning a language requires hard work and conscious effort. Texts that are too easy or too difficult to understand do not contribute to language learning (Table 23).

Notice how Sandra, for instance, used the transcript button after several failed attempts to understand the text without accessing help options. When she decides to use
Chapter Four: Help option use/non-use – Learner interactions

it, she just reads the part she had problems with and keeps working on the rest of the text as a way to push herself to understand and make her brain ‘work’.

S: Yes… I used the transcript once I had listened to it about five – six times that I couldn’t understand, I couldn’t understand, I couldn’t understand so I had to use the transcript but I didn’t read it all… it was just the bit I could not understand and it was the one I couldn’t understand.
R: Just the part you didn’t understand?
S: Yes. Just the part I didn’t understand. I didn’t read it all.
R: And why didn’t you read it all?
S: Because I’m trying to work more with the listening part which is the most difficult one for me…for everybody… I don’t know…listening is the most difficult for me and speaking…So, it wouldn’t make any sense to do that exercise just with the transcript.
R: Why wouldn’t it make any sense?
S: Because I think reading and writing are the skills I have developed the most and it wouldn’t make sense to do that exercise just with the transcript.
R: I used the explanation all the time, and for example I did something to… I intentionally marked the answer incorrect to see what the mistake was and to listen to the specific segment. I did not want to miss the chance to listen to the feedback (Maria, p1.1. Text unit, 29)

Table 23 Theme two: Challenge

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definition</th>
<th>Sample data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-initiative</td>
<td>The use/non-use of help options to increase the perceived difficulty of an aural text</td>
<td>I used the explanation all the time, and for example I did something to… I intentionally marked the answer incorrect to see what the mistake was and to listen to the specific segment. I did not want to miss the chance to listen to the feedback (Maria, p1.1. Text unit, 29)</td>
</tr>
<tr>
<td>Self-reliance</td>
<td>The participant’s reluctance to admit lack of understanding of an aural text</td>
<td>R: But if that is so difficult to understand so why not to use the help options? J: Well, I guess that is not that difficult; if that was so difficult that I could not understand anything at all, then I would go and use the help options in Spanish. I mean, the exercise is not that easy or that difficult… it is at a level in which I still feel I can do it… So if I answer and everything was incorrect then I would use the option in Spanish. Or if I read and I realized that from all the words that there are in there I understood nothing (Julio, p3.1. Text unit, 104)</td>
</tr>
</tbody>
</table>

Self-initiative in this sense is the use and non-use of help options to increase the difficulty of the task. Maria deliberately selected wrong answers to listen to the feedback several times and to push her to understand what she considered key in the text. Julio and Sofia avoided translations for different reasons. Rather than to push herself to think in English and not to rely on her mother tongue, Sofia did not use translations because in
her view, she is ‘expected’ to have developed other learning strategies that allow her to grasp the meaning of the text, Sofia explains:

… because it is not that necessary for me. Since this is an advanced level, I am expected not to be so dependent on the translation, different from a basic level in which translation might be useful to learn new things (p2.1. Text unit, 58).

In a related manner Vilma, Sandra, Rosa and Lina tend not to use transcripts because they considered that a listening exercise should be done without relying on help. Moreover, in their view, comprehension is eased if transcripts are read along with the listening passage and they want to push themselves to understand by using only aural input. This, they note, may eventually lead to develop listening comprehension, Sandra explains:

This is supposed to be a listening exercise, right? So if I read I’m not going to do it well because I know that if I read I will know what the text is about and I am not going to listen to it again…[ ]…it’s easier…it’s easier for one to read than to listen so that’s why I almost always prefer not to use the transcript even if I have to listen to the text about 5 times to understand… to improve [my listening skills] (p2.1. Text unit, 10)

When Yolima and Duvan listen to a video for the first time, they tend to refrain from looking at the images to ‘exploit’ fully the aural input only because images, in their view, aid text comprehension and they want to see how much they are able to understand on their own. Duvan explains:

Well, the first thing I did was to listen only. I did not look at the image [video] or the transcript
R: Why don’t you have a look at the image?
D: … because it is a help option… because the video helps you understand based on the people gestures you can… it is like some help. I tried to exploit the listening component and listen only to understand what they were saying. Once I… I do this as a way to challenge myself (p2.1. Text units 42-44)

Julio, Sandra, and Vilma would rather have feedback that guides them to find the correct answer than feedback that gives them the correct answer because this would force them to find the answer by themselves. Vilma notes:

…Because this explanation gives you an idea about why your answers are incorrect but it does not tell you exactly where the mistake is, so you have the possibility to listen again, to understand it and to answer the questions always by yourself…you can correct your answers instead of being told you are wrong because this is the correct answer (p3.2. Text unit, 123)
Beginner participants such as Andrea and Camila, while also valuing this type of feedback, feel that they still need to be told what the correct answer is in case they are not able to figure it out by themselves.

These findings partially align with Pujolà (2002) who reported that high decoders tended to rely on replay buttons rather than on subtitles and/or transcripts because they seemed to adopt test taking behaviors as a way to self-assess their performance.

Self-reliance is the participants’ reluctance to admit lack of understanding of aural texts. Julio did not resort to using the transcripts and/or translation options because he felt the input was not too difficult to understand, hence he could understand on his own. In Vilma’s case despite having three incorrect answers in the exercise, she never accessed the transcript because she still wanted to push herself to understand the text.

…I had those three incorrect answers but I preferred to listen again and understand the text by listening… then, I answered the questions…

R: So, the fact that you answered the questions correctly [afterwards] means that you understood the text better? I mean after you realized that all of the answers you chose were correct, did that help you consolidate your understanding of the text?
Y: Well… that gives you confidence to be sure that you have understood the text, maybe in that sense, yes (p3.2. Text units 40-42)

In a related manner, Rosa believes that the more she listens without relying on transcripts the better she is going to become at listening. In fact, for her transcripts usage hinders language learning, she explains:

Why do you keep insisting on not using the transcript?
Because I know listening is one of my weaknesses, so to improve it
R: And how do you know listening is one of your weaknesses?
C: Because of what I have studied during.. I mean from what I have studied, I have realized that listening is one of my weaknesses because I understand better when reading. That helps me understand more words, what they mean, how people use them, to learn more contractions….is that the way they are called?
R: Yes. Ok. That is to say for you the transcript is not a help option?
C: No, the transcript is not a help option. For me the transcript makes me get behind. For me it is better try to get ideas to see if I can reinforce what I know and further advance in the language (p2.1. Text units 42-46)

Sofia, Rosa and Sandra also insist on not using the dictionary because they are at a level where they prefer to rely on the context. Sofia used this strategy but unknowingly
her interpretation of ‘set-up’ turned to be incorrect because ‘set up’ was used to mean ‘hoax’ and she interpreted it as ‘meeting’.

In my opinion, the context helps you get the meaning of the words. For instance, I didn’t know what ‘set up’ means, but you see the context and you think of a possible meanings like a ‘meeting’ (p1.1. Text unit, 33)

This factor was also identified in help systems design where users neglect assistance, thinking they can find a solution on their own (Dworman & Rosenbaum, 2004). Pujolà (2002) reported that students did not use the dictionary because they believed they could deduce the meaning of the word from context, but most of the time their guesses were incorrect. Hegelheimer and Tower (2004) also found that learners did not use the replay buttons because they wanted to see how much they were able to understand on the first attempt.

**Theme three: Recovery**

Recovery refers to the learners’ response to perceived comprehension failure. This comprehension failure can be motivated by four factors: self-awareness of language limitations, technical problems, short-term memory issues and lack of confidence in the knowledge of the language.

The self-aware limitation factor deals with the perception that help option use compensates for self-perceived difficulties in understanding of aural input (Table 24). Maria and Julio resorted to using transcripts because, they believe, aural comprehension is enhanced by reading along with them. Camila and Andrea accessed translations instead of transcripts because their limited knowledge of English does not allow them to understand written texts.
Table 24 Theme three: Recovery

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definition</th>
<th>Sample data</th>
</tr>
</thead>
</table>
| Self-aware limitation factor  | Consciously perception on behalf of the learner that help option use may compensate for self-perceived difficulties of aural input comprehension | J: I could not understand the listening so I thought I had to... R: But do you think it is because you have to infer the answers to the questions? Or because the text is so fast, or you do not understand the vocabulary, what is the reason?  
J: I do not know. I guess maybe the text was so fast and I could not understand what the people said in there so I decided to use a written help option to know what they were talking about (Julio, p 3.1 Text units 94-96) |
| Technical issues              | A learner’s use/non-use of help options to compensate for technical difficulties while interacting with aural texts. | I used the control buttons, I used the rewind button, but I don’t think it worked properly because I kept clicking on that button, but it did not work... so I decided to stop and play the text all over again. (Lina, p1.1. Text unit, 4)                                                                                                  |
| Working memory limitations    | The notion that help options usage compensates for deficiencies in short-term memory span | Yes, I did it [listen to the complete text] because I couldn’t remember all the information. That is why I had to listen to the complete text again. I could remember neither what has been said at first nor who had said it. Therefore I listened to it once again (Maria, p2.1. Text unit,56) |
| Confirmation                  | The use of help options to compensate for the lack of confidence in an aspect of language learning |  
What’s the reason for using glossary or translation?  
I tend to use the help option in Spanish [translation] when I believe I know what the meaning of a word is. So, I am not interested in English at that point.  
R: So, when you want to confirm something you use the translation, that is the word in Spanish  
A: Of course because it is faster and it is easier. Let’s say I find the word ‘white’, and I think it is ‘blanco’, so I check it in Spanish... but when I use the English dictionary because I am learning English, of course I need to be attentive of what it is and I need to understand the context where it is used (Maria, p3.1. Text unit, 8) |

The second factor, technical issues implies the use of help options to compensate for technical difficulties experienced while interacting with the listening tasks. Duvan, Lina, Maria, Rosa and Sandra did not use the forward button because they were unable to forward the text by segments; instead they listened to the complete text. Sandra notes:

S: This exercise seemed more complicated to me because there was not a progress bar. And I wanted to rewind and that sounded like rrrrrrrr and I had to start it all over again and I was almost done.... the same thing happened about three times (p2.2. Text unit, 9)

The lack of control also offered by the rewind button encouraged the use of the progress bar. Duvan noted how he neglected the rewind button because it did not offer
the control he needed. Additionally, he explains how by using the progress bar he was able to form a mental map of audio and image that facilitated task completion.

D: Because I have more control and I am the one who decides when I want to start listening. When I decided to listen, I listened to the complete dialogue and I paid attention to where the image was. Moreover I related situations to where the bar was located. Then I created a mental reference of where certain parts of the dialogue were without accessing the buttons, but just by using the bar.

R: Why didn’t you use the control buttons?

D: Well, because they didn’t offer me the control I needed. Additionally, as I told you before I already knew where the dialogue was then I placed the bar where I wanted (p2.1. Text units 36-38).

Other technical issues led Julio to replay the complete text because he needed to adjust the volume. Maria, for instance did not access cultural notes before listening to the text because access to the Internet did not work properly at the time. Camila did not use the translations because she could not access the transcripts. Andrea tried to use the progress bar, but it did not work so she relied on the audio control buttons instead.

These findings align with both Pujolà (2002) and Grgurović (2005) who reported that learners neglected the online dictionary because they experienced some technical issues uploading the dictionaries. Such issues caused frustration among the students.

The third factor, short term-memory span encompasses the use of help options to compensate for short-term memory capacity. In this sense, audio control buttons proved to be useful for participants regardless of proficiency level. Maria, Vilma and Rosa, for instance replayed the complete text several times because although they thought that they had understood what the text was about, they were unable to remember who said what and thus answering the questions became challenging for them. Rosa describes this process:

Ok. At first I listened to the complete text. When I found the questions I noticed there were some parts I had forgotten… so I played it again and listened to it by parts (p2.1. Text unit, 12).

To answer each question, Julio, Camila and Andrea segmented their listening using the pause button because their short term-memory capacity is low and they are not able to hold information for long periods of time. Julio explains:

Another reason why I use to do it like that [pausing the text and completing questions one by one] is because I have a terrible memory, so if I do not answer
the questions immediately after having listened I forget the answer… this happens in Spanish, my native language (Julio, p3.1. Text unit, 30)

Instead of pausing the video to answer individual questions, Vilma and Rosa paused it to make sense of the information because the text was too fast for them to be processed in real time.

V: I used neither the rewind nor the forward buttons, but the pause button
R: Why did you use the pause button?
V: Because I listened to something and I paused to try to give sense to it and carry on because as I told you before, this exercise was more difficult for me; even the speed of the conversation was faster for me
R: You used the pause button, but why did not you rewind and then go forward for instance?
V: Because I paused to “digest” the information; moreover, I use to listen to the complete conversation and if there is something I do not understand then I repeat it all, so I do pause when I have a doubt (Vilma, p1.2. Text units 67-73).

…because the video was faster. Then, that makes it more difficult to understand. So, I had to use the pause button in the video to make sure I understood the main idea of what they were saying (Rosa, p2.1. Text unit, 4)

This finding is in line with Chun and Payne (2004) who investigated the relationship of working memory capacity and lookup behavior when learners were provided with annotations in a computer-based reading environment. They reported that participants with low span short-term memory looked up more words than participants with high span short-term memory. Although participants in this study were not given a test to measure their working memory capacity, regardless of the level they represented, they reported using help options to compensate for short term memory capacity issues and information overload. In a similar investigation, Goh (2000) found that low-level learners and high-level learners had problems recognizing words they knew and quickly forgetting what they heard. Goh suggested “this was probably due to excessive demands from unfamiliar input on a limited processing capacity” (2000:57)

*Confirmation* is concerned with the use of help options to compensate for the lack of confidence in what the learner knows about the language. Vilma, Maria and Yolima use the translation to confirm the meaning of a word. Andrea uses translation to confirm whether her understanding of the text was accurate: “I listened first and I imagined that what I was thinking was true, but anyway I wanted to be sure what they were talking
about”. Similarly, Sofia and Vilma resorted on the transcript to confirm their interpretation of the text was correct. Vilma specifically followed a hunch that her interpretation was not correct because it did not fit in the general context of the input and used the transcript.

V: I used the transcript because I hesitated ... I understood something but it did not fit into the context
R: What do you mean by “it did not fit into the context”?
V: I mean I understood they said something but then I realized it was not coherent with the topic of the conversation
R: What specific thing you did not understand for instance; what were they talking about?
V: I do not remember. They were talking about the game but then I thought I heard something about food so.... I listened again but I lost track of what they were saying so I used the transcript in order to verify (p1.2. Text units 10-14)

Although Yolima did not complete the exercise on the computer, she answered the questions in her head and she used help options to confirm if her understanding of the input was correct.

I answered [the questions] in my head, not there [in the program] ...but to check if what I was thinking was correct I accessed all the help options (p1.1)

In a similar way, Sofia accessed the glossary to verify her understanding of the word “ads’ was correct.

R: How many times did you use [the glossary]?
F: I accessed it to look up “bribe”, “set up” and “ads”. Although I already knew the meaning of “ads” I wanted to be sure of it (Sofia, p1.1. Text unit, 25).

When Vilma came across a cultural note that explained how the word “these” is used to refer to people, she accessed the video to confirm and have a closer look at how Anglo Saxon people look down on other people.

Because the cultural notes display some static pictures, so I watch the video again in order to detail the expression itself. The thing is that in the cultural notes they said that when you refer to someone using this or that, it is a despising way to talk about a person who is considered as a problem[...] In Spanish we tend to say “ese muchacho” but not in a despising way; it is to talk about the people to whom we do not know at all. That is why I wanted to watch the video again to see the expression that refers to a person, using this but when you are kind of annoyed; in order to make the parallel (p3.2. Text units 116-118)
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In summary, regardless of language level participants accessed help options to recover from short memory capacity and technical issues. Interestingly, audio control buttons were the most frequently-used option, followed by transcripts and translations. Also, to repair problems arising from lack of confidence in the knowledge of the language, learners relied on the transcripts and the translation option.

Theme four: Familiarity

Familiarity is the influence of previous contact with help option use in other language settings (Experience) and with knowledge about the help options offered by the software and its location (Software design). Experience refers to the prior contact and manipulation of help options in other language learning settings (Table 25).

Table 25 Theme four: Familiarity

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definition</th>
<th>Sample data</th>
</tr>
</thead>
</table>
| Experience      | Prior experience or lack thereof to use help options in other language settings. | L: Cultural notes? What do you mean?  
R: It is a help option that gives you information on the behaviors that are distinctive to Anglo speakers. For instance what some gestures mean, facial expressions mean  
L: Facial expressions? Gestures…No, I did not realize those existed.  
(Lina, p2.1. Text units 5-8)  
R: Yes, here embedded in the cultural notes which are in English you have a translation link. Why did not you use it?  
C: Where is the translation embedded? I did not know that option existed.  
R: You did not see it?  
C: No, I thought it was probably the translation for instruction. I did not associate that translation to the cultural notes. I did not know. I thought the translation was just for the instructions (Camila, p3.1. Text units 7-11) |
| Software Design | A listener’s lack of familiarity with the interface design elements.         |                                                                                                                                              |
Pujolà (2002) reported that even after working for four sessions in a six week period in the program a student did not use cultural notes, simply because he did not know what the program offered, but most importantly because the concept was foreign to him.

Other participants transferred behaviors from other learning and leisure contexts to the computer-based listening environment. Yolima did not read along with the transcripts because of her previous schooling influence where she is asked to listen without looking at the text, she explains,

[I don’t use the transcripts] perhaps because we do it that way in my English class and I am used to it. First, the teacher asks us to listen to a text without letting us check the unit we are working on. Then, we check it…Once we have listened to the text and when we have talked about the audio file, we check it (Yolima, p1.1. Text unit, 18)

Vilma on the contrary transferred a behavior she adopts when she goes to karaoke where subtitles are provided for people to sing along, she explains:

Well, I like the songs in English with a childish rhythm, so I listened to them, then organized the words and then I listened to the songs along with the transcript for me to repeat them it is what you do in karaoke (p3.2. Text unit, 78).

Andrea, for instance, tends to use the audio control buttons more often than the progress bar because she uses them when listening to music on her computer or when involved in transcription tasks required for her schoolwork.

A: Because I am used to do it. For example when I listen to music on the computer, when I am transcribing something and I need to listen to something to rewind it…so I use the buttons more than the bar, I do not know why…I generally use the buttons instead of the bar (p2.1. Text unit, 34)

Vilma uses the progress bar, because she tends to associate the rewind and forward buttons to move between songs when she listens to music using Windows Media Player.

Y: Right. In addition, for instance if you open the Windows Media Player and you are listening to a song it does not have control buttons to rewind it, but to go to the previous songs or to go to the next one
R: You mean in this case you relate these buttons to…
Y: To the ones in the tape recorder
R: Or maybe as if there were several videos and the buttons would send you to the previous video or to the next video, right?
Y: Well, not exactly. I know these buttons are to rewind and forward the video too, but those kinds of buttons are normally used to go to the previous or the following video (p3.1. Text units 50-54)
Sandra relies on the images of the video, because in her view she is used to associating images with sounds as when she watches movies. The images, in her view, help her focus on the activity.

The human being tends to get bored very quickly about things … and when watching even if they are small puppets one pays more attention to what is going to happen, like [when you watch a] movie, but if it is just listening and listening I get bored and I start thinking about other things, I start daydreaming because they are just talking and talking and talking (Sandra, p1.2. Text unit, 62, partial).

Software design explains a listener’s lack of familiarity with the interface design of the software. Participants reported not having used help options for several reasons. 1) they did not see help options, 2) they did not remember they existed. 3), and although they knew help options existed these were associated to particular cases. As Dworman and Rosembaun (2004) and Kelleher & Paucsh (2005) argue, participants tend not to use help because they are unable to see sources of help even if it is displayed in front of them. Although the transcripts option have a prominent location on the LEI© screen (immediately below the audio control buttons) and I showed participants the location of help options, Lina and Maria said that in fact they did not recall having seen the transcript icon. Lina also missed the ‘cultural notes’ option, because her style of scrolling caused it to be hidden.

In a related manner, Yolima and Julio did not access the listening tips because they simply did not see them, Yolima explains:

R: O.k. in this exercise, there is a new help option called listening tips. Did you happen to access it?
Y: Well, I did not even see it
R: You did not see it
Y: I think it should be more attractive because the way the software works is giving you the same help options and you methodically do it…but I swear I did not even see it (p3.2. Text units 2-4)

Other participants did not remember help options existed. Maria did not remember the software offered transcripts. Camila did not use the translations of the cultural notes because she thought the translation option was only given for the aural text and instructions, but not for other options such as cultural notes, she explains.
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C: Where is the translation embedded? I did not know that option existed.
R: You did not see it?
C: No, I thought it was probably the translation for instruction. I did not associate that translation to the cultural notes. I did not know. I thought the translation was just for the instructions. The thing is that I believe there are too many options, too many links embedded in other links. It may not be so confusing, but when you use the software for the first time you are interested in learning and I think there is too many links embedded in other links and that is….it is not that it is necessarily confusing, but it is unpractical (p3.1. Text units 8-10)

Julio, Lina, Yolima and Andrea did not access the explanation in the feedback because the ‘e’ logo did not draw their attention. Yolima notes:

R: Did you use the help option for explanation
Y: No… [looking puzzled]
R: The one where an “E” appears
Y: No, I don’t think I saw that one, not in that moment
R: You said you had three incorrect answers. Right? Generally, I mean always when you have an incorrect answer it is marked with a cross and there is an “E” on the side… and it tells you …
Y: No, I didn’t see it. What I did was to use the “try again” button and I started all over again (p1.2. Text units 11-16)

Instead of accessing the glossary, Rosa mistakenly clicked on a vocabulary button which contained vocabulary exercises for the complete unit, not only for the listening activity she worked with because she associated this vocabulary link to a place where you can find word meanings:

R: You said that although you found the exercise more difficult you did not use help options?
C: No. I only tried to check here -the vocabulary- but there was nothing of what I was looking for.
R: Vocabulary is another type of exercise. It is not the vocabulary you have there in the text. For checking the vocabulary of the text you need to access the transcript first (p2.1. Text unit, 14).

As participants became familiar with the software, they used help options more frequently and effectively. Unknowingly, it seems that my questioning influenced their behavior regarding help option use. This assumption, although premature, indicates the value of help option training for use that leads to comprehension and eventually to language acquisition and needs to be further investigated.
Chapter Four:  
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Theme five: Compatibility

The last theme, Compatibility, refers to the degree of ease of interaction between help options and listening exercises. The theme consists of two factors: distraction and mismatch.

Distraction involves a shift in attention from the input to other features of the software as a result of help option use (Table 26). This deviation of attention leads to poor understanding of aural texts. Julio neglected transcripts because reading shifted the goal from understanding to pronunciation; hence, comprehension was going to be affected. Camila, Julio and Andrea did not use listening tips and cultural notes because the input provided, in their view, is peripheral to the main message. Yolima, also finds that the images in the video, instead of helping her understand the message, distract her:

…what I have noticed is that I do not pay much attention to [the video]. I watch it but I try not to look at the video I try to listen more…
R: Does the video help you focus, or does it distract you?
Y: In this case, I think it distracted me because I was not watching the video, I was listening to the audio. Perhaps one tends to focus the attention in the images, but for me it is more important to understand what they are saying than seeing what they are doing… it must be because of that… the gestures distract me (p1.2. Text units 30-32)

Opposite to this view, Vilma, Sofia and Sandra feel that images help them focus on the activity. Otherwise they would be distracted and comprehension would be affected. Sandra summarizes this view:

The video complemented it perfectly…because if I didn’t have the video, just sound, you can be sure about…I don’t know…it would be a very boring program because one, as human being, one guides oneself mostly by images, by little puppets, by things so, if there is a video I will be concentrated watching it.
R: You concentrate…it helps you concentrate.
S: Exactly, because I will be there watching and paying attention so that I can’t get lost but, if I listen, just listen, I look at other side and…then I get distracted thinking about other things… (p2.1. Text units 20-22)

Dworman and Rosenbaum (2004) found that users tend to neglect help option use for fear to forget what they are working on.

Mismatch acknowledges that input in listening is ephemeral and fast paced, and help option use does not lend itself well to listening. Vilma finds cultural notes valuable for understanding the text, but she associates them more with reading contexts where non-
verbal clues cannot be exploited. In her view, in listening, as learners have access to
dynamic images, they can rely on them to complement understanding. Vilma notes:

Well, the thing is that I like the cultural notes to know certain details but in a
reading exercise I think they would be more important because in a listening
exercise for instance you are watching the video and you can notice some of the
expressions and the attitude from the people, so the cultural notes are not as
relevant when you are listening as when you are reading (p3.1. Text unit, 69)

Table 26 Theme five: compatibility

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definition</th>
<th>Sample data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distraction</td>
<td>A shift in attention from the aural input to other features of the software as a result of help option use</td>
<td>[I can’t use the transcript and listen at the same time] I think I am sort of slow in that part: I just read or I just listen but I cannot do the two of them at the same time because I would not be that concentrated (Julio, p2.1. Text unit, 112)</td>
</tr>
<tr>
<td>Mismatch</td>
<td>The acknowledgment that the ephemeral and fast-paced nature of aural input constrains simultaneous interaction with help options</td>
<td>A: No, no because if I am reading along, I would not have much time to do it. If I look up those words I get behind and get lost... I think once I know what they are and after listening. I already listened to the video, I read the transcript, now I need to know more about the context, so that’s the time to look up those words, but not at the same time. I would get lost. Moreover that was not the goal because I was trying to read along and that’s it (Maria, p3.1. Text units 34-36)</td>
</tr>
</tbody>
</table>

Despite the fact that Maria did not understand a word from the transcript, she did not access the glossary for fear of getting behind and lost. In her view, the task of listening and looking up words requires major mental effort and cannot be done at the same time.

Liou (1997) and Hegelheimer and Tower, (2004) suggest that dictionaries are usually neglected in listening comprehension environments for two main reasons: 1) learners are unable to cope with the demands of listening processing and looking up words at the same time and 2) learners rarely know how to spell such words. Rivens Mompean and Guichon (2009) reported that most low and intermediate learners adopted a global and split viewing approach. That is, pausing the video to take notes, possibly, to accommodate for self-perceived limited memory capacity to attend to both the listening input and note taking simultaneously.
Chapter Four:  
Help option use/non-use – Learner interactions

Summary of findings

In Study One and Study Two listeners behaved in a variety of idiosyncratic ways across both tasks and sessions. The reasons that a learner may choose to use, or not use, a help option facility varies widely. With reference to repairing, participants relied on help options that prompted aural-to-visual modification (transcript and video). Most participants at low proficiency levels, except for Yolima, acknowledged that aural-to-visual modification in the form of the transcript eases comprehension, but they limited their use because listening and reading along with transcripts put additional demands on their working memory capacity. For them, this process produced a shift in attention from understanding to pronunciation, two individual processes that they are unable to cope with simultaneously. In fact, they caution their use because they find transcripts distracting, if not used properly.

Most intermediate learners and Yolima, a beginner learner, also acknowledged that comprehension is enhanced by transcripts, but for them the goal determines their usefulness. That is, if the purpose is comprehension then transcript use is seen as detrimental for language learning because listeners feel they are not ‘pushed’ or ‘challenged’ to do their best, but if the purpose is learning pronunciation, vocabulary or even syntax, then transcript use is justified. Possibly, intermediate learners have freed some cognitive resources that allow them to deal with pronunciation and comprehension simultaneously. Another plausible explanation is that since intermediate learners have been exposed to language learning for longer, they have had the chance to test, come up with, and develop different strategies conducive to exploiting transcripts for learning. Also, experience with computer-based listening in previous language learning situations seems to give learners the insight to take advantage of transcripts for language learning.

Except for the translation options which beginners use as a ‘bridge’ between their mother tongue and the target language for comprehension, listeners acknowledge the need to have a minimum grasp of the text to benefit from the interaction with help options such as transcript, audio control buttons, and video. Texts that are above the listener’s proficiency level seem not to be understood even after repeated interaction with help options.
Regardless of proficiency level, participants in Study One and Study Two relied on aural-to-aural modification in the form of audio/video control buttons to compensate for low span short-term memory and for technical problems with the software. Low proficiency learners tended to rely on the pause button to control the flow of information they listened to, and to answer the questions sequentially. Intermediate learners used the pause button to ‘digest’ and make sense of the main idea before playing the remaining texts. They also, in general, relied on the rewind/forward button to locate specific information in the text. One participant at higher proficiency also preferred using the media control bar because of the control afforded to listeners.

Of particular importance, listeners at low proficiency levels did not use a help option element because they did not see its immediate relevance to task completion or text comprehension. For instance, one reason for not making use of ‘listening tips’ was due to a limited understanding of the concept. Listeners had an expectation that help option facilities have to directly relate to the input of the text. Similarly cultural notes were neglected because they found the input peripheral to comprehension.

Most participants at intermediate proficiency levels who study in the Modern Language program and participants in ESL contexts tended to resort to options they saw relevant for real life use. For instance, the video and the explanatory feedback were used to imitate closely face-to-face situations. Perhaps, their experience interacting in authentic communication contexts allows them to see the benefit of help option use for interaction in real language contexts. Some learners also neglect help options for the same reason. For instance, transcripts, dictionary and cultural notes were not used because they see that those options are not available when learners face communication breakdowns in face-to-face contexts.

Other help options such as a transcript and audio control buttons were used because listeners transferred their experience and behaviors from other learning and leisure situations to the computer-based listening environment. The influence perceived in this regard is on not only how they listen to texts, but also how computers are used for work and entertainment.
Help options such as transcripts and translations were also used to confirm participants’ understanding of the text or knowledge of particular aspects of the language such as vocabulary.

In an opposite way, help options such as listening tips, transcripts, cultural notes and translations were not used because listeners lacked familiarity with the software interface. Thus, learners did not use help options for several reasons: 1) they were unable to see help options; 2) they did not remember help options existed; 3) they did know that a particular help option can be used in other contexts within the exercise; and 4) they associated elements in the screen to help options when this was not the designer’s intention.

Listeners also found help options to be incompatible as in the case of ‘cultural notes’ and ‘dictionaries’. The cultural notes option was seen to provide further information on native speaker customs and behaviors. Low proficiency learners, however, neglected this option because they did not see the worth of accessing it for text comprehension and task completion but rather saw the option as a distraction to effective aural input understanding. In contrast, however, intermediate learners saw the cultural notes option as a helpful tool to contextualize the situation portrayed in the video, but some noted how ‘cultural notes’ could be better exploited in reading comprehension contexts.

Regardless of the proficiency level, dictionaries were seen as not compatible with the listening tasks and hard to use because learners were unable to simultaneously process aural input and look up words. Moreover, students rarely knew how to spell words

**Summary of chapter four**

In this chapter I contextualized and presented the results of Study One and Study Two. These studies sought to identify triggers for help option use/non-use in computer-based L2 learning environments as 15 learners of English from Colombia interacted with help options available in the listening tasks from the Longman English Interactive © program software in two different settings.

In the first part of the chapter, I provided a rich description of the procedures employed for participants’ selection and data collection. Participant profiles for each study were also included in this section. Then, I described the preparation for data analysis procedures emphasizing the differing ways in which I looked at the data.
In the third section of the chapter, I presented the findings of Study One and Study Two coalesced in five themes: Relevance, familiarity, compatibility, recovery and challenge. Each theme was discussed and substantiated with data across participants, proficiency level, tasks and help options.

In the next chapter I discuss key design considerations of help options for computer-based L2 listening environments.
Chapter Five:
Design considerations of help options in computer-based L2 listening

In the previous chapter, I contextualized and presented the results of two empirical studies (Study One and Study Two) that sought to identify triggers of help option use/non-use in computer-based L2 learning environments. This chapter seeks to examine design features of help options that promote help option use. Accordingly, I contextualize and present the results of two empirical studies (Study Three and Study Four) where L2 learners predominantly from Colombia, language teachers, HCI designers and a computer programmer worked collaboratively in the design of the interaction page containing help options for a computer-based L2 listening environment.

Structurally, the chapter is presented into three sections. In the first section, Collecting the data I provide a rich description of the participant’s selection and data collection procedures. In the second section, Data analysis I detail the preparation of data for analysis and subsequent data analysis procedures. The last section, Findings and discussion is presented in two subsections ‘design outcomes’ and ‘interaction data results’. In the design outcomes section I introduce two sets of paper prototypes designed consensually by the participants in light of five features: type, location, sequence, click-through and display. In the interaction data section I present findings in four themes: ease of use, learner control, guidance and learning.

Collecting the data

Study Three: Exploring PD in CALL

Study Three explores design features of help options in computer-based L2 listening environments. Accordingly, I set up three participatory design sessions with four ESL learners, one HCI specialist, and one English language instructor. Activities for participatory design sessions were collaborative and lively. The main outcome of the collaborative design sessions is the production of paper prototypes that reflect the type, location, sequence, click through and display of help options for a computer-based L2
listening environment addressed to language learners of low and high-intermediate language proficiencies.

**Selection of the participants**

The language learners for Study Three were suggested by the language learners who had participated in Study One. Thus, from a pool of seven language learners who were enrolled in one of several language institutes in Melbourne, four were invited to participate in the study. I determined the language proficiency of participants based on their previous learning experience and the self-assessment of their proficiency in English. The HCI specialist and the language teacher were referred by colleagues and research supervisors. Although the initial participant selection criteria dictated to include only participants from Colombian background to minimize potential differences in cultural background it was impossible to find a language teacher or even language learners willing to participate. Therefore, for practicality purposes people from other South American countries were invited to participate in Study Three.

**Profile of the participants**

The participants in Study Three were four language learners, a language teacher and a HCI designer. The participants represent three different countries (Colombia, Chile and Argentina) and except for Liz, they all had completed studies at the tertiary level. Participants’ age ranged from 22 to 45 years old. Liz, Mao, Karol and Fabio were four language learners enrolled in ESL classes at the time of data collection. Liz and Mao represented the beginners and high-beginners and Karol and Fabio represented intermediate and high-intermediate learners. Celia and Elkin were the language teacher and the HCI specialist respectively (Table 27).
Table 27 Study Three: Profile of the participants and roles in PD

<table>
<thead>
<tr>
<th>Participant</th>
<th>Nationality</th>
<th>Profession</th>
<th>Role in PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liz</td>
<td>Colombian</td>
<td>Student of business (6 semesters)</td>
<td>Beginner L2 learner</td>
</tr>
<tr>
<td>Mao</td>
<td>Colombian</td>
<td>Psychologist</td>
<td>High-beginner L2 learner</td>
</tr>
<tr>
<td>Karol</td>
<td>Chilean</td>
<td>Computer programmer</td>
<td>Intermediate L2 learner</td>
</tr>
<tr>
<td>Fabio</td>
<td>Chilean</td>
<td>Electrical engineer &amp; Computer programmer</td>
<td>High-intermediate L2 learner</td>
</tr>
<tr>
<td>Celia</td>
<td>Argentinean</td>
<td>Doctoral student in linguistics</td>
<td>Language teacher</td>
</tr>
<tr>
<td>Elkin</td>
<td>Colombian</td>
<td>HCI designer and lecturer</td>
<td>Software designer</td>
</tr>
</tbody>
</table>

Liz, the beginner learner

Liz, 22, was a third-year undergraduate student enrolled in an international business program at a major private university in Colombia. At the time of data collection, she had been in Melbourne for nine days and she had attended three ESL classes for beginners. Liz noted that she had taken English classes where listening was primarily tested rather than taught while in Colombia. She also reported not having used computers to learn English; however, she reported using the computer to listen to English songs and watch movies in English, but with Spanish subtitles. Liz considered writing one of the most difficult aspects of learning English and listening one of the easiest. She had never taken an English proficiency test.

Mao, the high beginner learner

Mao, 25, was a psychologist from Colombia who had been in Melbourne for seven months. Since Mao arrived he had been enrolled for ESL classes at the intermediate level. Mao acknowledges that although his classes offered a good mix of abilities (reading, writing, speaking and listening) for students to practice English, classes were mostly geared towards developing speaking skills.

At the institute, he reported, they did not use computers for language learning and he did not use them for that purpose either. Instead he used computers to fulfill communication needs such as keeping in touch with family and friends. He used YouTube back in Colombia to listen to music in English and to sing along with lyrics.
was not familiar with any websites focusing on listening. Mao considered reading the easiest ability to develop given his schooling experience. Mao, on the other hand, rated listening as the most difficult ability to develop. He has never taken a proficiency test.

Karol, the intermediate learner

Karol, 29, was a computer programmer from Chile. She had been in Melbourne for three months at the time of data collection. She was enrolled in a high intermediate course. While in Chile, Karol took English classes twice a week for four years. According to Karol, the opportunities for listening in the classroom were limited to the instructions given by the English teacher, who also encouraged the use of computers for learning English in a self-directed hour, but never as part of the class. Karol reported that computer-based L2 listening was completely neglected at her language school. However, when she and her husband first arrived in Melbourne, they downloaded conversations in English to their iPod and they listened to them while commuting to work. Karol considered developing speaking skills quite difficult and reading the easiest ability to develop. Karol has never taken a proficiency test.

Fabio, the high intermediate learner

Fabio, 35, was a computer programmer and electrical engineer from Chile. Although at the time of data collection Fabio had been in Melbourne for three months, he had been enrolled in an advanced class where listening was promoted as homework, but never as a class activity involving computers. Fabio considers listening as the most difficult ability to develop when learning English given the small variations in pronunciation. One of the easiest aspects of learning English is the similarities that he can find to his mother tongue, Spanish. Although he considered that at the same time this was a two-edged sword because he tended to use words that he believed were the same in English.

Elkin, the software designer

Elkin, 40 was an electronic engineer from Colombia. He holds a M.Sc. in information technology. At the time of data collection, Elkin was pursuing a doctoral degree at a major Australian university where he conducted research in the field of teaching and learning for international students. His doctoral study sought to facilitate the transition of
international students when studying abroad. He was also a senior lecturer in the IT department at university in Melbourne. He had over 20 years of work experience designing software for education environments. While working for a major Australian university, his team developed TELARS (Teacher Learner and Research Units). Other projects included the creation of WebCT and personal learning environments. Although he had had ample experience in the design and evaluation of software management systems and personal learning environments, he had never designed software for language learning.

_Celia, the language teacher_

Celia, 32 was a doctoral candidate in Linguistics from Argentina. She had taught Spanish and linguistics at several tertiary institutions in Melbourne. She acknowledged that listening comprehension was one of her weakest skills when learning English back in Buenos Aires.

Her experience teaching languages using computers was limited. Most of the classes she taught were classroom based involving 10 students on average. She reported that in the USA, students did not use computers in the classroom. Instead, she reported, students used blackboard to type in and submit assignments. She had mostly used tape-recorders for teaching listening; however, she encouraged students to work on their own using computers and watching movies. One of the only exceptions when she taught listening with computers was when doing some TOEFL preparation courses.

_Procedure_

Data was collected in one individual session and three collaborative sessions. In each session, interaction was lively, collaborative and productive. All sessions were conducted in Spanish (Table 28).
Table 28 Study Three: Summary of data collection procedures

<table>
<thead>
<tr>
<th>Session</th>
<th>Activity</th>
<th>Length</th>
<th>Materials</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>First session</td>
<td>Individual interviews</td>
<td>1 hour per</td>
<td>Longman English Interactive</td>
<td>Researcher’s personal studio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>participant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second session</td>
<td>Paper prototypes</td>
<td>1 hour</td>
<td>Researcher-generated paper prototypes</td>
<td>IDEA lab</td>
</tr>
<tr>
<td></td>
<td>evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third session</td>
<td>Paper prototype design</td>
<td>2 hours</td>
<td>Stationery</td>
<td>IDEA lab</td>
</tr>
<tr>
<td>Fourth session</td>
<td>PD evaluation</td>
<td>1 hour</td>
<td>Stationery</td>
<td>IDEA lab</td>
</tr>
</tbody>
</table>

First session

The first session was a one-hour individual session that sought to familiarize each participant with the definition of help options adopted for the study. It also sought to inquire participants about their experience with language learning, computer use, language teaching and design. Accordingly, the language learners were interviewed after interacting with a set of listening tasks of the LEI© program. The interview inquired about their previous experience with language learning and computer-based L2 listening. In a similar fashion, the software designer, and the language teacher were trained to use the Longman English interactive© program, but questions relevant to their professions were asked. The designer was asked to focus on design aspects of the program and the language teacher on the pedagogical principles behind such design. Semi-structured interviews inquiring about their academic background and professional experience were also conducted (Appendices C3 and C4).
Second session

The second session was a one-hour collaborative session that sought to familiarize participants with design features of help options. Accordingly, participants assessed three researcher-generated paper prototypes using two main criteria: whether and how they prompted or prevented L2 learner from using help options in a computer-based listening environment (Figure 17). The paper prototypes designed for the study were based on commercially available software, insights from previous studies on help options and opinions of participants from Study One and Two. While prototype A addressed beginners and high beginners, prototypes B and C addressed intermediate and high intermediate learners respectively.

The rationale behind the design of each paper prototype is discussed on page 66. The second session was conducted in the IDEA lab, a usability design lab, and was audio and video recorded. The three paper prototypes were placed on tables for the participants to look at them simultaneously while sitting around them.

The guiding questions used for the prototypes evaluation (Appendix C5) resulted from the synthesis of conversations with two fellow PhD candidates in information systems with ample research experience in PD processes and outcomes and a senior interaction designer, with key experience in user centered design and usability testing (See a
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A thorough description on page 66). The questioning style was flexible and the researcher followed on issues arising from the participants responses. Special care was taken to vary the turns in which participants intervened to give participants equal number of opportunities to express their ideas.

**Third session**

The third session was a two-hour design session in which participants designed two paper prototypes, one for beginners and one for learners at intermediate proficiency. This session was conducted in the IDEA lab and interaction was both video and audio recorded. In this session participants were briefly reminded what they had done during the second session, but no paper prototypes were shown this time. Then they were asked to discuss design features that in their view promote help options use for beginner learners. Participants worked collaboratively in the design (Figure 18).

![Study Three: Collaborative discussion for prototypes design](image)

**Figure 18** Study Three: Collaborative discussion for prototypes design

Upon discussion, participants used stationery (sticky notes, paper, markers, etc.) to transfer their ideas to design. My role as a researcher was to question their ideas and make sure that all participants’ opinions were reflected on the design without favoring any particular view. Once the paper prototype for beginners was completed, discussions and design of the prototype for advanced learners started and was implemented in paper (Figure 19).
Fourth session

The fourth and last session promoted iteration as participants discussed and assessed the prototypes they produced during the third session. This session was also conducted in the IDEA lab, but it was only audio-recorded. During this session, the participants reflected on their role in the construction of the prototypes and their level of satisfaction with the final product. They were also explicitly asked about things that could be improved in future PD sessions.

Changes from Study Three to Study Four

After thorough reflection of the data collection procedures used in Study Three some changes were incorporated in Study Four

- In addition to interacting with the LEI© program, participants were exposed to two additional websites. This was necessary to minimize the potential effects of influencing the design outcomes. The websites selected were the English Listening Lounge© and Randall’s ESL Cyber Listening Lab©. (See page 61 for a thorough discussion of the selection criteria).
- Participants in Study Four evaluated the paper prototype created by participants in Study Three because they reported that prototype C was messy, non-user friendly and lacked intuitiveness. Additionally the interaction data of the evaluation session showed participants mostly focused on prototypes A and B.
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- The order in which prototypes was presented to participants was shuffled to minimize possible effects of familiarity.
- The number of participants was increased from six to seven and a computer programmer was invited to participate in Study Four.
- Most sessions were scheduled a week apart from each other, except for the prototype creation sessions that were scheduled on two consecutive days.
- More time was allocated for the creation of paper prototypes. While in Study Three participants created a paper prototype in a one-hour session, in Study Four participants created a paper prototype in two one-hour-and-a-half sessions.
- Following the suggestions from participants in Study Three, the design in paper was transferred to a screen using Visual Basics and an iteration session was included. In this session one language learner interacted with the prototype and the other participants commented on the different features of design and suggested changes.

Study Four: Participatory design in help options design for computer-based L2 listening

Study Four explored design features of help options in computer-based L2 listening environments. Accordingly, I set up four participatory design sessions with four ESL learners, one computer programmer, one English language instructor and one HCI designer. Also, as participants in Study Three pinpointed that design outcomes had been clearly influenced from the previous interaction with the LEI© and with the assessment of the paper prototypes, participants were exposed to three different websites for listening.

Selection of the participants

Participants in Study Four were four ESL learners representing different language proficiency levels, an English language teacher, a computer programmer and a HCI designer. The language learners were selected from a pool of six potential participants who were contacted using snow-balling techniques (Patton, 1990). As in Study Three, participants’ proficiency level was determined based on their previous schooling experience in English and their self-assessment of their proficiency. Two language
teachers were interviewed to determine their suitability for the study. Although, with some experience in teaching overseas, one of the language instructors lacked academic training and was not familiar with computer-based L2 listening, thus, his participation in the study was seen as unfruitful. The computer programmer and the HCI designer were recommended by one of my research supervisors.

**Profile of the participants**

All the participants were first generation Colombian immigrants to Melbourne. They represented a group of young professionals with educational status that ranged from undergraduate to PhD studies. Their ages ranged from 22-31 years old (Table 29). Here, Elena and Jose represented language learners at low proficiencies and Lucia and Diego represented intermediate and high-intermediate learners of English. Javier, Olsen and Sonia represented the language teacher, the computer programmer and the HCI designer respectively. Except for Sonia who completed her PhD in Melbourne and Javier who was pursuing a MA in interpreting and translation all the other participants had lived in Melbourne for less than a year.

**Table 29 Study Four: Profile of the participants and roles in PD**

<table>
<thead>
<tr>
<th>Participant’s name</th>
<th>Age</th>
<th>Profession</th>
<th>Role in PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elena</td>
<td>22</td>
<td>Mass media communicator</td>
<td>Beginner learner</td>
</tr>
<tr>
<td>Jose</td>
<td>24</td>
<td>International business</td>
<td>High-beginner learner</td>
</tr>
<tr>
<td>Lucia</td>
<td>25</td>
<td>Business administrator</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Diego</td>
<td>28</td>
<td>Visual designer</td>
<td>High intermediate</td>
</tr>
<tr>
<td>Javier</td>
<td>30</td>
<td>Language teacher and translator</td>
<td>Language teacher</td>
</tr>
<tr>
<td>Olsen</td>
<td>29</td>
<td>Computer programmer</td>
<td>Computer programmer</td>
</tr>
<tr>
<td>Sonia</td>
<td>31</td>
<td>HCI designer</td>
<td>Interaction designer</td>
</tr>
</tbody>
</table>

**Elena, the beginner language learner**

Elena, 22, was a mass media communicator with some practical experience in her field. At the time of data collection, Elena had been enrolled in ESL classes for beginners for two months. She had studied English for six years at high school and throughout her undergraduate program of studies. Elena described her classes as mostly focusing on grammar and reading, two of the abilities at which she excelled. She considered that listening was the most difficult ability to develop. Elena had never used computers for L2 listening or taken any language proficiency test.
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Jose, the high-beginner learner

Jose, 25, completed an undergraduate degree in international business with emphasis on marketing. At the time of data collection, Jose had been studying English for six weeks in Melbourne. While in Colombia, he studied English for six years at a high school and for three years at a university. At the university he took ESP for business where the emphasis was on developing speaking skills. Jose noted that his main weakness in learning English was grammar and the easiest ability to develop was reading. Jose described his experience as a language learner as a satisfactory one where they were taught in groups of 12 students using a skill-integration approach. His experience with computer-based listening was limited to some IELTS preparation lessons. Jose noted that he normally listens to English songs and likes reading along from song lyrics.

Lucia, the intermediate learner

Lucia, 25, was a business administrator. Lucia had been enrolled in a high intermediate English course for six months. She studied English for six years in high school and for a year at a private language institute in Colombia. She had had some experience with computer-based L2 listening, but focusing on IELTS preparation. Reading was her strongest ability and listening weakest. Two months before data collection she sat for an IELTS test and scored 4.5 in the listening section. Lucia noted that she regularly listens to the BBC website and plays music on the internet almost every other day, but she does not sit and answer comprehension questions.

Diego, the high-intermediate learner

Diego, 29, was a visual designer attending ESL classes for advanced learners. He had lived in Australia for over ten months at the time of data collection. Diego studied English for six years in high school and one year at a university level. He was an avid computer user, but had limited experience with computer-based L2 listening. He had used computers only for IELTS preparation. Diego considered his ability to understand spoken English better than his ability to write academic texts. Two weeks before data collection he sat for the IELTS and scored 6.0 in the listening session. Diego noted that he regularly watched close captioned movies and music videos from the Internet.
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Javier, the language teacher

Javier, 30, was a language teacher trained in Colombia in a research university in the Southeastern Colombia. He holds a degree in English teaching methodology. Javier was fluent in English, French and Spanish. He had had over five years of teaching experience in two different regions in Colombia. In the southeast region, he worked for the public school system and in western Colombia he worked for the private sector and taught groups of 10 students in a bilingual school. In addition to taking two courses in CALL offered by the university, Javier attended a series of professional seminars offered by ASOCOPI (The Association of English Teachers in Colombia).

He was awarded a scholarship to undertake studies in English training teaching for four months. During this time, he learned about different teaching strategies including how to use new technologies in language settings. After this experience, he incorporated computers into his language teaching for six months. During this time he used different courseware, including English Discoveries (Edusoft, 2000), exposed learners to numerous websites for language learning (Let’s Tutor), and used the computer as a tool (e.g. writing essays, stories). He was also in charge of writing the syllabus, selecting content for students, and assessing students. His experience in teaching listening through computers is limited, but he claims to be aware of the strategies to do so. At the time of data collection, Javier had lived in Melbourne for over a year and he was enrolled in a MA in a translation and interpreting course.

Olsen, the computer programmer

Olsen, 29, was a computer programmer educated in a research university in central Colombia. At the time of data collection, he had worked for over four years in the field both as a computer programmer and as a designer. Most of his work experience came from a macro project developed by the university where he graduated. This project designed, developed and assessed the use of a virtual library. Working as a research assistant, Olsen was involved in a multimedia project that sought to teach numeracy to children with mental disabilities. He also developed a number of tutorials in flash for students in the computer science program. As a co-researcher, he served as an analyst gathering software requirements and writing computer programs. Then, he became
coordinator of the project where he was in charge of writing, evaluating and designing the final interface of the virtual library. He also assessed the minor thesis of students majoring in computer programming at undergraduate level.

Although Olsen had not been involved in the creation of software for language learning, he had used English Discoveries©, Longman English Interactive© and numerous websites, mainly the “English Mansion”. One of the main weaknesses he finds is the lack of guidance. He finds that stating the goals and providing a short self-assessment module would help him better understand the purpose for language learning.

Olsen was learning English in Melbourne and was involved in some software design projects in Australia.

Sonia, the HCI designer

Sonia, 31, was an HCI interaction designer from Colombia with background in educational psychology. At the time of data collection Sonia was working for the Educational Policy and Research Division in Victoria. During her PhD Sonia examined participatory design with children and proposed a design methodology that encouraged the active participation of teachers and students. Although she had never been directly involved in the design for language learning, she had been involved in numerous projects concerning the evaluation of educational software. Prior to her research assignment with the Educational Research Division in Victoria, she tutored several classes at the university level and served as a research assistant in different projects that involved user-centered-design. Sonia also conducted and participated in various projects involving participatory design. Some of Sonia’s most salient work was the interface design of software for families to communicate over distance, a program to help children with schooling problems with math, and a program to help ESL learners become familiar with schooling practices in Victoria.

Procedure

Data for Study Four was collected in one-individual session for each participant and four collaborative sessions that lasted from an hour to an hour and a half each. Collaborative sessions were collected in the IDEA lab (Table 30).
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Table 30 Study Four: Summary of data collection procedures

<table>
<thead>
<tr>
<th>Session</th>
<th>Activity</th>
<th>Participants</th>
<th>Materials</th>
<th>Length</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>First session</td>
<td>Individual interviews</td>
<td>ALL</td>
<td>Longman English Interactive © English listening lounge © Randall’s ESL cyber listening lab ©</td>
<td>1 hour per participant</td>
<td>Research office</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second session</td>
<td>Paper prototypes evaluation</td>
<td>No HCI designer</td>
<td>Researcher-generated paper prototypes</td>
<td>1 hour</td>
<td>IDEA lab</td>
</tr>
<tr>
<td>Third session</td>
<td>Beginners prototype creation</td>
<td>No high-intermediate learners</td>
<td>Stationery</td>
<td>1 and ½ hours</td>
<td>IDEA lab</td>
</tr>
<tr>
<td>Fourth session</td>
<td>Intermediate prototype creation</td>
<td>ALL</td>
<td>Stationery</td>
<td>1 and ½ hours</td>
<td>IDEA lab</td>
</tr>
<tr>
<td>Fifth session</td>
<td>Iteration</td>
<td>ALL</td>
<td>Visual studio design</td>
<td>1 hour</td>
<td>IDEA lab</td>
</tr>
</tbody>
</table>

First session

The first session was a one-hour individual session that sought to familiarize participants with help options in computer-based L2 listening. In the first session participants did four activities: 1) completed the consent forms; 2) completed a demographic questionnaire addressed for each role; 3) interacted with three different websites for listening and 4) answered a semi-structured interview (Table 31).

Table 31 Study Four: Session one procedures

<table>
<thead>
<tr>
<th>Activities</th>
<th>Materials</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research ethics debriefing</td>
<td>Consent forms</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Participants experience</td>
<td>Demographic questionnaire</td>
<td>10 minutes</td>
</tr>
<tr>
<td>Help options training</td>
<td>Longman English interactive © Randall’s ESL cyber listening lab © English listening lounge ©</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Semi-structured interview</td>
<td>Individual interview protocols</td>
<td>10 minutes</td>
</tr>
</tbody>
</table>

In the demographic questionnaire, language learners documented their experience with language learning and computer-based L2 listening. The computer programmer, the HCI designer and the language teacher were interviewed to find out about their academic and professional qualifications along with their experience with participatory design.

In the training component of the session, the language learners were asked to work on listening exercises presented in the LEI© program, the Randall’s ESL cyber listening
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lab© and the English listening lounge© (page 61). Apart from the LEI© these sites were selected because of their free availability, the presence they have in L2 listening materials in CALL and the professional status of their creators. Additionally, the marked differences in design that ranged between professionally created websites to amateur-looking websites along with the provision of help options were also a key factor for their selection. Demonstrations on how to access help options was given for each website and language learners were given free time to explore the help options in each of the websites. The language teacher, computer programmer and the interaction designer were also trained to use the websites, but they were asked to reflect on design and pedagogy principles for language learning and teaching respectively.

After L2 learners completed an exercise on each website and answered some comprehension questions, they answered a semi-structured interview that inquired about their experience working on each of the websites. In a similar fashion, the language teacher, the computer programmer and the interaction designer discussed their impressions of the websites. Interviews were audio recorded and were conducted in the office of one of the research supervisors. The three websites were run in a 24-inch iMac core 2 Duo at 2.16 GHz processor. Monitor resolution was set up at 1024 x 768. Broadband ran at 20Mb/sec, and Firefox 3.0 was used as the Internet browser.

Second session

The second session was a one-hour collaborative session. Similar to the second session in Study Three, in this session learners assessed two researcher-generated paper-based prototypes and the outcome of Study Three. The questioning style was flexible and I followed on issues arising from the participants responses.

Third session

Session three was an hour and a half design session that sought to promote collaboration among participants to design help options for a computer-based L2 listening environment addressing beginner learners.

After a brief reminder of the activities developed during the second session, participants were asked to discuss design features that in their view promote effective use of help options for beginner learners. Participants started by reflecting on their experience
as L2 learners and worked collaboratively in the design (Figure 20). Contrary to my expectations, the participants did not agree on the type of help options more favorable to beginner learners and we ran out of time and had to call the session off without materializing the design in paper.

![Image of students working](image)

**Figure 20 Study Four: Collaborative discussions for prototypes design**

*Fourth session*

The fourth session was also conducted in the IDEA lab. Since no design in paper was achieved during the third session, the fourth session began with a debriefing of key ideas expressed by participants. The discussion restarted and once agreement was reached, participants used stationery (i.e. sticky notes, paper and markers) to transfer their ideas to design. My role as researcher was to question their ideas and make sure that all participants’ opinions were reflected on the design without favoring any particular view. The design of the paper prototype for intermediate learners was implemented in the same prototype for beginner learners. Only tabs were changed and sequence of help options was arranged subsequently (Figure 21).
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Fifth session

For the fifth session, the design outcomes of the previous sessions were transferred to a computer using Microsoft Visual Basics. Participants did not directly interact with the screen prototype, but one of the language learners was selected to interact with it while other participants were encouraged to comment and question different aspects of the interface design (Figure 22). The computer monitor was connected to a data projector that reflected the image on a six-foot tripod screen and interactions were audio and video recorded.

Figure 21 Study Four: Prototype creation

Figure 22 Study Four: Prototype iteration
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Data analysis procedures

A common practice in participatory design is to translate the final prototype into design of the artifact without a further examination of the interaction data produced during the design process (Müller, 2003). In this work, however, I analyzed both the design of the paper prototypes and the collaborative dialogue constructed as participants: 1) evaluated researcher-generated paper prototypes; 2) created prototypes addressing learners at low and high proficiencies; and 3) iterated the design on paper and/or the screen.

The complete data sets of collaborative work for Study Three were translated, prepared and read several times to identify emerging themes. Margin notes were made and data was uploaded to NVivo 8.0 Following Creswell (2007), the main procedures for data analysis are summarized in Table 32.
Table 32. Study Three and Study Four: Procedures for data analysis (Cresswell, 2007)

<table>
<thead>
<tr>
<th>Data analysis representation</th>
<th>For case studies</th>
<th>Analysis and presentation procedures in the study</th>
</tr>
</thead>
</table>
| Data managing                | Create and organize data files | Study Three  
Data was labeled and transcribed  
Participants’ interventions were numbered.  
Data was translated, inter-translator reliability calculated and changes data incorporated.  
Study Four  
Data was directly translated from the audio materials.  
Participant’s interventions were numbered and organized.  
Inter-translator reliability calculated and changes in data incorporated. |
| Reading and memoing          | Read through texts, make annotations, create initial codes | Study Three  
Translated data was read several times.  
Data was printed and pencil margin annotations incorporated.  
Data was uploaded in NVivo 8.0  
Four themes that directly reflect design outcomes were identified in the data: Type, Location, Sequence, and Click-through.  
Study Four  
The coding scheme identified for design outcomes in Study Three was used to start coding.  
A new code, “Display” not apparent in the data from the previous study emerged.  
Data from study Three was re-coded and few instances of “Display” were found. |
| Describing                   | Describe cases and its contexts | Demographic information and experience with language learning and computer-based L2 listening collected in the first session of data collection.  
Profiles of participants were refined during the study. |
| Classifying                  | Use categorical aggregation to form patterns and themes | Study Three and Study Four  
Given the differences in design,  
Additional themes to do with qualities of help options were apparent in Study Four and data from Study Three was once again revisited.  
After a group of 13 themes that reflected qualities of design four were identified across studies: Ease of use, learner control, learning and guidance.  
The categories emerged from the research questions and from emerging themes in the data.  
Visual representation of themes and definition of clusters and examples from the data were established  
Inter-coder reliability established. |
| Interpreting                 | Use direct interpretation | Contrasting final design outcomes to the interaction between participants |
| Representing and visualizing | Depth representation of cases through texts, tables and figures. | Use of interpretative commentary, illustrated by matrices and tables. Interaction between qualities of help option was established and represented through Venn diagrams. |
Five different rounds of analysis were performed for the data collected for Study Three and Study Four. The first round was conducted between March and May, 2009 and was performed with data from Study Three. The resulting codes were classified per help option designed and then were grouped across options. This analysis yielded four themes: type, location, sequence and click-through. These themes were defined and directly describe the physical aspect of the design outcomes as reflected in the prototypes produced by the participants (Appendix H7). The coding scheme resulting from Study Three was used for the second round of analysis that was performed with data from Study Four in December-January, 2009. Data analysis was performed, but a new theme not apparent in Study Three emerged from the data: “Display” (Figure 23).

![Figure 23 Study Three and Study Four: Coding scheme](image)

This triggered a revision of the data from study Three and five entries for display were identified (Appendix H8). After cyclical analysis, this data was coded by an independent coder who read 15 percent of the data from each study and inter-rater reliability reached 0.81.

The differences in the design outcomes from the two groups as reflected in the prototypes triggered a third round of analysis. This third round of analysis sought to identify qualities of design that first could be not only identified across studies, but that
could also be applied to other design contexts. This type of analysis was performed between March-April, 2010. After initial free coding a group of 13 themes were identified (Appendix H7). These themes were later reduced to four themes: ease of use, learner control, guidance and learning. A further analysis of the data (August-September, 2010) across studies was performed to identify ‘potential interaction’ among independent qualities of help options (Ease of use, Learner control, Guidance and Learning) and each of the five features of design (Type, Location, Sequence, Click-Through and Display. This type of analysis although productive, yielded 15 categories that represented fine-grained analysis that was complex to present and discuss. In December, 2010 and January, 2011 a new analysis was performed seeking instances of interaction between qualities of help options across features of design (Table 33).

### Table 33 Study Three and Study Four: Coding

<table>
<thead>
<tr>
<th>Data and dates</th>
<th>Analysis performed</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Three</td>
<td>Features of design were identified</td>
<td>Four themes identified: Type, location, sequence and click-through</td>
</tr>
<tr>
<td>(March- May, 2009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Four</td>
<td>Coding scheme resulting from Study Three used for analysis</td>
<td>New category emerged from the data: display</td>
</tr>
<tr>
<td>(Dec-Jan, 2009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Three &amp; Four</td>
<td>Qualities of help options were identified</td>
<td>13 codes were reduced to four themes: ease of use, learner control, learning and guidance.</td>
</tr>
<tr>
<td>(March- Apr, 2010)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Three &amp; Four</td>
<td>Potential Interaction among individual qualities of help options and individual</td>
<td>15 nodes were identified and represented fine-grained analysis. However, this type of analysis was complex to present and discuss.</td>
</tr>
<tr>
<td>(Aug- Sept, 2010)</td>
<td>design features</td>
<td></td>
</tr>
<tr>
<td>Study Three &amp; Four</td>
<td>Interaction across qualities of design per features of design was established</td>
<td>Interaction between qualities per quality was established, documented and substantiated.</td>
</tr>
<tr>
<td>(Dec,2010-Jan, 2011)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Results and discussion

Structurally, I present results of this chapter in two sections: ‘Design outcomes’ and ‘Interaction data results’.

### Design outcomes

In this section, I describe five features of design of help options apparent in the final prototypes where eight language learners, two HCI designers, one computer programmer and two language teachers worked collaboratively in two independent studies (Study
Three and Study Four). The term ‘features of design’ is understood in this work as the physical and tangible attributes of help options regarding:

- the type of assistance offered based on language proficiency
- their location with respect to other design elements
- their sequence with regards to other help options
- the number of clicks required to access them and
- the design elements where input is displayed (frames, pop-ups)

The first feature of design, **Type**, refers to the number and kind of help options L2 learners consider relevant for comprehension in computer-based L2 listening. This feature refers to ‘what’ help options are included in the design based on language proficiency. As such, participants designed help options for two proficiency levels: beginner and high-beginners and intermediate and high intermediate.

The second feature of design, **Location**, refers to the ‘where’ learner can access help options. This feature is defined as the tentative position where help options are placed on the interface. To ease the description of where participants located the different design elements in the interface, the numbered frames in Figure 24 serve as reference. Where pertinent, the location of help options is described with reference to other design elements such as video screen and frame for questions.

![Figure 24 Frames in the interface](image)

**Sequence** is the third feature of design and also refers to ‘where’ users can access particular help options. This feature clarifies the exact place where a single help option is located with respect to other help options. As a result of the left-to-right reading patterns used in Western cultures, a help option placed towards the left end of the sequence is
seen in this work as key for understanding and eventually for learning and a resource located towards the right end as less important, as illustrated in Figure 25.

Figure 25 Location of help options in a sequence

Click-through is the fourth feature of design and refers to ‘how’ help options can be accessed in the design. Specifically, click-through is defined in this work as the number of steps or clicks a user needs to undertake to access help options. For instance, accessing a glossed word in the transcript is counted as a two-step process or two clicks away from the user because listeners are required first to access the transcript and then to click on the glossed word.

Display is the fifth and last feature of design of help options and refers to the visual presentation of help options (tabs and/or buttons) and the means used to show the input (pop-up windows, main frames and/or tabs). This feature also describes the different routes of interaction to access help options. This is different from click-through because a help option can have only two or three different routes of interaction, but can be presented a click-away from the user.

Study Three: Design outcomes

The participants in Study Three sketched three main elements on the screen: a video which represents the aural input, a frame for questions and a selection of help options. Regarding the type of help options they selected based on language proficiency, these participants included translation options only for learners at low proficiencies and dictionary for learners at high proficiencies (Figure 26). They also included audio control buttons, transcripts, glossary, control bars and listening tips for learners across proficiencies.
The location of help options was mainly decided by the location of other design elements. The participants in Study Three located the video and corresponding audio/video control buttons on the left-hand side of the screen (Frame 4) and placed the frame for questions between the video and the input for help options (Frame 5). Help options such as, transcripts, listening tips, glossary, translation options, cultural notes and a monolingual dictionary were grouped in a horizontal toolbar that was located along Frames 2 & 3. That is, right on top of the frame used for comprehension exercises as illustrated in (Figure 27).
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Figure 27 Study Three: Location of design elements

The participants sequenced help options such as transcripts, glossary, cultural notes and listening tips one after the other regardless of proficiency level. In a similar fashion, they added a control bar to the traditional repertoire of audio/video control buttons.

As for click-through, the participants presented help options a click-away from the user. That is, once learners access the interaction page, they see what help options are available for use.

The participants in Study Three designed help options as buttons and the input of help options in pop-up windows that open on the right-hand side of the screen (Frame 6). Additionally, they consensually designed translation options and glossed words to be accessed through different routes of interaction (Figure 28).
Figure 28 Study Three: Glossary and translation options

Study Four: Design outcomes

In addition to the three design elements used by participants in Study Three (video, questions and help options toolbar), participants in Study Four included a keywords panel. Unlike in Study Three, the paper prototype designed by the participants in this study (Figure 29) was promptly transferred to a computer screen to add functionality and to encourage assessment and reflection in later sessions.
The participants in Study Four also decided on the type of help options offered based on language proficiency. Thus, they sketched listening tips, transcripts, glossary and the keywords option across proficiencies. Additionally, they included a variable speed playback button in the audio/video control button for all learners. They designed translation options only for learners at low proficiencies (Figure 30) and cultural notes and a monolingual dictionary with intermediate and high-intermediate learners in mind (Figure 31).
Consensually, the participants located the video and corresponding audio control buttons on the left-hand side of the screen (Frame 4) and questions in Frame 5. They grouped help options such as transcript, translation, glossary options, cultural notes in a single location (Frame 2), but presented as tabs instead of buttons. These participants
located the keyword panel on top of the video in Frame 4 and the dictionary option was offered as a search box in Frame 3 (Figure 32). Interestingly, the participants preferred design where help options, (except for the audio control buttons and the keywords panel) cannot be accessed simultaneously with the presentation of tabs. Therefore, help options open in Frame 5.

![Figure 32 Study Four: Location of design elements](image)

Similar to design outcomes for Study Three, participants in Study Four created help options that are a click away from the user. They also designed specific options (glossary and translation options) to be accessible through different routes of interaction. Accordingly, they presented glossary options in three forms: 1) through the keywords panel, 2) as glossed words accessible through the transcript and 3) as an independent tab named ‘glossary’ located in the toolbar (Figure 33). Participants also added a printout function to the glossary accessed through the tabs (Figure 34)
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Figure 33 Study Four: Glossary options

Glossed words can be accessed through the keyword panel, the transcript and the glossary tab

Figure 34 Study Four: Glossary with printout option

As for translation options, the participants unanimously agreed to offer them both as a separate button and embedded in the transcript. If the translation options are accessed from the transcript the screen splits in two vertical frames and the text in the L1 and the
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TL are displayed simultaneously (Figure 35). If accessed from the translation button in the tool bar, only the translated text is displayed.

![Translation options open both from the transcript and as a separate tab](image)

**Figure 35 Study Four: Translation options.**

In conclusion, across studies participants conceived and sketched help options that were:

- selected based on language proficiency (type)
- grouped and located along Frames 2 and 3 (location)
- presented in the order of perceived assistance. For instance, translation options were placed towards the far-right (sequence)
- displayed one click-away from the user (click-through)
- opened in the same page of interaction (display)
- grouped in a toolbar and presented as buttons or tabs (display)
- offered through different routes of interaction- (display and sequence).

Table 34 summarizes the design outcomes for Study Three and Study Four.
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Table 34 Study Three and Study Four: Summary of design outcomes

<table>
<thead>
<tr>
<th>Features of design &amp; definition</th>
<th>Study Three</th>
<th>Study Four</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design elements</td>
<td>Video, questions and help options toolbar</td>
<td>Video, questions, help options toolbar and keywords panel</td>
</tr>
<tr>
<td>Type</td>
<td>Exclusive to low proficiencies: translation options</td>
<td>Exclusive to low proficiencies: translation options</td>
</tr>
<tr>
<td>The number and kind of help options</td>
<td>Across proficiencies: transcripts, glossary, cultural notes, listening</td>
<td>Across proficiencies: transcript, glossary, listening tips, dictionary,</td>
</tr>
<tr>
<td>L2 learners consider relevant for</td>
<td>tips and audio/video control bar</td>
<td>keywords panel and variable speed playback button</td>
</tr>
<tr>
<td>comprehension in computer-based</td>
<td>Exclusive to high proficiencies: dictionary</td>
<td>Exclusive to high proficiencies: cultural notes</td>
</tr>
<tr>
<td>listening as measured by L2 proficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Video located in Frame 4</td>
<td>Video located in Frame 4</td>
</tr>
<tr>
<td>The tentative position where help</td>
<td>Questions located in Frame 5</td>
<td>Questions located in Frame 5</td>
</tr>
<tr>
<td>options are placed on the interface</td>
<td>Help options grouped as a horizontal toolbar located along Frames 2 and 3</td>
<td>Help options grouped in as horizontal menu located along Frames 2 and 3</td>
</tr>
<tr>
<td>with reference to other design</td>
<td>Dictionary as a button in the toolbar (Frame 2)</td>
<td>Dictionary as a search box (Frame 3)</td>
</tr>
<tr>
<td>elements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sequence</td>
<td>Transcript, glossary, cultural notes, listening tips and translations</td>
<td>Listening tips, cultural notes, transcript, glossary and translation</td>
</tr>
<tr>
<td>The order in which help options are</td>
<td>Translation options are offered on the far right</td>
<td>Translation options are offered on the far right</td>
</tr>
<tr>
<td>presented with reference to other help</td>
<td>Transcripts antecedes glossary options</td>
<td>Transcripts antecedes glossary options</td>
</tr>
<tr>
<td>options. Help options on the left are</td>
<td></td>
<td></td>
</tr>
<tr>
<td>seen as more relevant for comprehension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>than those on the right.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Click-through</td>
<td>Help options presented one click-away from the user</td>
<td>Help options presented one click-away from the user</td>
</tr>
<tr>
<td>The numbers of steps a user takes to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>access help options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>Help options presented in pop-ups that open in Frame 6</td>
<td>Help options presented in tabs that open in Frame 5</td>
</tr>
<tr>
<td>The visual presentation of help options in the program. That is buttons, tabs, and pop-ups and how their input is displayed</td>
<td>Glossary and translation options open from the transcript and the toolbar</td>
<td>Glossary and translation options open from the transcript and the toolbar</td>
</tr>
</tbody>
</table>

Interaction data results

The cyclical analyses of nine-hours of video-recorded interaction were coalesced in four themes: ease of use, learner control, guidance, and learning. These themes (referred hereafter as qualities of help options) emerged across studies regardless of the specific features put forward by participants in each design outcome. In Table 35, I define each of the qualities of design of help options.
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Table 35 Study Three and Study Four: Qualities of design

<table>
<thead>
<tr>
<th>Quality</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of use</td>
<td>The extent to which help options are intuitive and easy to use for L2 learners</td>
</tr>
<tr>
<td>Learner control</td>
<td>The extent to which a learner can decide what help options, where, when, and how to access them in computer-based L2 listening</td>
</tr>
<tr>
<td>Guidance</td>
<td>The extent to which the program offers direction or advice as to what help options should be used in computer-based L2 listening exercises, when they should be accessed and how they should be accessed</td>
</tr>
<tr>
<td>Learning</td>
<td>The extent to which the program afford opportunities for learning</td>
</tr>
</tbody>
</table>

To clarify, ‘qualities of design’ are the qualitative attributes of help options. As such it is complex to determine if and to what degree they are present in the design of help options in computer-based L2 listening environments. They are somewhat subjective because they are influenced and shaped by a number of learner variables (language background, learning styles and needs) and learners’ previous experiences with language learning and with computers. Qualities are not isolated entities. They interact with one another in each feature of design (Figure 36) and they can positively or negatively influence other qualities. For instance, qualities such as ‘ease of use’, ‘learner control’ and ‘learning’ interact positively when help options are grouped and located along Frames 2 & 3. However, this location negatively affects guidance. In other cases, such interaction is limited or simply does not exist.
In this section, I discuss such interaction for each feature of design with a view to inform design of help options in computer-based L2 listening. In order to illustrate the complex interplay among qualities and features of design I use Venn diagrams. Accordingly, qualities that interact positively with other qualities are represented by circular overlapping elements, while qualities that interact negatively are isolated from other qualities. Qualities that simply do not interact are not illustrated altogether.

**Type**

When examined from the perspective of the number and kind of help options offered according to language proficiency, data shows that ‘guidance’ interacts with ‘learning’ but at the expense of ‘learner control’ (Figure 37).
‘Guidance’ interacts with ‘learning’ because participants across studies limited the number of help options to avoid bombarding users with too many options. In their view, having lots of options may create information overload and this might result in hindered learning outcomes and help option neglect. Instead, they opted for including help options that were going to be used and that were relevant for text comprehension and learning. A clear example is seen in the participants’ decision to include translation options for listeners at low proficiencies only. First, including translation options for higher proficiencies seems of no use given that learners at these stages would rather interact with input presented in the target language only. Celia explains:

I tell it in my experience having taught that it is true that people do not want translation options in advanced levels, maybe you translate a little at the beginning, but, if you are studying English later on, you will want everything in English (232 Celia. PE).

Second, they removed translation options to subtly guide learners to use other help options and to encourage them to resort to strategies concomitant to their proficiency level. In the participants’ view it is acceptable that beginners use translation as a strategy to facilitate comprehension, but using translations is not well regarded for learners at higher proficiencies. Elkin explains:
E: [Removing the translation for higher levels] is a good idea because anyway listeners are obliged not to use the translation option and, if they have it available in there, they can use it… it is better for them to work out other strategies that work for them (Elkin, PC. Text unit 696)

Third, they replaced translation options for a dictionary in higher proficiencies to acknowledge that learners have advanced in their language development and that the assistance that might have been useful at initial stages of learning is no longer needed at later stages.

Although no other published study up-to-date has directly involved learners in the design of help options, in the few studies published the choice of translations for low proficiency learners is apparent in their research designs. For instance, Jones (2006), (2009) examined annotations in the L1 language with beginner learners of French and Grace (1998) examined the use of translations with learners of English at low proficiencies.

A number of scholars (i.e. Rost, 2007; Hubbard, 2001; Vanderplank, 2009) caution about the type of help options to offer in computer-based listening because in their view options that might be beneficial for learners at high proficiencies might, at the same time, be detrimental for learners at lower ones. The decision of the participants not to offer cultural notes and/or dictionary for low-level listeners addresses these concerns. The participants in Study Four, although acknowledged that the information in the cultural notes contextualizes better the aural input, thought that including cultural notes at low-levels may actually confuse learners. Elena explains:

If you are told from the beginning that in certain culture they speak like this or something like that…that’s too much information. You begin to hesitate what to say when you talk to certain person… [If we leave the cultural notes for beginners], they should have very basic information…

In a similar fashion, participants in Study Three decided not to offer dictionary options in low proficiencies to avoid overload of information. Celia notes:

Maybe it [a monolingual dictionary] could be added for the upper-elementary version or whatever where the student does not get distracted because it may cause overload of information…You cannot process everything at the same time; it is like you want to use everything you see at the same time, you get confused and you end up learning nothing. (Celia, PE. Text unit 72)
The decision of not offering dictionary options aligns with the work of Rivens Mompeans and Guichon (2009) that suggests that dictionary should be offered only in the monitoring phase of language learning and that this phase is mostly experienced by learners at higher proficiencies.

The interaction between ‘learning’ and ‘guidance’ is also apparent in the offering of options that can be manipulated by learners to accommodate for different proficiencies and learning styles. For instance, the audio control bar and the variable speed playback button that were added to the regular suite of audio/video control buttons. While the control bar helps relocate learners easily within the aural text, the variable speed playback button allows learners to better control the speed of the input delivery based on their listening ability. The participants noted that, regardless of proficiency, reducing the speed of input delivery eases comprehension and, as Long (1996) suggests, this is a key condition for language learning. Lina, Javier and Sonia discuss the reasons:

L: [I think we should keep the speed reduction button] because the words that tend to confuse you the most…you end up understanding them through the context. So, you can be a very proficient speaker, but anyway there are certain words that you do not catch.
Ja: Yeah, for instance if it is a listening exercise in which the people talk too fast…
S: Right. For example if you are listening to a Scottish person, you can be very proficient but anyway you need the person to speak a little slower to understand

Audio/video control buttons provide L2 learners with a means to process aural input at their own pace (Liou, 1997; Hegelheimer and Tower, 2004; Rivens Mompean & Guichon 2009) because they can stop, pause, rewind and forward text. However, in currently available software learners generally do not have the option to manipulate the speed at which texts are reproduced. With the new advances in technology in sound reproduction, this option already exists and participants across studies showed willingness to tap into its potential for L2 listening.

As for learner control, a reduced number of options takes away the control from learners because it is the software who determines what resources learners can interact with based solely on a single criterion: language proficiency. This selection of options does not recognize that despite sharing a similar proficiency level, listeners may greatly differ in their learning styles, preferences, interests, motivations and, most importantly, in
the way they approach L2 listening and help options (Rost, 2007). In the specific case of
glossed words, for instance, for some learners it might be better for comprehension
having words presented as list and for others words presented in context. Cárdenas-
Claros (2005) reported that unlike field independent learners, field dependent learners
tend to rely more on glossed words presented through the transcript than in words
presented in a dictionary list.

The important aspect to consider is that help options are for the user, who ultimately
decides if, when and how to use them. Also, as pointed by Rivens Mompean and Guichon
(2009), these suggestions of design can be used to “sensitize CALL designers to the
cognitive limitations of subjects and lead them to avoid the temptation of adding too
many aids, which may divert the learners from the main task and be more of a hindrance
than a real help” (p.58).

In the upcoming session, I discuss the interaction of qualities from the perspective of
location of help options.

**Location**

When examined from the perspective of location, the data across studies shows that
‘ease of use’, ‘learner control’ and ‘learning’ positively interact with one another.
‘Guidance’ however is not favored, as illustrated in Figure 38.
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Figure 38 Location: Interaction of qualities

By grouping help options in a horizontal toolbar/menu and locating them along Frames 2 and 3, the interaction data suggests that ‘ease of use’ interacts with ‘learner control’ for three reasons: Firstly, because listeners have a better and more accurate idea of the type of assistance they have available when facing problems in understanding. Specifically, this type of location shows learners directly what they can do or cannot do with the software from the first time they enter the interaction page, Fabio notes:

Personally, I find this [Prototype A] better because the help options are already displayed. The more hidden, the more difficult because suddenly you lose sight of what you can or cannot do (Fabio, PE. Text unit 40, part)

Secondly, because the location patterns of help options put forward by participants resemble the ones used by major software/internet companies (Microsoft, Apple, etc.) to display toolbars (drawing, texts, etc.). Accordingly, learners do not have to wade through unnecessary interactions to figure out where to access help option and this translates in more self-confidence and learner control. Lucia explains:

…We tend to think that the most important things are displayed on top, so the help options should be located on top [frames 2 & 3] when you enter a website… prototype A gives me that… I can see all the help options available and I can use them at any time…I get to a page that gives me more self-confidence to work on (Lucia, PE. Text unit 2).
Thirdly, because learners might be able to use help options intuitively without having to restructure established cognitive schemas of navigation and interaction used for other computer applications. Across studies, the participants noted that the location of design elements that goes against conventional design is counter intuitive, difficult to understand, and creates frustration amongst users. Fabio summarizes this view:

F: What I have noticed is that people do not like things to be moved, adult learners who are learning hate things to be shifted away...[...] If you move things from their desks, they get lost... it happens to me too.... You know, in the time I have been surfing the web when I use a website I hope the layout to be similar to other pages...but if they [designers] shift something, I feel as if it the website does not work, I get bored and angry (Fabio, PE. Text units 321-323)

With this train of ideas the participants in Study Four consensually located a dictionary textbox in Frame 3, a location associated by most users to search boxes in the Internet. Jose and Lucia explain:

Jo: That is like the standard place for the dictionary. I can locate it easier and it seems familiar and intuitive to me in there.
L: Yeah, that is like the Google bar, which is generally located in there [frame 3]. You always tend to find in that space a place to type and look up any additional information. So, I think it [the dictionary] is ok in there (Jose, Javier and Lucia, PI. Text units 172-177).

Some participants in Study One and Study Two reported not using the transcript in the LEI© program because they simply did not see the button despite being right below the video. A similar reason was put forward for not using the cultural notes. The proposed grouping and location of help option may result in increased use, as their location does not seem to go against conventional design. However, this assumption remains speculative until the design undergoes both usability and learnability studies.

The interaction between ‘learning’, ‘ease of use’ and ‘learner control’ is not at first apparent in the interaction data given the two distinctive views of how location of help options can affect learning. One view sustains that if help options are readily accessible, learners do not need to spend important cognitive resources locating them. Instead, those cognitive resources can be used for understanding. Lynch and Horton (2009) suggest that an interface for learning should be self-teaching, intuitive and easy to use. Although not directly related to help options, these suggestions can be extrapolated to their design
location. Time and effort that a listener spends trying to figure out where to find and how to access help options can presumably interfere with comprehension and learning.

The other view contends that help options that are easy to use do not necessarily favor learning because if they are constantly available learners can be tempted to interact with them before even trying to give their best effort. Elena explains:

It is true that we are in a basic level, but we are also supposed to learn and, given that, the least you can do is to demand some type of effort from yourself, so if you have the options in there [along frames 2 and 3], you may be willing to learn but you will also have the curiosity, the temptation, and [that location] will represent a big shortcut (Elena, PCB. Text unit 146).

Interestingly, this concern identified across studies is a topic of tension between HCI professionals and education scholars when conducting usability studies in software for learning (Ku, Pearce & Smith, 2010). Education scholars have pointed out that designs that are intuitive and easy to use do not necessarily translate into good learning environments (Squires, 1999). They have also pointed out that because learning is a by-product of understanding and/or doing something else, sometimes learners benefit more from unstructured interaction than from interaction that resorts on pre-designed paths (Mayes & Fowler, 2001). Given the unique and elusive characteristics of L2 listening and the lack of studies that show if and how aural comprehension can be facilitated through design, this is clearly an area ripe for research.

**Sequence**

The distinctive views held by participants about transcripts determined the order in which help options were presented in the sequence. The participants in Study Three, for instance, saw transcripts as scaffolding devices that can be exploited, both to repair problems in understanding and for language learning. Accordingly, they placed transcripts as a first option, that is, on the left side of the sequence. The participants in Study Four, instead, perceived transcripts as barriers that constrain the development of listening skills: learners who use transcripts would become ‘lazy’ and ‘faulty’ listeners who rely on written input instead of pushing themselves to understand from aural input only. Therefore, they located transcripts after the listening tips and cultural notes, that is, somewhat towards the right end of the sequence.
The analysis of qualitative data shows that with regards to ordering of help options, ‘guidance’ and ‘learning’ interact with each other (Figure 39).

Figure 39 Sequence: Interaction of qualities

‘Guidance’ interacts with ‘learning’ as participants across studies presented help options in the order of perceived assistance for learning. They placed help options believed to be more relevant for learning and for skills development towards the left. For instance, the participant in Study Four chose to present listening tips as a first option, to guide learners regarding what to do first, how to approach the exercise better and to encourage listening skills development. Liz explains:

The listening tips should go first, right? Because if they prepare us, guide us, to develop the exercises, they should go first (PE. Text unit, 141).

Also, participants placed translation options to the right because although, in their view, translations do ease comprehension, they also affect language learning. This notion seems to be shaped by the teaching practices exercised in South America where learners are exposed to English-immersion environments, are trained to develop strategies that totally neglect L1 use and where thinking in English is regarded as a key indicator of success at language learning. Mao summarizes this belief:

I think the best way to learn is to try to deduce the meaning of words but if I translate it I go a step behind. I would use it as a last option in case I am totally lost. When I tell to myself I really cannot understand this stuff. … I also think that translation must go at the end because trying to think just in English is the priority.

Also, translations were placed at the end given the participants training that encourages self-reliance and discipline: the more effort and conscious work is put into
language learning, the more likely language competence will be improved. In their view, offering the translation option at the end is seen as a way to push learners to try to understand and give their best. Elena explains:

I would place the translation at the end because you are supposed to be interested in learning English, so the last thing you should do is translating because otherwise you would be learning in your own language. It is more to add a level of difficulty to the exercise… to make it more demanding for the student so that he/she uses this option after having tried with no success (Elena, PE. Text unit 105, part)

The sequencing of help options was influenced by the participant’s view on help options and learning. Accordingly, it is complex to discuss if the sequences proposed may be conducive to increase use and, most importantly, if this use will ultimately benefit learning. Existing literature on help options in CALL is of no use to this discussion because, except for Pujolà (2002), studies have examined two or three options and these have been mostly placed close to the input (i.e. Cárdenas-Claros, 2005; Hegelheimer & Tower 2004; Jones, 2006; 2009). Clearly, this points out the need for studies that examine whether and how the order in which help options are presented have an impact on comprehension, performance and learning. Perhaps, as Bartholome, Stahl & Bromme (2006) pointed out if help options are flawlessly suited to the tasks learners may be successful in performance, but hindered in deep processing and learning.

In the next section I discuss the interaction between ‘ease of use’, ‘learner control’ and ‘learning’ from the perspective of click-through.

Click-through

The participants across studies consensually sketched help options that were a click-away from users or one step away from interaction. With this type of click-through, the data across studies Three and Four shows that three qualities interact positively: ‘Ease of use’, ‘learner control’ and ‘learning’ (Figure 40).
Interaction between ‘learner control’ and ‘ease of use’ is favored by a single click-through because learners know from the start what options are available for use and these can be freely used without the stigma that the word ‘help’ has as pointed it out by Karol:

I prefer these buttons to be called ‘translation’, ‘transcript’ and even if I know that they are help options, I am going to use them in a natural way without the need for them to be called help options like in here [drop-down menu in prototype B] (Karol, PE. Text unit 67).

Also, help options that are ‘hidden’ or embedded in other options become difficult to find and increase learners’ anxiety. Similar to location, the interaction between ‘ease of use’, ‘learner control’ and ‘learning’ is also elusive because participants believe that in some cases those extra steps make the learner work harder and reflect on the real need for help option use, Elkin notes:

...while in here [Prototype B] you use [the transcript] when you need it. I use it because I need something and you can click here [help option button] to look for help (PE. Text unit 37, part)

This preference of click-through was favored in Grgurović & Hegelheimer (2007). In their study, learners preferred textual help that did not require several steps to be accessed (subtitles) and that was provided simultaneously with the aural text.
A single click-through also aligns with designs advocated by researches in interactive learning environments. Ellison (2007) as well as Dworman and Rosembaun (2007) note that help options that are readily available in the program are seen as part of the application, rather than as ‘help’ and this increases the likelihood of use. In a related manner, Colpaert (2004) noted that users in CALL “might be interested in instantly seeing a translation, hearing the pronunciation, and/or receiving a grammatical explanation on the word level, syntax level, sentence level, and document level” (p.184) and this may be promoted by help options presented click-away from users. The concerns expressed by scholars (Ku, Pearce & Smith, 2010) regarding the need to find the right balance between ‘usability’ and ‘learnability’ also seem to apply for click-through because this is determined by where help options are displayed. What we do not know at the moment is how click-through can be used to enhance learning and if it is useful at all. This is clearly an area in need of further research.

In the next session, I discuss the interaction between ‘ease of use’ learner control’ and ‘learning’ from the perspective of display of help options.

**Display**

When examined from the perspective of display, ‘ease of use’, ‘learner control’ and ‘learning’ seem to interact positively among them. However, guidance seems to be negatively affected as illustrated in Figure 41.
‘Ease of use’ interacts mutually with ‘learner control’ as help options were made accessible through different paths of interaction, as in the case of glossary and translation options. These can be accessed through the transcript and as a separate button offered in the help options toolbar/menu. This way of displaying the options recognizes that despite sharing language proficiency, learners vary in terms of learning styles motivations and needs. Jose explains:

The thing is that we all learn in a different way. When I was studying at the university there were some people who kept a glossary at the back of their notebooks and they just memorized all of the words. For some other people it was easier to learn words using the context…the point is that everybody learnt in a different way, that is why I do not think presenting the glossary through the transcript and in a separate tab would be redundant in this case (Jose, PI. Text unit, 117).

Cárdenas-Claros (2005) reported that despite sharing a similar proficiency, field independent learners, in her study, tended not to access the glosed words because they preferred using the dictionary instead. Also, the participants in Study One and Study Two did not access glosed words because they had to access transcripts first.
‘Ease of use’, ‘learner control’ and ‘learning’ also interact by keeping learners on task. Accordingly, participants designed help options that open in the same interaction page rather than in a different page and where minimal scrolling is required, Jose explains:

We should try to place all of the elements in a way that you do not have to go from one side to another but in a way that you have all at the reach of your hand. (Fabio PI. Text unit, 117)

Ellison (2007) suggests that keeping interaction elements in a single page helps learners stay on task, increasing, therefore the likelihood of the task’s successful completion, a key indicator of learning. The participants in Study One and Study Two that interacted with the LEI© program reported not using the dictionary because they were required to completely exit the exercise and go to the homepage. They used the Google dictionary first, because they were familiar with it and because they could look up words as they completed the questions.

‘Guidance’ is negatively affected because the design in tabs proposed by participants in Study Four forces a previously established path of interaction, instead of guiding students towards help option use. Grgurović & Hegelheimer (2007) designed fixed paths of interaction also with the intention to guide help options use. However, listeners did not like this ‘forced’ guidance and interpreted it as a way of taking the control away from them. In a related manner, the participants across Study Three and Study Four were aware of the need for guidance. Accordingly, they strongly discussed the design of an introductory level (level zero) for the software emphasizing that the introductory level should be a standard learning procedure that may help learners not only know how to make the best of the program, but also help reduce learners’ anxiety arising from interacting with a new learning environment, because as stated by Lucia, although learners value learner control they also expect to be guided

…It should be a friendly guide, not a guide that tells me what to do, but instead a guide that allows me to interact freely and suggests me some steps to follow at the same time… because I am learning and I need to be guided. I could learn through experience, but I also need some steps to follow, so a friendly guide as the one Olsen mentioned is a good option. I should have some freedom, but I also should be a little limited … (Lucia, PCB. Text unit 167)

Finding the right balance between providing ‘learner control’ and ‘guiding’ learners towards help option use is still in its infancy in CALL. Few studies have advanced its
understanding through the design of context sensitive help, but this has been explored only in grammar and vocabulary acquisition. With computer-based L2 listening where a myriad of factors can impinge on understanding, however, more explorations are not only welcome, but required.

Summary of findings

Individual design outcomes for Study Three and Study Four were discussed in light of five physical features of design: type, location, sequence, click-through and display. Interaction data was coded and four themes or qualities of design were identified: ease of use, learner control, guidance and learning. Since these themes are not isolated from each other but interact with one another and with features of design, the results were discussed with regards to their interaction (Table 36).

First, help options were designed based on language proficiency to mitigate the effects of invading the learner with too many options that are, at the end, simply underused or totally neglected. Also, this filtering of options partially ensured that learners did not suffer from cognitive overload. Accordingly, listening tips, transcripts, glossary options and audio control buttons that included a variable playback button and/or control bar were offered across proficiency levels. Translation options were unanimously offered only for learners at low proficiencies to push them to use other options instead of primarily relying on their L1. Other options, such as cultural notes and dictionary, were offered only for one proficiency level. Thus, cultural notes were not offered for beginner and high-beginner learners (Study Four). Similarly a monolingual dictionary was offered mostly for advanced learners (Study Three).

Second, help options (transcripts, translations, glossary, listening tips and culture notes) were grouped in a toolbar/menu that was located on top of the questions (Frames 2 & 3). Help options were also presented a click-away from the user and named by the function they accomplish; that is, input presented in the L1 of the participants was called ‘translations’ and so forth. Also, help options were designed following traditional design conventions where interaction elements are located in key places, as in the case of a dictionary button that the participants in Study Four located on the top right side of the screen, a location usually associated with the of Google/Yahoo search bars. These characteristics of design interact with qualities such as ‘ease of use’ and learner control
because learners know at once what help options are available for use without having to invest additional time and effort undertaking a number of unnecessary steps to recover from breakdowns that affect comprehension.

Third, the horizontal orientation of help options was interpreted as a hierarchical organization where options on the left were perceived as more important for learning than options on the right. The unique ordering of options suggested in each study was partly explained by the participants’ goals and perceptions of listening. The participants in Study Three, on the one hand, seemed to prefer a skills development approach. Accordingly, they placed help options that directly affected text comprehension and task completion (transcript, glossary, etc.) as first or second options in the sequence. The participants in Study Four, on the other hand, showed a tendency for a strategy development approach. Accordingly, they placed options (listening tips and cultural notes) that did not directly aid text comprehension or task completion towards the left of the sequence. Also, regardless of study, translation options were unanimously offered in the rightmost place of the sequence to push learners to resort on other help options and/or strategies before interacting with input in the L1.

Fourth, help options were designed to address different learner styles despite learners sharing the same language proficiency. Therefore, some options were designed to be accessed through different routes of interaction. For instance, translation options and glossed words are accessed both through the transcript and as individual buttons located in the toolbar/menu. So, learners who prefer using words in context can access glossed words through the transcript and learners who prefer learning words isolated from context can access them as glossary lists.

Finally, help options were designed to help learners stay on tasks. Therefore, help options open as pop-up windows and tabs fields in the same page of interaction. Additionally, help options were presented in a single page of interaction for learners to interact simultaneously with them while completing a task, as in the case of the dictionary option put forward by the participants in Study Four.
Table 36 Study Three and Study Four: Summary of findings

<table>
<thead>
<tr>
<th>Ease of use</th>
<th>Learner control</th>
<th>Guidance</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>Software decides beforehand what options are available for use based on language proficiency only. This does not recognize that learners vary greatly even if they share a similar proficiency level</td>
<td>*Limiting the number of help options based on L2 proficiency to avoid information overload. *Retrieving and/or replacing help options as learners advance in language proficiency * Designing help options that can be manipulated to accommodate learners at different proficiencies</td>
<td></td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>Locating help options in intuitive places, familiar to most users. Help options grouped in a toolbar and locate it along Frames 2 and 3</td>
<td>Having help options in a fixed location gives learners confidence regarding what they can/cannot do with the software</td>
<td>Having help options visible at all times so that learners don’t waste time locating them, thus, freeing important cognitive resources.</td>
</tr>
<tr>
<td><strong>Sequence</strong></td>
<td>Presenting help options in the order of perceived assistance for learning Listening tips as a first option to guide learners towards listening skills development. Translation as a last option to guide learners towards language development</td>
<td>Pushing learners to use help options that do not directly aid text comprehension. Translation is key for comprehension, therefore it should be offered as a last option</td>
<td></td>
</tr>
<tr>
<td><strong>Click-through</strong></td>
<td>Offering help options a click away from the user Naming help options by the function they accomplish, instead of presenting them only embedded through other options.</td>
<td>Having help options visible at all times so that learners don’t waste time locating them, thus, freeing important cognitive resources that can be used for learning.</td>
<td></td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>Using design conventional Making help options accessible through different routes of interaction as in the case of glossary and translation options. Designing help options in tabs that forces a fixed path of interaction</td>
<td>Offering help options that open in a single interaction page, to minimize the potential number of distractions and to help learners stay on task</td>
<td></td>
</tr>
</tbody>
</table>
Summary of chapter five

In this chapter, I contextualized and presented the results of two empirical baseline studies (Study Three and Study Four) where L2 learners, HCI designers, language teachers and a computer programmer worked collaboratively in the design of an interaction page containing help options for a computer-based L2 listening environment. Followed by a rich description of participant selection and data collection procedures, I also detailed the preparation of data for analysis and subsequent data analysis procedures.

I presented findings in two subsections: ‘Design outcomes’ and ‘Analysis of interaction data’. In the ‘Design outcomes’ section I described the paper prototypes created by the participants in each study in light of five features of design: Type, Location, Sequence, Click-through and Display. In the ‘Analysis of interaction’ section, I discussed the interaction between four identified qualities of help options: Ease of use, Learner control, Guidance and Learning, each quality was discussed along with integrated data.

In the next part of the thesis, “Part III: Theory and Conclusions” I put together the findings from the four empirical baseline studies and introduce the main theoretical contribution of this investigation: the CoDe framework (Chapter Six). I conclude this thesis with a discussion of potential avenues of further research (Chapter Seven).
PART III

THEORY AND CONCLUSIONS
Chapter Six
The CoDe framework

In the two previous chapters, I analysed and discussed the experiences of L2 learners both interacting and designing help options for a computer-based L2 listening environment. In this chapter, I propose the CoDe framework, a nascent framework for the conceptualization and design of help options that is based on empirical work. To begin this discussion, I will recap on key points from the thesis thus far, and draw on final conclusions.

A recap on help options conceptualization in CALL

In Chapter Two, I argued that there was a limited body of research on help options in computer-based L2 listening, including existing frameworks for conceptualization of help options across language skills. In particular, I reviewed the frameworks proposed by Pujolà (2002) and Hegelheimer (2003). Based on the critique of this literature, I argued that existing conceptualizations were not sufficiently fine-grained to conduct close analysis of empirical listening data. Essentially, these frameworks do not acknowledge that various types of enhanced input can be, and have been, operationalized as help options. Thus, for example, salience, modification and enrichment of input are treated as a single type of input enhancement further classified as ‘assistance facilities’ or ‘task guidance’. Here I argue that emerging frameworks need to be complex enough to acknowledge that differing types of help options have different purposes and are then subsequently used differently by different learners.

One challenge in our current view of research on help options, I would argue, is that much of it has been investigated through quantitative measures recorded using tracking systems. Although useful, such measures do not allow for an opportunity to ask participants if, how, and when they resort to the use of help options. I believe an understanding of what listeners deem relevant for comprehension purposes is key for the development of the framework.
The guiding questions that directed this research were 1) what triggers/inhibits participants to use help options in a computer-based L2 listening activity?; and 2) what design features of help options can contribute to their use? To answer these questions I set up four independent but interrelated empirical studies. In the first two studies (Study One and Study Two) L2 learners interacted with selected listening tasks from the LEI© program in three sessions. I conducted a series of semi-structured interviews with 15 adult learners of English to gain insight into the subjective experience of help options use. In the two remaining studies (Study Three and Study Four), participatory design sessions were facilitated with eight language learners, two HCI specialists, two language teachers and a computer programmer to explore design features of help options that encourage their use. The research methods used in the study are described in Chapter 3. Importantly, the findings presented in Part II of this thesis (chapters 4 & 5), in addition to shedding light on the reasons for help option use and non-use and proposing design features, also support the need for a framework for data analysis.

The CoDe framework

The CoDe framework is made up of two components: Conceptualization (Co) and Design (De). I base the construction of this proposed framing on three different sources: 1) results of previous research on help options in CALL; 2) findings from research investigating help options/users’ assistance in interactive learning environments and; 3) analysis of the four empirical studies conducted as part of this investigation. In this initial section, I discuss the conceptualization component of the framework; accordingly, I define each type of help option, provide examples and discuss how data from the empirical studies support them.

The conceptualization component

Drawing partially on Pujolà’s (2002) and Hegelheimer’s (2003) work (see pages 17 & 18), I first propose that four types of help options be used to ground the CoDe framework: Operational, Regulatory, Compensatory and Explanatory.

Table 37 summarizes the types of help options of the new framework. Accordingly, the first and second columns name and describe the types of help options along with their functions. In other words, what activities or actions learners may benefit from the
interaction with a particular type of help options. The third column explains when and/or how each type of help option is used. That is the moment when it is used and the changes original input undergoes to ease comprehension, to facilitate language processing, and to draw learners’ attention to important linguistic features of the language. The fourth and fifth column sets out the type of enhanced input as discussed in Chapelle (2003) and how it has been and can be operationalized in CALL.

Table 37 Conceptualization of help options in CALL

<table>
<thead>
<tr>
<th>Type of help option</th>
<th>Functions</th>
<th>When/how</th>
<th>Type of enhanced input</th>
<th>Operationalization of help option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational</td>
<td>Address potential frustrations with hardware and software</td>
<td></td>
<td>User manual</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assist the user with the functions of a computer program.</td>
<td></td>
<td>Help menu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Describes help options available</td>
<td></td>
<td>Training module</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Introductory level</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tutorials</td>
<td></td>
</tr>
<tr>
<td>Regulatory</td>
<td>Afford opportunities to self-regulate learning.</td>
<td>In preparation to task demands</td>
<td>Listening tips</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Influence the way a task is approached</td>
<td></td>
<td>Hints on strategy use development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Suggests way in which help options can be used</td>
<td></td>
<td>Guidance on how to use particular help options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pushes learners to find correct answers on their own.</td>
<td>After task completion</td>
<td>Explanatory feedback</td>
<td></td>
</tr>
<tr>
<td>Compensatory</td>
<td>Modify input to make it more accessible to the learners</td>
<td>Aural-to-visual modification Modified</td>
<td>Audio to transcripts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Address potential demands of second language processing</td>
<td></td>
<td>Audio to subtitles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Affords opportunities to immediately repair breakdowns in understanding.</td>
<td></td>
<td>Audio to still images</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Audio to video</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visual-to visual Modified</td>
<td>Transcript to translation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aural-to-aural modification Salient</td>
<td>Audio control buttons</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Media controller bar</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Variable speed playback button</td>
<td></td>
</tr>
<tr>
<td>Explanatory</td>
<td>Prompts learners’ attention to key words/linguistic features of the input</td>
<td>Salient</td>
<td>Explanatory hints</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hyperlinked elements linked to glossaries, definitions &amp; glossed words.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide enriched input</td>
<td>Elaborated</td>
<td>Culture notes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concordancers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grammar explanations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dictionary</td>
<td></td>
</tr>
</tbody>
</table>
Component One: Operational help options

From the four types of help options, the operational type does not relate directly to language learning, but it is facilitative of it. Operational help options intend to assist users with the functions of the computer to address potential problems with hardware and software. Instances of operational help options are help menus, user’s manuals, training modules, interactive tutorials, introductory levels and in general, all available advice on how to run, approach and address software operations and shortcomings.

In Study One and Two participants stressed the need to include this type of help, so that learners know where to “click” in case a problem arises. With a view to minimize potential frustrations that may interfere with learning processes, participants in Study Three and Study Four advocated for operational help options presented as a level zero or an introductory level. In this introductory level, participants noted, all other functions of the program should be explained both in the TL and in the L1 of the user. In this way, they noted while learners familiarize with the software they benefit from exposure to the TL. Participants also acknowledged that operational help options tend to be overlooked by users, hence, they suggested that a module describing the available help options should not be made optional for users, but instead, it should be a standard procedure for learners to go through, regardless of proficiency level.

Component Two: Regulatory help options

Regulatory help options are expected to influence and guide learners on how to regulate their learning so that they can adjust their learning behaviors for appropriate and proper functioning to the task at hand. In Pujolà (2002), this was described as guidance facilities for language learner training. However, for this work two types of regulatory help options are distinguished based on the moment of usage: in preparation to task demands and after task completion.

Regulatory help options used in preparation to task demands influence how texts are approached. This is achieved by providing learners with instructions on how to proceed with learning, how to approach a task and what features of the language to focus on. For instance, if the goal of a lesson is to familiarize students with numbers from 0 to 9, learners may be asked to listen to a conversation and complete phone numbers in a chart.
A listening tip, for this particular task, may suggest listeners to focus on specific information in the text (numbers). In this sense, the listening tip subtly directs learners to employ strategies that allow them to identify key information, complete the task and hence achieve the goal of number recognition. Instances of regulatory help options used in preparation to task demands are listening tips, hints on strategy training, guidance on if, when, and how to use help options and, in general, all the available suggestions on how to approach a task.

In the listening sections of the LEI© program help options of the regulatory type are presented as listening tips. This option was only offered for Levels 1 and 2: beginners and high-beginners. Despite the potential benefits of listening tips for guidance, participants in Study One and Study Two mostly neglected them because they did not see any direct benefit for text comprehension or task completion. In addition, learners reported despite the pseudo-training they received, they were still not familiar with the listening tips concept. It is possible low proficiency learners are in the process of discovering learning strategies that work better for them and do not anticipate the potential of using listening tips for language learning strategies development. Interestingly, participants in Study Three and Study Four saw the value of listening tips as a means to guide learners towards the development of listening strategies that can be further transferred to other learning situations. Accordingly, they suggested including listening tips regardless of language proficiency.

Regulatory help options used after task completion allow learners to self-regulate their learning by assessing how much they understand or have failed to understand a text. This assessment in turns allows learners to identify areas of strength and those in need of further attention. Instances of regulatory help options used after tasks completion are different types of explanatory feedback and explanation messages displayed after a listener clicks on a submit button or check button. These types of feedback are considered regulatory help options only if they go a step forward traditional corrective feedback (where answers are marked as right or wrong) and provide further opportunities for text comprehension, task completion and/or learning. In the listening section of the LEI© program, explanatory feedback is presented through a red ‘E’ icon containing a clickable speaker logo that takes the user to the specific text segment where the correct answer can
be found. Given this particular design, the explanatory feedback deliberately guides learners’ attention to key segments of the text. For instance, Maria, a participant in Study One, accessed the ‘explanation’ not only to assess how much she was able to understand and answer correctly, but also to benefit from salient input in the form of repetition. This technique in Maria’s view imitates closely the interaction occurring between non-native speakers and native speakers in which non-native speakers tend to repeat the utterance instead of providing an explanation. This suggests a slight relation between interactionists’ principles of language learning, where interlocutors use a series of interactional modifications to ease comprehension (Long, 1996; Pica, 1994).

Participants in Study Three and Study Four also advocated for feedback that pushed learners to get to the correct answer on their own. They noted, that assistance in explanatory feedback should be offered gradually to ensure that learners have a chance to grasp a bit of language during the self-correction process.

**Component Three: Compensatory help options**

Help options of the compensatory type are what Pujolà (2002) termed as ‘assistance facilities’ or ‘help for comprehension’. Although I readily acknowledge that this type of help options may assist comprehension, this is not the only function they accomplish. In fact, learners also used them for task completion and for learning. Participants in Study One and Study Two used compensatory help options to recover from understanding breakdowns resulting from lack of language knowledge, confidence, and familiarity with the learning task and with the software and to compensate from low-span memory capacity and technical issues. I argue that given the variety of help options and the type of enhancement that original input undergoes, there is a need to classify them accordingly. Also, it is in this type of help options where SLA principles of input and interaction under the interactionist perspective are apparent. For instance, input clearly undergoes any of the three types of modifications: aural-to-visual, aural-to-aural, and visual-to-visual modifications.

In the first type of modification, the aural-to-visual one, aural input is presented through written texts and still images, and/or supplemented with interactive images. Instances are transcripts, images and video. In the LEI© program aural-to-visual
modification is operationalized as transcripts and video. The transcript option is presented right below the video throughout the four proficiency levels specifically for the Task listening and Video listening activities. Participants at low proficiencies in Study One and Study Two resorted to aural-to-visual modification in the form of transcripts to compensate for their lack of understanding, to access definitions of lexical items and translation options, and to confirm overall comprehension. Participants at higher proficiencies in Study One and Two used the transcript option to learn pronunciation, vocabulary, and syntax and to confirm comprehension.

The video was not an optional choice in the LEI© program. In fact, aural input was mostly presented through videos except for the Video listening sections and the Task listening section. The visual component of the video was used by most participants in Study One and Two to complement the information from the audio. Other participants found the images distracting, thus they avoided watching the video. Importantly, participants noted that for visuals to assist comprehension learners need to have a minimum grasp of the aural text otherwise images can be misinterpreted and understanding negatively affected. For participants in Study Three and Study Four aural-to-visual modification, in the form of transcripts, is key for language development, but only if it is used for learning. If the purpose is comprehension then language learning is hindered. Accordingly, they suggested offering transcripts regardless of proficiency level.

The second type of modification, aural-to-aural modification is performed as users replay, pause, rewind and/or forward specific or complete aural segments. Aural-to-aural modification makes input salient in the form of repetition, a key feature of input believed to push language development (Chapelle, 2003). This type of modification is operationalized as audio/video control buttons, media controller bars, and variable speed playback buttons. Through these tools, learners pace input delivery while catering for their learning styles and addressing working memory capacity issues. In the LEI© program the participants from Study One and Two had access to play/pause, rewind, forward, and a control bar. These participants across language proficiencies noted that the audio/video control buttons were used to segment aural text to facilitate task completion, text comprehension, and to recover from technical shortcomings with the software. The participants also acknowledged that although able to understand the text, they were
unable to remember who said what and this interfered with text comprehension. In this sense, audio/video control buttons also seem to have helped learners to compensate from low-span memory capacity. The participants from Study Three and Study Four suggested expanding the traditional audio/video control buttons to include a media controller bar and a variable speed playback button. In their view, this encourages learner control since texts can be manipulated to address the needs of learners at different language proficiencies.

In the third type of modification, visual-to-visual modification, input is presented through written texts in the L1 of the user. This is operationalized as L1 translation options to which learners can rely on to comprehend the target language, to confirm their own hypothesis of how the target language works and to check individual lexical items. In the listening section of the LEI© program translation options are offered for instructions, cultural notes, and transcripts. The participants at low proficiencies in Study One and Study Two noted how the translation option offered for the transcript were used to verify if learners had understood the text, to check meaning of individual words, and to quickly repair from comprehension problems. The participants in Study Three and Four unanimously suggested including a translation option only for beginners and high-beginners. They also suggested offering the translation option both embedded in the transcript and as a separate button located towards the right of the screen to push learners to use other help options before relying on their mother tongue. They noted that a translation option for higher proficiencies was not necessary because learners at those stages should have developed strategies that lead them to text comprehension without relying on their L1. Also, they saw it as a way to acknowledge that learners have advanced in language learning and that assistance that was key at earlier stages is no longer beneficial at latter stages.

**Component Four: Explanatory help options**

Rather than presenting the same input in different modalities, *explanatory help options* offer additional information about the input. Two functions are apparent in explanatory resources: to draw learner’s attention to key words/linguistic features of the language and to expose learners to enriched input. Providing hyperlinked elements related to glossaries,
definitions, and glossed words can draw learners’ attention to specific elements of the input. Hyperlinked words in the listening section of the LEI© program were presented through the transcript and linked to a glossary. Beginners and high-beginners in Study One and Study Two did not access the glossed words because the definitions were in English and this, in their view, did not contribute to text comprehension. Intermediate learners instead clicked on the glossed words to aid text comprehension, task completion, and vocabulary learning. Also important was that regardless of proficiency, participants unknowingly neglected the glossed words because they did not access the transcript first. To address this, participants in Study Three and Study Four argued that by making the glossed words accessible through different paths, through the transcript, and as a separate glossary button with a print-out option, learner control is encouraged.

The second function of explanatory help options is that of enriching original input to encourage learners to explore language beyond the interaction with original input. Instances of explanatory help options that enrich input are culture notes, online-concordances, grammar explanations, and dictionaries. In the listening section of the LEI© program, explanatory help options are operationalized as culture notes and an online monolingual dictionary.

The culture notes option was presented as an individual button in the listening comprehension activities across language proficiencies. Participants in Study One and Study Two, particularly beginners and high-beginners, neglected the culture notes option because they did not see its immediate relevance for text comprehension and task completion.

Moreover, although cultural notes offered a translation option, they neglected culture notes blaming their inability to understand the input. Intermediate and high-intermediate learners used cultural notes to complement and sometimes to go beyond the information in the aural input. At times, they did not use cultural notes because their scrolling caused them to be hidden and they did not remember cultural notes existed. For participants in Study Three and Study Four, the benefit of offering cultural notes was not that apparent. In fact, participants in Study Four decided to omit this option altogether for low levels to minimize the number of options learners at low proficiencies can access. In their view, this frees important cognitive resources that can be better employed for language
learning. Participants in Study Three offered cultural notes across levels but they emphasized that they should be highlighted to ensure learners interact with and learn from them.

The monolingual dictionary option is offered in the LEI© program across language proficiency levels and language skills, but it can only be accessed through the homepage. This implies that learners have to abandon the listening exercise to look for the dictionary. Although participants in Study One and Study Two wanted to use the dictionary because the glossary was limited and the unknown words were in the questions or the instructions, they resisted using the LEI© dictionary and instead they accessed the Google™ translator to imitate closely what they do when working on line or when using their personal translators.

Also, they wanted to use the dictionary as they were answering the comprehension questions. Other participants did not use the dictionary because they found it to be incompatible with the listening tasks since it puts additional cognitive demands that they were not able to cope with. The suggestions from participants in Study Three and Study Four regarding offering a dictionary were mixed.

Participants in Study Three suggested offering a monolingual dictionary option only for intermediate and high-intermediate learners to avoid cognitive overload in learners at low proficiencies. Participants in Study Four; however, suggested offering a dictionary option regardless of proficiency level but locating it on the top right side of the screen, a location normally associated to Google™ search boxes. Not surprisingly, participants from both studies strongly agreed to offer a dictionary option that minimizes the number of distraction and that encourages learners to stay on task. In their view, this can be achieved if search results are displayed as pop-up windows in the same interaction page.

In summary, classifying help options based on the function they serve and relating them to different types of enhanced input as introduced in the CoDe framework offers a starting point to understand the help options neglect phenomena. The four empirical studies conducted as part of this investigation not only seem to confirm that learners use of help options in computer-based L2 listening is limited, but further refines this assumption to suggest that ‘regulatory’ help options along with ‘explanatory’ help options, in particular the type that expose learners to enriched input seem to be the most
commonly neglected. Also, the participants’ tendency to neglect help options of the regulatory type further stress the need for strategy training and learner training in CALL. In the upcoming session, I describe the design component of the CoDe framework.

**The design component**

The design component of the CoDe framework is mainly, but not exclusively informed from the design outcomes and findings resulting from the collaborative interactions between L2 learners, language teachers, computer programmers, and HCI designers. This component of the framework presents four key guidelines for the design of help options in computer-based L2 listening. A guideline, in this work, is understood as a research finding that is in line with research in other fields or existing principles.

Although I acknowledge that multimedia learning theories (Mayer, 2005; 2009) are paramount in the design of multimedia learning environments (i.e. the split-attention principle, the multimedia learning principle, the contiguity principle, and the individual difference principle), the guidelines I propose here are discussed with regards to principles of universal design proposed by the center for universal design (NCU, 1997, 2001) given the exploratory nature of this investigation where learning outcomes where never empirically investigated.

Lynch and Horton (2009) identified four principles of universal design that are relevant to the design of web environments. One of the conditions for using the principles of universal design as explicitly stated by the authors’ is to use them as they are (NCU, 1997; 2001). That is, without altering, modifying, changing the wording or offering additional interpretations. Accordingly, these principles are reproduced in Table 38.

**Table 38 Principles of universal design that apply to web environments**

<table>
<thead>
<tr>
<th>Principle</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principle One: Equitable use</td>
<td>Accessible and useable for people with diverse abilities</td>
</tr>
<tr>
<td>Principle Two: Flexibility in use</td>
<td>Design accommodates a wide range of individual preferences and abilities</td>
</tr>
<tr>
<td>Principle Three: Simple and intuitive use</td>
<td>Use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills, or current concentration level</td>
</tr>
<tr>
<td>Principle Four: Perceptible information</td>
<td>The design communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities</td>
</tr>
</tbody>
</table>
Although these principles of universal design inform the four design guidelines of help options proposed in the CoDe framework, the guidelines put forward emerge from the data and are substantiated accordingly.

**Design Guideline One: Strive for simple and intuitive design**

The first guideline contends that the design of help options in computer-based L2 listening should be easy to understand, regardless of the learner’s experience with computers, language proficiency and level of engagement with the listening activity at hand. Regardless of language proficiency, participants in Study One and Study Two reported having problems to identify the transcript option offered in the LEI © program because, although this was located in a key place for interaction, learners overlooked it and did not find it intuitive to use. In a related manner, one of the participants in Study Two reported neglecting vocabulary aids because she got confused with a vocabulary link that took students to practice vocabulary for the complete unit rather than for the specific listening task. Additionally, few participants at higher proficiencies reported not accessing glossed words because for these they had to access the transcripts first. The participants in Study Three and Four with designed help options with three characteristics that in their view make them intuitive and easy to use: 1) Help options were designed, grouped and located in a horizontal toolbar right on top of the questions, 2) help options were named by the function they accomplished and 3) help options were offered a click-away from the user. These features were relevant across the varied range of computer and language proficiency of the participants and it is reflected in the design outcomes produced by the participants across studies Three and Four.

It was also clear that the participants in Study Three and Study Four believed that having help options located as a toolbar that was constantly displayed made the options easier to access, and thus, easier to use. Learners appreciated the chance to be continuously aware of the options available for interaction. Ideally, the location of help option would resemble the design conventions used by major software companies (e.g., Google, Apple, Microsoft) that present such functionalities through toolbars (standard, drawing, and formats) that are located horizontally along the screen or can be customized by the user.
In a related manner the participants in Study Three and Study Four also found that naming help options by the function they accomplish that is naming a translation option ‘translation’ instead of L1, for instance, also make help options easy to use because learners know what to expect once they approach them. Although the participants used primarily names to identify help options in their design, they also advocated for a combination of names and icons that capture the function they accomplish. However, this idea was not put through because they were aware of the additional work needed to find an icon that conveys the same meaning to users from differing cultural backgrounds and language and computer proficiencies.

Additionally, across studies Three and Four, the participants stressed that offering help options that are a click away makes them easy to use because help options that are hidden create frustration among users and interfere with learning outcomes. Learner’s time and effort dedicated to finding ways to understand information, entering irrelevant text, and wading through unnecessary interactions may interfere with learning outcomes since learners need to spend important cognitive resources finding their way around (Lynch & Horton, 2009).

This first guideline of design of the CoDe framework aligns with the third principle of universal design: *make design simple and intuitive to use* which contends that the use of the design should be easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

**Design Guideline Two: Provide different routes for interaction**

Help options should accommodate different learner preferences and learning styles. A common design problem of help options in CALL is that these can only be accessed through a single path of interaction (Colpaert, 2004; Grgurović & Hegelheimer, 2007; Cárdenas-Claros & Gruba, 2009). In other words, help options are not flexible enough to accommodate for the different preferences and learning styles of the language learners.

Findings from Study One and Study Two suggest that a number of interaction opportunities with glossed words and translation options were ‘lost’ because the participants resisted using the transcripts for a variety of reasons. In fact, although some participants wanted to closely transfer the strategy of previewing key vocabulary prior to
a listening episode, a strategy usually employed in their classroom, they did not interact with the glossed words because these were presented through the transcript. Accordingly, participants in Study Three and Study Four designed help options to accommodate various preferences and learning styles. This was achieved by offering help options accessible through different paths. While learners who prefer seeing words in context can access glossed words through the transcript, learners who prefer seeing words isolated from context can access a glossary list through an individual button presented in the toolbar. Similarly, learners who prefer reading the translation option isolated from the aural text can interact with it by accessing a button from the toolbar or those who prefer having the transcript and translation simultaneously displayed can access the translation option from the transcript.

This design guideline aligns with principle 2: flexibility in use that contends that the design should accommodate a wide range of different individual preferences and abilities. Importantly, this principle does not contradict the next principle because rather than increasing the number of options it simply offers different routes for interaction.

Design Guideline Three: Provide fewer, rather than more, help options

Help options should be offered based on L2 proficiency. Offering too many options, in hope to provide learners with ‘just in time’ assistance seems to confuse L2 learners and put unnecessary additional cognitive demands on them. Participants at low proficiencies from Study One and Study Two found it confusing having too many options and this was reflected in their choices for interaction. Hence, they did not use cultural notes and listening tips. Participants at higher proficiencies totally neglected the translation option because their use was seen as synonyms of ‘defeat’ and ‘failure’ in language learning.

Interestingly, the consensus of participants in Study Three and Study Four was to keep the same number of options (4 or 5) for both proficiency groups. Help options that were seen as not beneficial for different stages of language learning were removed or replaced by others. Therefore, translation options were only offered for beginners and high beginner and listening tips; transcript and glossary options were offered regardless of proficiency level. This principle partially challenges the Universal Design principle, flexibility in use, because it is tailor-made to accommodate a reduced range of individual
abilities. However, given the complexity of the processes involved in L2 listening where lots of cognitive resources are needed for successful comprehension, this principle is justified in the sense that the less number of decisions for the user to make, the more cognitive resources can be employed for listening comprehension. Also, this principle may support principle three because it can be argued that the less number of choices for the user, the simpler and more intuitive a program to use.

**Design Guideline Four: Minimize potential distractions**

Design of help options should help learners stay on task. Help options that require from learners to take a number of unnecessary steps to find an answer create frustration and signal poor design practices (Colpaert, 2004; Tower & Hegelheimer, 2004). The few participants who used a dictionary in Study One and Study Two avoided using the Longman English dictionary because it required from them to completely exit the interaction page to go to the homepage. Instead, they opted for using the Google translator™ primarily because of their familiarity with this tool, and secondly because the search results could be minimized and displayed at the same time with the LEI© program. In the participant’s view, this facilitated simultaneous interaction with the definitions and the listening activity.

Participants in Study Three and Study Four designed a dictionary option whose search results were presented in pop-up windows appearing on the right top-side of the interaction page. Participants acknowledged that although with this type of design learners have to ‘momentarily abandon’ the task to enter a word, learners are helped to be on task because the interruption is not so abrupt as if they had to go to a different page. Participants also believed that with this type of design learners can easily recover from the interruption and resume the task they were completing. This principle partially aligns with principle 3: make design simple and intuitive.

Not surprisingly, there is no one-to-one relationship between Lynch and Horton’s principles and the ones proposed below given that help options are just a single component of a web environment for learning. In fact, most principles seem to fit Universal Design principles ‘flexibility in use’ and ‘simple and intuitive use’.
The four guidelines of design put forward in the CoDe framework seek to address aspects of visual design and interaction. Whether and how these principles contribute to L2 listening development remains speculative given the type of data collected and the focus of this investigation. Further studies using the proposed guidelines are needed to investigate if learning is promoted through design and this would call for different research questions and a congruent research design.

**Integrating the conceptualization and design of help options**

The integration of findings from the four empirical studies shows a somewhat clear relationship between the conceptualization and the design components of the CoDe framework and this relationship is illustrated in Table 39. The first column on Table 39 lists the four components of the conceptual part of the framework. The second column lists the help options exclusively designed by participants in Study Three and Study Four. Columns three through five each list a single design guideline of the CoDe framework.

Table 39 shows that although all the help options designed by the participants are informed by design guideline one: *strive for simple and intuitive design*, only a few options are informed by design guideline two: *offer different routes of interaction* and guideline four: *minimize potential distractions*. The data shows that only two options: ‘glossed words’ and ‘translation options’ follow the design guideline two. It is apparent that applying this guideline to help options such as audio control buttons would result in the violation of guidelines one and four. Thus, simple and intuitive design would be sacrificed and potential distractions may tend to increase as a result of the extra routes for interaction. In principle, this guideline could be also applied to help options such as listening tips and cultural notes, but this suggestion remains speculative and requires further studies to substantiate it.

With regards to guideline four, *minimize potential distractions*, this is mostly apparent in the operationalization of a dictionary option that is offered in a single page of interaction. The data shows that the L2 learners in Study One and Study Two neglected the dictionary option in the LEI© program because it required from them to leave the interaction page altogether and access the homepage. This was interpreted by the same learners as distracting and as a way to keep them away from the task. This guideline could also be applied to other help options including transcripts, translations and glossed
words options. Having these options opening in different pages in addition to resulting in fewer opportunities for interaction may result in poor learning outcomes.

Table 39 Relationship between conceptualization and design of help options

<table>
<thead>
<tr>
<th>Principles of Design Type of help options &amp; operationalization</th>
<th>Guideline 1 Strive for simple &amp; intuitive design</th>
<th>Guideline 2 Provide different routes for interaction</th>
<th>Guideline 3 Provide fewer, rather than more help options</th>
<th>Guideline 4 Minimize potential distractions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Intro-level</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>Low p*</td>
</tr>
<tr>
<td>Regulatory Listening tips</td>
<td></td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensatory Transcript</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Translation</td>
<td></td>
<td></td>
<td></td>
<td>High p*</td>
</tr>
<tr>
<td>AC buttons*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable speed button</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanatory Hyperlinked elements linked to glossed words, key words and vocabulary lists</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dictionary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural notes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AC=Audio control buttons; Low p=beginner & high beginners; High p=intermediate & high intermediate learners.

Guideline three, *provide fewer, rather than more help options* suggests that L2 listeners should be provided with the options they are more likely to use based on language proficiency. The participants in Study Three and Study Four acknowledged that all the options seem to be useful for learners at different proficiencies. However, they decided offering translation options only to learners at low proficiencies and a dictionary option mostly to learners at higher proficiencies with a view to help L2 listeners reduce cognitive load. Although this decision addresses the concerns expressed by the participants in Study One and Study Two who found it confusing having too many options, this guideline should be interpreted cautiously because the listeners in Study One and Two used the materials for a short period of time and without any training as to what the value of those help options could have been for their learning objectives. It is likely,
though, that additional exposure to the learning environment along with training may result in a reduction of cognitive load without implying a further restriction of options.

The CoDe framework represents the culmination of this investigation into the subjective experience of help option use and design. Rather than attempting to accurately describe the relevance of the different components of the CoDe framework for language learning, this re-conceptualization of help options represents a starting point for analysis of future studies. In a related manner, the guidelines of design put forward here also need to be investigated to establish whether a relationship between design of help options and improvement of learning outcomes exists.

**Summary of chapter six**

In this chapter I discussed the theoretical contribution resulting from this investigation. In particular, I described and discussed the two components of the CoDe framework of help options in computer-based listening: conceptualization and design. The conceptualization component was discussed in light of SLA theories that describe the importance of input and interaction for L2 language development. I also discussed how different types of help options have been operationalized as help options in CALL and classified help options based on the functions they accomplish. Findings from the four empirical studies conducted as part of this investigation support the need for a re-conceptualization of help options to conduct close analysis of listening data.

The second component of the framework was discussed in light of principles for design of web environments. I also argued that other theories that may seem at first more appropriate to anchor this nascent framework (i.e. multimedia learning theories) were not used given the nature of this investigation where learning outcomes were never investigated. I defined each guideline and discussed how design outcomes and collaborative interactions from participants in Study Three and Study Four support each of them and most importantly how these guidelines of design relate to the conceptualization.

In the next chapter, I summarize the main findings of this investigation, and suggest directions for future research, including where to proceed with the CoDe framework.
Chapter Seven:  
Conclusions and new directions in help options research

In the previous chapter, I described the CoDe framework, a preliminary framework for the conceptualization and design of help options in computer-based L2 listening. The framework was constructed with information from three sources: previous research on help options in computer-based listening, previous research on prompts in interactive learning environments, and findings from the four independent but interrelated empirical studies conducted as part of this investigation.

In this chapter, I discuss three contributions to theory and design of help options. After this discussion, I critically evaluate the investigation in regards to participants’ selection and qualitative data analysis. I also outline the implications for design of help options and consider recommendations for further research.

Summary of findings

This investigation sought to create a preliminary framework for the conceptualization and design of help options in computer-based L2 listening. To achieve this goal, four qualitative empirical studies were set up. The first two studies (Study One and Study Two) examined the use/non-use of help options in computer-based L2 listening with 15 adult learners of English from Colombia representing four levels of language proficiency (beginner, high-beginner, intermediate and high-intermediate). Learners interacted on different occasions (three for Study One and six for Study Two) with selected listening tasks from the Longman English Interactive© program, and semi-structured interviews were conducted post-interaction. Prompted through video-recorded interactions, a stimulated recall was also conducted with each participant.

The cyclical process of qualitative data analysis underwent several iterations and resulted in five themes: Relevance, Challenge, Familiarity, Recovery and Compatibility. Each theme was made up of factors that explain the help option use/non-use phenomena for this particular group of learners.
Chapter Seven:  
Conclusions and new directions in help options research

Overall, the analysis of factors shows that across proficiencies, type of help options, and listening tasks help options served different functions.

First, help options were used as language support devices that assisted text comprehension (transcripts, translations and audio control buttons), tasks completion (audio control buttons, translation), and learning diverse features of the language such as vocabulary (transcripts, translation options and glossed words), syntax (transcripts), pronunciation (transcripts and audio control buttons), and culture (cultural notes).

Secondly, help options were used as recovery tools that allowed participants both to solve technical difficulties as they interacted with the program, and to compensate for short-term memory capacity issues that interfere with task completion and text comprehension (audio control buttons).

Thirdly, help options were used as verification tools that afforded opportunities for learners to confirm how much they had comprehended the aural text (transcripts and translation options), to test their knowledge of word meanings (translations and glossed words), and to assess their interpretations of the cultural behaviors portrayed in the aural text (culture notes). Finally, help options were used because learners wanted to imitate communication strategies used in face-to-face contexts (feedback and video) and because they transferred behaviors from previous language learning experiences (dictionary) and leisure activities (video, transcripts, and audio control buttons) to the computer-based L2 listening environment.

Complementarily, despite the potential useful functions help options serve, these were neglected for a variety of reasons. For instance, participants found that help options interfered with and did not directly aid text comprehension (listening tips and cultural notes) and task completion (listening tips, cultural notes and glossed words).

Participants refused to use help options to meet both their own expectations and the expectations constructed as a result of the interaction of language teaching practices, learning experience, and cultural beliefs regarding the abilities that learners at different proficiencies should have. Thus, participants resisted using help options in order to imitate closely face-to-face communication situations where help options are not physically available (transcripts and dictionary), but where listeners resort to other communication strategies that allow them to arrive at understanding. In addition,
participants did not use help options for self-assessment and listening skill development purposes. That is, they did not use them in order to see how much they could understand on their own (transcripts and translations) and to force themselves to develop their listening skills (audio control buttons and transcripts).

Also, help options were not used because participants found them incompatible with the listening tasks (culture notes and dictionary) and because simultaneous interaction with help options (dictionary and transcripts) and the aural text presented additional cognitive demands participants found hard to cope with. In fact, using the dictionary and cultural notes was mostly associated with activities devoted to developing reading skills. Moreover, help options were neglected because, despite participants being previously shown where and how to access help options in the LEI© program, they simply did not see the help options (transcripts and explanatory feedback) or did not remember they existed (cultural notes, translations and explanatory feedback) while doing the listening exercise.

Finally, participants blamed software design for the paucity of help option usage. That is because some resources (glossed words and translations) were embedded in others (transcripts), because help options were hidden as a result of the listeners scrolling (cultural notes and listening tips), and because some of them were located outside the interaction page (dictionary).

The two complementary studies, Study Three and Study Four, sought to investigate features of design that promote help option use. Accordingly, eight language learners, two language teachers, two computer programmers and one HCI designer worked collaboratively on three (Study Three) and five (Study Four) different occasions. During the collaborative sessions, participants evaluated three researcher-generated prototypes, created prototypes addressing two groups of language proficiency (beginner and high-beginner and intermediate and high-intermediate) and iterated their design on paper (Study Three) and on the computer (Study Four).

A total of nine hours of video-recorded interaction was translated and coded using cyclical analysis of qualitative data. Individual design outcomes for Study Three and Study Four are discussed in light of five physical features of design: Type, Location, Sequence, Click-through and Display. Interaction data was coded and four themes or
qualities of design were identified: Ease of use, Learner control, Guidance and Learning. Since these themes were not isolated from each other but interact with one another and with features of design, the results were discussed with regards to their interaction.

Overall interaction, Help options were designed based on language proficiency to mitigate the effects of invading the learner with too many options that are, at the end, simply underused or totally neglected. Also, this filtering of options partially helped learners minimize cognitive load. Accordingly, listening tips, transcripts, glossary options, and audio control buttons that included a variable playback button and/or control bar were offered across proficiency levels. Translation options were unanimously offered only for learners at low proficiencies to push them to use other options instead of primarily relying on their L1. Other options, such as cultural notes and dictionary, were offered only for one proficiency level. Thus, cultural notes were not offered for beginner and high-beginner learners (Study Four). Similarly a monolingual dictionary was offered mostly for advanced learners (Study Three).

Second, help options (transcripts, translations, glossary, listening tips and culture notes) were grouped in a toolbar/menu that was located on top of the questions (Frames 2 & 3). Help options were also presented a click-away from the user and named by the function they accomplish; that is, input presented in the L1 of the participants was called ‘translations’ and so forth. Also, help options were designed following traditional design conventions where interaction elements are located in key places, as in the case of a dictionary button that the participants in Study Four located on the top right side of the screen, a location usually associated with the of Google/Yahoo search bars. These characteristics of design interact with qualities such as ‘ease of use’ and ‘learner control” because learners know at once what help options are available for use without having to invest additional time and effort undertaking a number of unnecessary steps to recover from breakdowns that affect comprehension.

Third, the horizontal orientation of help options was interpreted as a hierarchical organization where options on the left were perceived as more important for learning than options on the right. The unique ordering of options suggested in each study was partly explained by the participants’ goals and perceptions of listening. The participants in Study Three, on the one hand, seemed to prefer a skills development approach.
Accordingly, they placed help options that directly affected text comprehension and task completion (transcript, glossary, etc.) as first or second options in the sequence. The participants in Study Four, on the other hand, showed a tendency for a strategy development approach. Accordingly, they placed options (listening tips and cultural notes) that did not directly aid text comprehension or task completion towards the left of the sequence. Also, regardless of study, translation options were unanimously offered in the rightmost place of the sequence to push learners to resort on other help options and/or strategies before interacting with input in the L1.

Fourth, help options were designed to address different learning styles despite learners shared similar language proficiency. Therefore, some options were designed to be accessed through different routes of interaction. For instance, translation options and glossed words are accessed both through the transcript and as individual buttons located in the toolbar/menu. So, learners who prefer using words in context can access glossed words through the transcript and learners who prefer learning words isolated from context can access them as glossary lists.

Finally, help options were designed to help learners stay on tasks. Therefore, help options open as pop-up windows and tabs fields in the same page of interaction. Additionally, help options were presented in a single page of interaction for learners to interact simultaneously with them while completing a task, as in the case of the dictionary option put forward by the participants in Study Four.

**Research contributions**

This study represents the first investigation of learners’ use/non-use of help options based mainly on participants’ reflections of why and how help options were used in computer-based L2 listening. Additionally, the collaborative dialogue between L2 learners, language teachers, software designers and a HCI specialist led not only to the enrichment of this view, but also to propose ways to encourage help option use through their design in L2 listening.

Three main contributions were put forward: a contribution to the understanding of what L2 listeners deemed relevant for comprehension purposes in computer-based L2 listening environments using multiple single-case studies; a contribution to CALL theory through the CoDe framework; and a contribution to research design through the
introduction of participatory design practices in CALL. Since the reasons for use/non use were explored in the previous section, I focus the following discussion on the contributions to theory and research design.

**Contributions to theory**

The findings of the four empirical studies conducted as a result of this investigation served to propose the CoDe framework. This framework seeks to inform future analysis of help option use and design both at the conceptual and design levels.

At the conceptual level, frameworks proposed by Pujolà (2002) and Hegelheimer (2003) were reformulated. Accordingly, in the CoDe framework help options were grouped based on the function they serve and the type of enhancement input undergoes. The CoDe framework proposed four types of help options: operational, regulatory, compensatory and explanatory. This classification of help options leads to two key insights of help options use/non-use that emerged from the empirical studies and previous research on the topic.

One of the insights relates to the help option neglect phenomena. The shared finding that help options are underused or completely neglected (Cárdenas-Claros 2005; Grgurović & Hegelheimer, 2007; Hsu, 1994; Hegelheimer & Tower, 2004; Liou, 1997; Rivens Mompean and Guichon, 2009) in computer-based L2 listening is also apparent in this study, but this finding is further refined to suggest that regulatory help options used in preparation of tasks demands (listening tips) and explanatory help options used to enrich the input (cultural notes and dictionary) tend to be the most commonly neglected. Clearly, more studies are needed to advance our understanding because regulatory help options have recently become part of design in CALL.

The other insight relates to the indiscriminate use of help options without taking into consideration the potential drawbacks this may have for comprehension and learning. The participants in Studies One and Two, regardless of language proficiency, clearly experienced the usefulness of compensatory (transcripts, audio control buttons, translations) and explanatory help options (glossed words) for text comprehension and task completion. However, only a few participants, mostly at high proficiencies, experienced their relevance for learning. If this tendency remains, there is a risk of
misuse of help options. Also, since no other help option, — except for regulatory help options — guides learners on how to work with the next help options-free materials they encounter, the purported capabilities of the computer to support autonomous learning may be under-exploited.

At the design level, the CoDe framework proposes four guidelines with potential implications for design. The first guideline, *strive for simple and intuitive design*, entails that help options should be designed following traditional conventions for design. That is, making help options accessible at all times by locating them in key places for interaction and naming them by the function they accomplish. Given the language background of participants and the left-to-right reading patterns, help options in this case were grouped in a toolbar/menu presented horizontally and located along Frames 2 and 3 or on top of the comprehension exercises.

The second guideline, *provide different routes for interaction*, suggests that help options should cater for listeners’ individual ways of approaching a listening task. Thus, learners who prefer looking up words in context can access them through the transcript or learners who prefer looking up words isolated from context can do so by accessing lists of words through the glossary option.

The third guideline, *offer fewer rather than more help options*, suggests that help options should be offered based on language proficiency. The more help options available to learners, the less likely they may use them in a way that is conducive to learning, especially at low proficiency levels. For instance, offering dictionary options seems of little use to beginners because looking up words does not lend itself to a listening task. Also, offering a translation option at higher proficiencies is of no use because learners prefer to interact with input in the TL only. In a related manner, learners’ constant use of pause and stop buttons to regulate the flow of information pointed to the need to include a speed control feature to compensate for learners lack of ability to understand speech delivered at normal speeds. Accordingly, participants involved in design included a variable speed playback button and/or a bar control feature to allow for the easy manipulation of text to accommodate learners at different proficiencies.
The fourth and final guideline, *minimize the number of potential distractions*, suggests that help options should be designed to help learners stay on tasks. Thus, instead of having learners wade through unnecessary interactions, help options should open in a single page of interaction.

The above guidelines may be incorporated in future designs of help options in computer-based L2 listening. However, as Garret (2009: 722) noted, “the availability of tools […] does not guarantee that students will, in fact, use them in the way they or to the extent that developers intend; only careful structured assignments and follow up work can effectively promote such use”. In this sense, the need for learner training is paramount to make not only usable design, but designs that contribute to learning.

**Contributions to research design**

Participatory design practices guided the design component of this investigation. As a result of this implementation, we did not only identify concrete features of design of help options as represented in the paper prototypes, but we were also able to identify qualities of help options.

Given the complexities of language learning and the variety of factors that impinge on language development that may not be apparent in other design situations, this investigation emphasizes the need to structure and facilitate PD practices. Accordingly, six main suggestions for implementing PD in CALL were identified.

*Use the first language of participants to promote interaction*

Since participatory design promotes neutrality between different stakeholders, sessions should be conducted in the L1 of the participants to promote collaborative interaction. Additionally, this allows learners to express freely and help them bond with other team members. In our sessions, all participants were or had been language learners. This shared experience also allowed participants to bond and minimize problems arising from power relationships.

*Provide equal opportunities for interaction*

In group dynamics, certain users tend to take over turn-taking opportunities. Varying turn-taking allows all participants to share their insights right after a question is asked.
This gives fast thinkers the chance to reflect and hold back their opinions while shy speakers have extra time to plan and articulate their thoughts.

**Define clearly each of the design elements prior to design**

Concepts and ideas that may seem common sense to researchers may not be so for participants even after repeated interaction. In our studies, participants were exposed to the concept of help options on two different occasions: when interacting with listening software (LEI©, the English Listening Lounge© and Randall’s ESL-Cyber listening lab©) and when evaluating the paper prototypes. Two weeks later, when participants were faced with the tasks of designing paper prototypes, concepts such as cultural notes, listening tips, and glossary seemed foreign to most of them. Possibly, providing simple written definitions at the start of each session and/or constantly reminding them about key terms may ensure that participants share the same language.

**Explore concepts without using artifacts similar to those that stakeholders will design**

Participants in Study Three had limited experience with computer-based listening and were not familiar with the concept of help options. To assist them with such concepts, two sessions were facilitated: in one session they individually interacted with a set of listening tasks from the LEI© program. In the second session, they collaboratively assessed three paper prototypes containing help options. These processes, although highly effective for promoting discussion, were seen by the same users as an intrusive way to influence design outcomes. This assumption is underpinned by the resemblance between the prototypes participants assessed and the ones they created.

To lessen these effects, in addition to evaluating the paper prototypes, participants in Study Four interacted with three different computer-based listening materials. The materials ranged from professionally designed software to amateur-looking webpages. This change in methodology not only seems to have helped problems with design, but also helped learners expand their understanding of help options. This understanding in turn allowed participants to identify flaws in design that were later brought up, discussed, and corrected in the collaborative sessions.
Translate design into development and have users evaluate real systems

Although paper prototypes are low-cost and effective tools to design, the immediate need to translate design to a system that offered interactivity was made apparent by participants. Using techniques available in agile software approaches, such as rapid prototyping, requires no programming skills and offers a clearer version of the system to be created.

Plan for extra time for iterations

Although the number of hours allotted for collaborative design was expanded from three to five for Study Four, time was not enough to investigate help options design principles. We are aware that the allocation of more time for the project may have resulted in a final product that would have been somewhat different. Three additional one-hour sessions exclusively dedicated to iteration would fit this purpose.

Limitations of the study

Despite careful selection and design of the research procedures and instruments, a number of limitations were identified in the present study that can inform future research in this area. I grouped these limitations in three main areas: participants’ selection, research design, and qualitative data analysis.

Participants

Participants selection

The participants’ selection for Study One and Study Two was not wholly satisfactory. Although careful criteria had been devised for the selection of participants, these criteria had to be altered. One set of criteria suggested including only participants whose results in a language proficiency test (Michigan) could attest for their proficiency level. As part of the Colombian university policies to encourage language learning, from 2008 onwards the scores in this text were going to be used as an exit requirement for all undergraduate learners. At the time of data collection, this measure had not been implemented and learners were matched to listener proficiency based on their self-assessment, the class they were enrolled, and the score they got in the listening tasks from the LEI © program.
As for Study Three and Study Four, usability studies in HCI widely suggest to contact and interview the most advanced users, “because these have been faced to find solutions on their own to problems other users are quite away from experiencing” (Kujala & Kauppinen, 2004: 297); for this study it was impossible to find users who complied with this requirement. In fact, most language learners that examined design issues across Study Three and Study Four had no experience with computer-based L2 listening. Similarly, the language teachers’ and the software designers’ experience with computer-based L2 listening was limited. Possibly, as computer-based listening gets integrated into language curricula, future CALL researchers planning to use participatory design research practices may work with advanced users and this in turn may influence design outcomes.

**Participants come from a single linguistic background**

They represent a particular group of adult language learners and it is not fully representative of language learners of English from Spanish speaking countries. Therefore, results should be interpreted with this limitation in mind. Studies with participants from additional L1s and L2s would help us refine our understanding of the potential transferability of the findings from this investigation.

**Research design**

**Materials**

Although the selection of task component materials was principled and underwent judgmental evaluation (see page 52), the LEI© program is a good example of professionally available software but does not represent the wide range of free materials available on line. In fact, a number of materials not necessarily intended for language learning make use of subtitles and captions, two options that were not available in the LEI © program. Therefore, this shortens the insights of the help options use/non-use phenomena in Study One and Study Two and certainly biased design outcomes in Study Three and Study Four as the participants did not considered captions/subtitles as an option.
Chapter Seven:
Conclusions and new directions in help options research

Potential influence of interactive training

The participants in Study One and Two were explained what help options were and where and how they could be accessed in the LEI© program. This type of pseudo training was conceived to resemble most language settings where learner training in CALL barely exits (Barret, 2001; O’Bryan, 2008; Hubbard, 2004). Despite this, I noticed that my constant questioning about why particular help options were used/not used increased the use of options as the research proceeded. Therefore, findings of this study should be interpreted with this potential influence in mind.

Limited opportunities for interaction with help options

Although the participants in Study One and Study Two interacted on three (Study One) and six (Study Two) different occasions, they exhibited different behaviors that did not allow us to establish individual patterns of help options use/non-use. Possibly their shifting behaviors could be interpreted as usage of an exploratory nature in which learners were testing various types of input enhancement to identify the ones that matched their listening goals. It was apparent that as learners interacted with more listening tasks their behavior changed, but given the scarcity of data, no individual patterns were identified. The allocation of extra time for learners to interact with help options in different tasks before data collection may lead to different observations of learners’ use/non-use of help options. Accordingly, the findings presented in this study should be interpreted with limitations of opportunities for interaction in mind.

In a related manner, although we increased the number of PD sessions in Study Four from three to five, the interaction data shows that more sessions are needed to achieve design outcomes commensurate to the ones implemented by HCI professionals.

Learners observed in non-naturalistic settings

Learners’ interactions with the listening tasks of the LEI© program were exclusively set up for data-collection purposes. In fact, most learners were not familiar with the working definition of help options; they had never used the piece of software nor had intrinsic motivation to use it. Actually, learners were monetarily compensated for participating in the study. Therefore, there is an apparent mismatch between the research design and the data collection methods because learners were not observed in naturalistic
settings as suggested by post-positivistic approaches. Perhaps, reasons for usage/non-usage would have been somewhat different if the software was integrated to a class syllabus or if learners had been observed without the pressure of data collection and the intrusive questioning of the researcher.

**Design not tested with potential users**

After designing multimedia environments, usability studies should be conducted with potential users to determine if the design clearly meets the users’ needs and expectations (Nielsen, 1994). Also, heuristic evaluation, a usability engineering method, should be conducted to identify interaction problems with the computerized applications (Nielsen, 1994). Unfortunately, the design outcomes in this study were never tested with potential users. Participants iterated the design on the screen, but they never became consumers of that design. However, it is important to remember that this was a theory-generating study that aimed at establishing avenues for further research and, in that sense, the design component of the study met the goal. One of the goals of this investigation was to introduce PD to CALL design practices as a means to produce designs enriched as a result of the interaction of different stakeholders. One of the only up-to-date studies designed under PD paradigms, the E-learning system for Korean learning training, was fully evaluated using different measures of usability (Salman, Ince, Kim, Cheng & Yildirim, 2009). This type of evaluation is normally conducted by teams of researchers and designers and this requires not only expertise, but also availability of resources and time.

**Data analysis**

**Uneven usage of data**

It is apparent that there is an uneven usage of data throughout the four groups of participants, given their willingness and ability to express themselves. This led to an over-reliance in the use of certain participants’ comments to illustrate points of discussion, for instance, Maria (Study One), Yolima (Study Two), Celia and Karol (Study Three) and Olsen and Elena (Study Four). As the discussion began to take shape, it was a constant challenge to select a range of comments that supported discussion points.
Chapter Seven:  
Conclusions and new directions in help options research

**Overlapping definitions**

Another issue that arose throughout the qualitative analysis had to do with terminology. For each of the themes across the studies, the definitions were made as transparent as possible. Nonetheless, some themes overlap with others in ways not anticipated. Of particular concern is the term ‘display’ in Study Three and Study Four, because the definition encompasses aspects that touch on with the definition of ‘click-through’. Also, although the definition of ‘learning’ is clear and straightforward, given the set of data and the focus of this investigation, there is no guarantee that learning would take place exclusively as a result of interaction with help options.

**Lack of theories**

Also, the difficulties in analysis of data in Study Three and Study Four were compounded by the final paper prototypes created by the participants, mainly because no other study had involved listeners in the design of help options and there was no way to determine whether their proposed design aligned with other design outcomes. After thorough discussion with HCI specialists, it was found that one way forward was to present design outcomes separated from interaction data and identifying themes apparent across studies.

**Avenues for further research**

The findings of this investigation offer an account of the choices that listeners made when help options are available in computer-based L2 listening materials. At times, they made use of potential assistance; at other times, they ignored embedded resources or found ‘help’ facilities to be problematic. Clearly, this is an area ripe for further investigation. As I understand it; however, the reasons for the use/non-use of help options may change with variations in learners’ motivation, settings, culture, language teaching practices, and other key learner variables. What is the most productive way forward for CALL researchers? Initially, investigators would narrow their work to one of three areas: theory, design and listeners.
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Theoretical perspectives

Interpretation of help options and design may be examined through different theories, in particular, from the socio-cultural and the multimedia learning theories. In addition, researchers could expand the CoDe framework.

Sociocultural theory perspective

Several CALL researchers see socio-cultural theory as a potential way to frame and interpret findings in CALL (Levy & Stockwell, 2006; Ganem-Gutierrez, 2003; Warschauer, 2005). I argue that help options can also be examined through socio-cultural perspectives. As researchers tend to agree that help option usage assists learners in repairing breakdowns (Hsu, 1994; Hegelheimer & Tower, 2004; Grgurović & Hegelheimer, 2007) and performing language tasks (Pujolà, 2002), it may not be farfetched to hypothesize that an effective use of help options may fill the gap between what learners can do on their own and what they can potentially do after usefully interacting with help options.

Therefore, help options may be examined from the perspective of the novice–expert account where help options are the ‘experts’ who possess additional information that a ‘novice’ needs to understand learning materials. As learners (novices) experience difficulties, they may request additional forms of enhanced input through help options. Once learners are exposed to different forms of enhanced input, they may likely repair perceived breakdowns in understanding and, consequently, better perform in second language tasks and learning.

Multimedia learning theory

Plass and Jones (2005) identified three principles supported by research — in CALL in particular — examining the use of annotations for reading comprehension, listening comprehension, and vocabulary acquisition: the multimedia principle, the individual difference principle and the advanced organizer principle. The multimedia principle sustains that students acquire language better if input has been enhanced by text and pictures than if input is only enhanced by text. The individual preferences principle sustains that students acquire language better when they are provided with access to visual versus verbal annotation than when they do not have this choice. The advanced
organizer principle states that learners acquire language better if presented with an advanced organizer prior to addressing the learning tasks. A principle that has not been examined in the CALL literature — one that relates directly to the presentation of help options that provide opportunities for enhanced input— is the segmentation principle. However, key evidence can be extrapolated from research on the use of audio control buttons as a form of repetition of input for language learning. The segmentation principle contends that learners learn better if they are provided with control buttons that allow them to control the flow of information by pausing, stopping and restarting the information. By affording opportunities for control of flow of information, learners avoid information overload that results in defective learning (Mayer, 2005).

**The CoDe framework**

As noted in Chapter Six, the CoDe framework is a nascent theoretical-and-empirically based proposal for the conceptualization and design of help options in computer-based L2 listening. The empirical contribution was informed by the limited interaction of 15 adult learners of English predominantly from Colombia with a particular piece of software. As such, refinement and validation of the CoDe framework is not only welcomed, but necessary. One way forward is by using the CoDe framework to interpret interaction data with learners from different L1s, learning different L2s and working with different type of software. Also, longitudinal staged studies where computer-based L2 listening is part of the curriculum could offer great possibilities to expand the CoDe framework. Extrapolating the four-part conceptualization components and the guidelines proposed in the framework to the conceptualization and design of help options in other language skills is also another avenue worth exploring.

**Design**

The suggestions regarding design encompass design of computer and language assistance as well as improved language tasks design.

**Language assistance and computer assistance**

As Barrette (2001) notes, “many teachers include CALL activities in the belief that they aid language acquisition only to discover that students need greater computer proficiency
than they really possess in order to reap the benefits of the activities.” (p.8). Clearly, in future research, we need to be sensitive to the possibility that differences in language proficiency and computer literacy levels may confound observations of learners’ help option usage. Research designs may well need to include participant scores as they relate to tests of computer and information literacy (e.g., iSkills Assessment) as well as standardized scores on recognized language proficiency examinations (e.g., TOEFL or IELTS).

**Improved language task design**

Grgurović and Hegelheimer (2007) and more recently Sun (2010) used design to force students to use help options, but students reported that they did not like limited application control. We need to find ways that encourage, not force, help option use in a way that is conducive to learning. In Jones’s (2003) study, because learners working in dyads needed to agree on a single answer, they accessed annotations for verification purposes. This verification, in turn, exposed them to different forms of enhanced input that appeared to have contributed to listening comprehension and vocabulary acquisition. I believe that designing tasks that require collaboration between L2 learners may stimulate help option use, but further research is needed to clarify interactional factors and pinpoint specific instances that require assistance.

**Learners**

Research in this direction should be advanced in two main areas: learner training on help options and the listeners’ experience with help options.

**Learner training**

Chapelle (2005a, 2005c) identified the need to ‘help learners to use help’ as a key research concern and charged CALL professionals with the task of “helping learners be aware of the value of online help and encourage their use.” (2005a: 11). Hubbard (2004), too, stressed the importance of staged and longitudinal learner-training research.

Hubbard (2004) also underscored the benefits of learner training in CALL to help control for variables such as student’s confidence, novelty effects, and anxiety. Importantly, Hubbard noted that “the learners need to understand the importance of
making a connection between a particular CALL activity and some desired learning outcome or progress toward it.’” (2004: 53).

Most learner training in CALL has focused on training learners to use individual CALL applications. Few researchers; however, have specifically examined learner training in help options. O’Bryan (2008) investigated whether training learners to use CALL effectively following Hubbard’s (2004) five-step approach led to increased gloss use. In her study, she found that although “the results did not show that training lead to increased gloss use, they did show that learner training led to greater awareness and understanding of the theory and pedagogy behind the design of the online unit” (p. 21). She qualified her findings with the limitations of the small number of participants and short training period and advocated for research into likely variables that affect help option use.

The reasons for use and non-use of help options can serve as a turning point to devise such training initiatives. Training in help option use is needed because this type of guidance can raise learners’ awareness of help option use, foster autonomous learning, and change some of the misconceptions associated with the use of help options.

Help option training can provide learners with tools that allow for the identification of specific instances in which help option use can promote learning rather than hinder it. Although not closely examined in the analysis, during the last interview, two out of fifteen participants accessed cultural notes because my constant questioning intuitively sparked their curiosity. Also, one of the participants admitted that she used the transcript because I insisted on asking why she resisted using it. In ways like this, training could actually help learners become aware of options that are under-used, as in the case of listening tips.

Also, help option training can increase the possibilities for learners to be able to identify instances in which help option use is beneficial and not detrimental. It can enable them to make informed choices, which will also be reflected in their selection. These findings suggest the key role help options may have in fostering autonomous learning. As learners advance in language proficiency, they can better self-assess their abilities with and without computer-based L2 listening assistance.
In CALL, help option use appears to be associated with low-proficiency learners. Counterintuitively, however, research has found that high-proficiency learners benefit more from the interaction with help options (Hegelheimer & Tower, 2004; Grgurović & Hegelheimer, 2007). Also, the empirical studies conducted as part of this investigation suggest that learners at high proficiencies and learners familiar with computer-based L2 environments across proficiencies are more likely to exploit help options for learning. In this sense, the misconceptions associated with help option use can be explored with learners by showing how help options can also be exploited for learning and not only for immediate text comprehension and task completion.

**Learner’s experience**

Research on listener experience would seek to synthesize and substantiate the CoDe framework with learners from different L1s and L2s, cultural backgrounds and language learning experiences. For instance, examining variations and commonalities in help options usage in second and foreign language contexts or whether and how conceptions of help option use/non-use use shift overtime when computer-based L2 listening is integrated to the curriculum.

In addition, learner experience could be examined through different learner variables such as working memory capacity, learning styles and cognitive styles. Further work could be based on quantitative approach, for example, and make use of detailed usage surveys, head cameras, audit trails and similar techniques as outlined in papers from the field of Human Computer Interaction (HCI) such as that of Bangor, Kortum and Miller (2008) or Kerne, Smith, Koh, Choi and Graeber (2008). Research designs such as these demand strong expertise within multidisciplinary teams and make use of sophisticated item sets, controlled conditions and a series of complex statistical procedures. The use of qualitative approaches principally based on observations, verbal report protocols, and semi-structured interviews could further inform the development of emerging frameworks.

**Summary of chapter seven**

In conclusion, the aim of this thesis has been to propose a preliminary framework for the conceptualization and design of help options in computer-based L2 listening. The
Chapter Seven:  
Conclusions and new directions in help options research

CoDe framework can be used to conduct close analysis of empirical data, but further refinements may be needed. Nonetheless, it suggests directions for further investigation and establishes a solid agenda for continued research.
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A1. Study One and Study Two - Consent forms for participants

A Principled Framework of Help Options in Computer-Based Listening

Researchers: Mónica S Cárdenas -Claros, Paul A Gruba and Sandrine Balbo

Participant:

I consent to participate in the project named above, the particulars of which - including details of working with a computer-based listening exercise and reflecting on my experience - have been explained to me. I have also been given a written copy of the procedures for me to keep. I authorise the researchers to use for this purpose the transcripts of the interview conducted for the research project referred to under (1) above.

I acknowledge that:

- the possible effects of working with a computer-based listening exercise and being interviewed have been explained to me to my satisfaction;

- I have been informed that I am free to withdraw from the project at any time without explanation or prejudice and to withdraw any unprocessed data previously supplied;

- The project is for the purpose of research;

- I have been informed that the confidentiality of the information I provide will be safeguarded subject to any legal requirements;

- I have also been informed that the interview will be audio taped and that copies of the transcripts may be returned to the participants for verification;

- I have been informed that I will be referred to by a pseudonym in any publications or presentations arising from the research.

_________________________________________  ________________________________
Participant’s signature                         Date
A2. Study One and Study Two-Plain language statement

A preliminary Framework of Help Options in Computer-Based Listening

You are invited to participate in the above research project, which is being conducted by Drs Paul A Gruba & Sandrine Balbo (supervisors) and Monica Stella Cárdenas-Claros (PhD student) of the Department of Languages and Linguistics at The University of Melbourne.

Introduction

The purpose of this study is to develop a principled framework for the understanding, development and evaluation of help options (transcripts, dictionaries, subtitles) in computer-based listening materials. You are being invited to participate in this study because you are currently enrolled in English as a Foreign Language class at Universidad Surcolombiana.

Description of procedures

If you agree to participate in this study, your participation will last for 3 one-hour phases. During the first phase, you will be asked to complete an entry questionnaire. Then you will be instructed to use a piece of software for language learning. After that, you will be asked to listen to a text and answer some questions based on the text.

During the second and third sessions, you will be asked to work with a different listening exercise and answer some comprehension questions for 30 minutes. You will be also asked to reflect on your experience in working with the software. Your responses will be audio-taped in a digital voice recording. Data will be later on transferred to computer files.

Benefits

If you decide to participate in this study there will be direct benefit to you because you will get some experience in working with computer based listening. It is hoped that the information gained in this study will benefit society by providing Computer Assisted Language Learning materials designers with clues on how to design help options that address language learners’ needs. You will not have any costs from participating in this study. You will be monetarily compensated for participating in this study. You will receive a total of $ 60,000 Colombian pesos to compensate for your time and to cover transport expenses to and from the research site upon completion of data collection.

Participant rights

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide not to participate in the study, leave the study early or withdraw any unprocessed data you have supplied, this will not result in any penalty or loss of benefits to which you are otherwise entitled.

Confidentiality

Records identifying your participation will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. To ensure confidentiality to the extent permitted by law, the following measures will be taken: You will be assigned a unique code and letter and will be used on forms and interview transcripts instead of your name. Only the main researchers will have access to the data. The data will be stored in password-protected computer files for a period of 10 years. In the final report, you will be referred to by a pseudonym. We will remove any references to personal information that might allow someone to guess your identity. However, you should note that as the number of people we seek to interview is quite limited, it is possible that someone may still be able to identify you.

Once the thesis arising from this research has been completed, a brief summary of the findings will be available to you on application at the Languages and Linguistics department at the University of Melbourne. It is also possible that the results will be presented at academic conferences and published in discipline-related journals. In any of these instances your identity will remain confidential.
Questions or problems
For further information about this study, please contact Monica S Cárdenas-Claros at 873-2478 (Neiva) or at m.Cárdenasclaros@pgrad.unimelb.edu.au, Dr. Sandrine Balbo at 61 3 8344 1497 (Melbourne-Australia) or at sandrine@unimelb.edu.au Dr. Paul Gruba at 61 3 8344-8973 (Melbourne-Australia) or at paulag@unimelb.edu.au
If you have any concerns about the conduct of the project, you are welcome to contact the Executive Officer, Human Research Ethics, The University of Melbourne, on ph: 8344 2073, or fax: 9347 6739
A3. Study Three and Study Four Plain language statement

A Principled Framework of Help Options in Computer-Based Listening

You are invited to participate in the above research project, which is being conducted by Drs Paul A Gruba & Sandrine Balbo (supervisors) and Monica Stella Cárdenas-Claros (PhD student) of the Department of Languages and Linguistics at The University of Melbourne.

Introduction

The purpose of this study is to develop a principled framework for the understanding, development and evaluation of help options (transcripts, dictionaries, subtitles) in computer-based listening materials. You are being invited to participate in this study because you are currently enrolled in English as a Foreign Language class at Universidad Surcolombiana.

Description of procedures

If you agree to participate in this study, your participation will last for 3 one-hour phases. During the first phase, you will be asked to complete an entry questionnaire. Then you will be instructed to use a piece of software for language learning. After that, you will be asked to listen to a text and answer some questions based on the text.

During the second and third sessions, you will be asked to work with a different listening exercise and answer some comprehension questions for 30 minutes. You will be also asked to reflect on your experience in working with the software. Your responses will be audio-taped in a digital voice recording. Data will be later on transferred to computer files.

Benefits

If you decide to participate in this study there will be direct benefit to you because you will get some experience in working with computer based listening. It is hoped that the information gained in this study will benefit society by providing Computer Assisted Language Learning materials designers with clues on how to design help options that address language learners’ needs. You will not have any costs from participating in this study. You will be monetarily compensated for participating in this study. You will receive a total of $ 60,000 Colombian pesos to compensate for your time and to cover transport expenses to and from the research site upon completion of data collection.

Participant rights

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide not to participate in the study, leave the study early or withdraw any unprocessed data you have supplied, this will not result in any penalty or loss of benefits to which you are otherwise entitled.

Confidentiality

Records identifying your participation will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. To ensure confidentiality to the extent permitted by law, the following measures will be taken: You will be assigned a unique code and letter and will be used on forms and interview transcripts instead of your name. Only the main researchers will have access to the data. The data will be stored in password-protected computer files for a period of 10 years. In the final report, you will be referred to by a pseudonym. We will remove any references to personal information that might allow someone to guess your identity. However, you should note that as the number of people we seek to interview is quite limited, it is possible that someone may still be able to identify you.

Once the thesis arising from this research has been completed, a brief summary of the findings will be available to you on application at the Languages and Linguistics department at the University of Melbourne. It is also possible that the results will be presented at academic conferences and published in discipline-related journals. In any of these instances your identity will remain confidential.
Questions or problems
For further information about this study, please contact Monica S Cárdenas-Claros at 873-2478 (Neiva) or at m.Cárdenasclaros@pgrad.unimelb.edu.au, Dr. Sandrine Balbo at 61 3 8344 1497 (Melbourne-Australia) or at sandrine@unimelb.edu.au Dr. Paul Gruba at 61 3 8344-8973 (Melbourne-Australia) or at paulag@unimelb.edu.au
If you have any concerns about the conduct of the project, you are welcome to contact the Executive Officer, Human Research Ethics, The University of Melbourne, on ph: 8344 2073, or fax: 9347 6739
APPENDIX B: QUESTIONNAIRE AND OBSERVATION

SCHEDULES
B1. Study One and Study Two – Entry questionnaire

A principled framework of help options in computer based listening
Researcher: Mónica S Cárdenas-Claros

Objectives: Participant’s code__________________
To find out participant’s demographic information
To find out participants’ previous experience with language learning and computer-based listening.
Directions: Answer the following questions.

Section 1: Demographic information

Age____  Sex____  Program of studies ________________________  Semester _______

Section 2: English instruction experience and self-assessment

How long have you studied English at USC ______(years/ months)

What is the emphasis of that instruction? (Tick all the appropriate)

Listening_____  Speaking_____  Reading_____  Vocabulary____
Writing_____  Grammar_____  

Have you lived in an English Speaking country?
Yes____  Where ______  How long____
No _____

What English class are you currently enrolled in? ______________________

Who is your English teacher? ______________________

Have you taken any proficiency test? Yes ___  No____

Which one_____  Score_____  Date____

From 1 to 5 in which 5 is the highest and 1 is the lowest, rate your ability in the following language skills:

Listening____  Speaking____  Reading____  Vocabulary____
Writing____  Grammar____  

Section 3: Experience with computers for language learning

Do you listen to materials in English on your own? Yes _____  No ____

What type? ______________________

Have you used computers for learning English?  Yes _____  No ____  Please explain ________
B2. Study One and Study Two – Observation schedules

A principled framework of help options in computer based listening
Observation schedule
Researcher: Mónica S Cárdenas-Claros

Objective: To identify help options used and situations that triggered their use to construct the stimulated recall protocol.
Setting: Individual

Observation schedule information

Participants’ code ________________________________
Date ________________________________
Level ________________________________
Activity selected ________________________________
Place ________________________________

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APPENDIX C: SEMI-STRUCTURED INTERVIEW PROTOCOLS
C1. Study One and Study Two – Interview protocol for language learners

A principled framework of help options in computer based listening

Researcher: Mónica S Cárdenas-Claros

Objective: To elicit participant’s perceptions on help option use in computer-based listening environments

Setting: Individual. Audio-recording

Interview information

Participant’s pseudonym: __________________________________________________________
Date: __________________________________________________________________________
Place: __________________________________________________________________________

Guiding questions:

• How did you feel interacting with the listening tasks?
• Did you use help options?
• How many times approximately did you use help options?
• What help options did you use?
• What help options did you use more frequently and why?
• What triggered you to use it/them?
• What help options you did not use and why?
• In what situations do you think you would use it/them?
C2. Study Three and Study Four – Interview protocol for language learners

A principled framework of help options in computer based listening

Researcher: Mónica S Cárdenas-Claros

Objective: To inquire about learners’ previous experience with language learning and computer based listening.

Setting: Individual. Audio-recording

Interview information

Participant’s pseudonym: ________________________________
Date: ________________________________________________
Place: ________________________________________________

Guiding questions:

- What did you do in Colombia before coming to Australia?
- How long have you been here in Melbourne?
- How long have you been studying English in Melbourne?
- Where do you study?
- What level are you in?
- What is the emphasis of English instruction at the school you attend?
- At school do you use computers for language learning?
- What experience do you have with practicing listening with computers?
- Do you know any websites where you can practice listening?
- In your opinion, what is the most difficult aspect of learning English?
- In your opinion, what is the easiest aspect of learning English?
- Have you taken any proficiency tests lately?
C3. Study Three and Study Four –Interview protocol for teachers

A principled framework of help options in computer based listening

Interview protocol -Stage Two-

Researcher: Mónica S Cárdenas-Claros

**Objective:** To inquire about the language teacher’s previous experience with language teaching and computer based instruction.

**Setting:** Individual. Audio-recording

Interview information

Participant’s pseudonym: __________________________________________

Date: __________________________________________________________

Place: __________________________________________________________

Guiding questions:

- Tell me about your teaching qualifications.
- How long have you been teaching English?
- What type of students do you normally teach?
- Where do you teach?
- How many students are there usually per class?
- What is the emphasis of English instruction at the institute you teach?
- What do you think about using computers for language learning?
- What is your experience in using computers for language teaching?
- Do you use computers as part of your lessons?
- What language skills do your students practice with computers?
- How often and for how long do students in your school use computers for language learning?
- Have you had your students working in computer-based listening in the last month
C4. Study Three and Study Four – Interview protocol for designers

A principled framework of help options in computer based listening

Interview protocol -Stage Two-

Researcher: Mónica S Cárdenas-Claros

Objective: To inquire about the designer’s previous experience with language learning and design for learning environments.

Setting: Individual. Audio-recording

Interview information

Participant’s pseudonym: ____________________________________________________

Date: ________________________________________________________________

Place: _________________________________________________________________

Guiding questions:

• Tell me a bit about your qualifications.
• What do you think about using computers for language learning?
• What’s your experience in learning languages using computers?
• What’s your experience in designing for education environments?
• What’s your experience in designing for language learning?
• What’s your experience in evaluating software for language learning?
C5. Study Three– Guiding question for evaluation of PD sessions

- Before participating in this study, had you participated in a similar study?
- How did you feel during the different prototype design sessions?
- What could have influenced the design outcomes?
- Were the help options definitions clear before starting the PD sessions?
- How do you feel regarding the number of PD sessions conducted?
- What about the time between sessions?
- What was your role and how well did you fulfill that role?
- Are you satisfied with the design outcomes?
- Is there something additional you would change to the final prototype you created?
- How relevant is having the iteration session on a computer screen?
- Do you think that everybody had equal opportunities to give their opinion?
D1. Study One – Activities participants worked in the LEI ©

<table>
<thead>
<tr>
<th>Participant</th>
<th>Session</th>
<th>Level</th>
<th>Module</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camila</td>
<td>1</td>
<td></td>
<td>A5</td>
<td>The first day</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>B5</td>
<td>Shopping trip</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td>Julio</td>
<td>1</td>
<td>2</td>
<td>A5</td>
<td>Sound advice</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>C3</td>
<td>Somewhere around here</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A1</td>
<td>Another busy day</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td>Maria</td>
<td>1</td>
<td>3</td>
<td>A2</td>
<td>Breaking news</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td>C4</td>
<td>Dean’s challenge</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td>Lina</td>
<td>1</td>
<td></td>
<td>A3</td>
<td>A job for Talia</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>C3</td>
<td>The truth revealed</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>Stimulated recalls</td>
</tr>
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</table>
### D2. Study Two – Activities participants worked in the LEI ©

<table>
<thead>
<tr>
<th>Level</th>
<th>Participant</th>
<th>Session</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginners</td>
<td>Yolima</td>
<td>1.1</td>
<td>Level 1. A5. The first day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>Level 1. C3. Lunch with the stars</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1</td>
<td>Level 1. C5. You are hired</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2</td>
<td>Level 1. C4 Birthday present</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.1</td>
<td>Software suggestions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td></td>
<td>Mayra</td>
<td>1.1</td>
<td>Level 1. C1. Having a snack</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>Level 1. C1. Having a snack LC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1</td>
<td>Level 1. C5. You are hired</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2</td>
<td>Level 1. C5. You are hired LC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.1</td>
<td>Software suggestions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td></td>
<td>Pablo</td>
<td>1.1</td>
<td>Level 1. B1. It is a great place</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>Level 1. B1. It is a great place LC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1</td>
<td>Level 1. B3. Lunch at the rock</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2</td>
<td>Level 1. B3 Lunch at the rock EL</td>
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<tr>
<td></td>
<td></td>
<td>3.1</td>
<td>Software suggestions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td>High beginners</td>
<td>Andrea</td>
<td>1.1</td>
<td>Level 2. A1. Do I know you</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>Level 2. A3. Somebody new</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1</td>
<td>Level 2. A3. A quick lunch</td>
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<tr>
<td></td>
<td></td>
<td>2.2</td>
<td>Level 2. A4. What a weekend</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.3</td>
<td>Level 2. A4 What a weekend LC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.1</td>
<td>Software suggestions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.3</td>
<td>Stimulated recalls 2nd part</td>
</tr>
<tr>
<td></td>
<td>Eduardo</td>
<td>1.1</td>
<td>Level 1. A3. A new arrival</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1</td>
<td>Level 2. B3. Weekend plans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2</td>
<td>Level 2. C1. Welcome back</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.3</td>
<td>Level 2. C5. You have got to do it LC</td>
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<tr>
<td></td>
<td></td>
<td>3.1</td>
<td>Software suggestions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Sandra</td>
<td>1.1</td>
<td>Level 1. C3. Lunch with the stars</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>Level 3. A4. A matter of trust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1</td>
<td>Level 3. B1 Nick’s explanation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2</td>
<td>Level 3. B1. Nick’s explanation LC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.1</td>
<td>Level 3. B2. An endorsement deal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2</td>
<td>Suggestions for software</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.3</td>
<td>Stimulated recalls</td>
</tr>
<tr>
<td></td>
<td>Duvan</td>
<td>1.1</td>
<td>Level 2. C3. Somewhere around here</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>Level 3. A1. Another busy day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1</td>
<td>Level 3. A3. A job for Talia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2</td>
<td>Level 3. A3 A job for Talia LC</td>
</tr>
<tr>
<td>Level</td>
<td>File Name</td>
<td>Level</td>
<td>File Name</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2.1</td>
<td>Rosa: Level 3. B4. No one by that name</td>
<td>2.2</td>
<td>Rosa: Level 3. B4. No one by that name LT</td>
</tr>
<tr>
<td>3.1</td>
<td>Rosa: Suggestions for software</td>
<td>3.2</td>
<td>Rosa: Stimulated recalls</td>
</tr>
<tr>
<td>3.1</td>
<td>Sofia: Software suggestions</td>
<td>3.2</td>
<td>Sofia: Stimulated recalls</td>
</tr>
<tr>
<td>2.2</td>
<td>Elena: Level 4. A3 Jacky the actress</td>
<td>3.1</td>
<td>Elena: Software suggestions</td>
</tr>
<tr>
<td>3.2</td>
<td>Elena: Stimulated recalls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Vilma: Suggestions for software</td>
<td>3.2</td>
<td>Vilma: Stimulated recalls</td>
</tr>
</tbody>
</table>
D3. Study Three and Study Four– Screenshot designs from previous studies

Screenshot of ALO (Cárdenas-Claros, 2005)

On Stage
Communication process

2. First, listen to three different segments about agents involved in the communication process.
Then match the title that best summarizes the segment with the segment number. You need to drag a box in the second row and drop it on a box in the first row.
Check your answer. Then repeat the procedure for the remaining boxes.
As you can see, there is one title more than the segments.

Video | Audio | Transcripts
1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3

Communication
Transferring or exchanging information
Message Sent
Message Received
Reaction by Receiver

Number one is a message has to be sent, that is somebody or in this case some insect is producing that message and releasing it across the space that separates umm, anot. that insect from another individual.

tr.v. released, releasing, releases
Definition: To set free from confinement, restraint, or bondage; released the prisoners.

A deliverance or liberation, as from confinement, restraint, or suffering.
Screenshot of the Astronomy unit (Grgurović & Hegelheimer, 2007)
Screenshot of the New Dynamics English used in (Hegelheimer & Tower, 2004)
Screenshot of Jones (2006, 2009)

Screenshot of ImPreSSions (Pujolà, 2002)
Screenshot of Rivens Mompean & Guichon, 2009

Screenshot of the Korean tutor (Salman, Ince, Kim & Cheng, 2009)
APPENDIX E: DATA MANAGEMENT PROCEDURES
### E1. Study Two – Map of help option use/non-use per participant

#### Level 1 Mayra

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayra</td>
<td>Level 1</td>
<td>Nov-27-2008</td>
<td>2.2</td>
<td>Level 1. C5. You are hired LC</td>
<td>9:32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:50</td>
<td>Transcript</td>
<td>Because she couldn’t answer two questions correctly</td>
</tr>
<tr>
<td>1:40</td>
<td>Questions</td>
<td>She read questions previously</td>
</tr>
<tr>
<td>2:14</td>
<td>Transcript</td>
<td>She multi-tasked – Transcript and translate</td>
</tr>
<tr>
<td>3:00</td>
<td>Various help at once</td>
<td></td>
</tr>
<tr>
<td>3:20</td>
<td>Dictionary</td>
<td>No need because of the translation</td>
</tr>
<tr>
<td>3:50</td>
<td>Rewind</td>
<td>She couldn’t understand because she was using the questions mostly</td>
</tr>
<tr>
<td>4:45</td>
<td>Video</td>
<td>Not very clear – no much action → Phone conversation</td>
</tr>
<tr>
<td>5:24</td>
<td>Explanation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayra</td>
<td>Level 1</td>
<td>Nov-21-2008</td>
<td>1.2</td>
<td>Level 1. C1. Having a snack LC</td>
<td>9.20 min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:19</td>
<td>Transcript</td>
<td>After answering the first question. To make sure. She understood correctly – She accessed the on the first part transcript.</td>
</tr>
<tr>
<td>3:00</td>
<td>Translation</td>
<td>To check what the translation consisted. There was a question not understood.</td>
</tr>
<tr>
<td>3:45</td>
<td>Explanation</td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td>Number of times</td>
<td>3 time combined with the text</td>
</tr>
<tr>
<td>4:20</td>
<td>Buttons</td>
<td>Because there was a technical failure (low volume) She didn’t use it.</td>
</tr>
<tr>
<td>4:55</td>
<td>Without Listening</td>
<td>She completed the exercise without listening at first to see how much she understood</td>
</tr>
<tr>
<td>6:20</td>
<td>Is help useful</td>
<td>Yes. One always need some help to understand You learn from mistakes and then you</td>
</tr>
<tr>
<td>8:19</td>
<td>Best option</td>
<td>Translation, gives you the whole text</td>
</tr>
<tr>
<td></td>
<td>Dictionary</td>
<td></td>
</tr>
</tbody>
</table>
### Mayra

<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Feel</td>
<td>As one gets familiar with it is much easier was it easy</td>
</tr>
<tr>
<td>1:20</td>
<td>Video</td>
<td>When I see more action. It is easier to understand</td>
</tr>
<tr>
<td>2:05</td>
<td>Transcript</td>
<td>I need to read to be able to understand</td>
</tr>
<tr>
<td></td>
<td>Dict – Trans</td>
<td>Better the transcript – complements</td>
</tr>
<tr>
<td>3:32</td>
<td>Process</td>
<td>Understand the final part – Answer the questions</td>
</tr>
<tr>
<td>5:38</td>
<td>Video</td>
<td>The first video didn’t tell me anything because it was a phone conversation Helps when there action</td>
</tr>
<tr>
<td>6:25</td>
<td>Buttons</td>
<td></td>
</tr>
<tr>
<td>6:44</td>
<td>Dictionary</td>
<td>No necessary</td>
</tr>
<tr>
<td>6:55</td>
<td>Translation</td>
<td>Check what</td>
</tr>
<tr>
<td>7:24</td>
<td>Cultural notes</td>
<td>Explanation confused them</td>
</tr>
<tr>
<td>8:05</td>
<td>Cultural</td>
<td>She didn’t see them. It is not clear for people what they are.</td>
</tr>
<tr>
<td>9:00</td>
<td>Explanation</td>
<td>Yes. They helped</td>
</tr>
</tbody>
</table>

### Level 1: Pablo

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pablo</td>
<td>Level 1</td>
<td>Nov-21-2008</td>
<td>1.1</td>
<td>Level 1. B1. It is a great place</td>
<td>6.40 min</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:12</td>
<td>Buttons</td>
<td>Listen, repeat, Listen – repeat that’s the procedure</td>
</tr>
<tr>
<td>1:48</td>
<td>Difficult 2 exercise</td>
<td>I knew what each word meant, but still pronunciation was different</td>
</tr>
<tr>
<td>2:23</td>
<td>Transcript</td>
<td>No difficult to answer, the vocab. Was easy to understand</td>
</tr>
<tr>
<td>2:48</td>
<td>Dictionary</td>
<td></td>
</tr>
<tr>
<td>2:53</td>
<td>Transcript</td>
<td>No</td>
</tr>
<tr>
<td>3:12</td>
<td>Dialogue</td>
<td>Was nor difficult</td>
</tr>
<tr>
<td>3:44</td>
<td>Buttons</td>
<td>10 - times – 15 pause and play</td>
</tr>
<tr>
<td>4:27</td>
<td>Video</td>
<td>Images help you locate context</td>
</tr>
<tr>
<td>5:53</td>
<td>Explanation</td>
<td>Tried to reconstruct the text but he avoided using explanation</td>
</tr>
<tr>
<td>6:25</td>
<td>Objective</td>
<td>Understand and complete the correct answer</td>
</tr>
</tbody>
</table>

268
<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pablo</td>
<td>Level 1</td>
<td>Nov-24-2008</td>
<td>2.2</td>
<td>Level 1. B3 Lunch at the rock EL</td>
<td>2.07 min</td>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:10</td>
<td>Help</td>
<td>When the text is easy there is no need of help</td>
</tr>
<tr>
<td></td>
<td>Help confirm</td>
<td>There was no need</td>
</tr>
<tr>
<td></td>
<td>Buttons</td>
<td>No used. Mainly pause + play buttons</td>
</tr>
<tr>
<td></td>
<td>Text</td>
<td>8 times was listened. He paused himself to listen to the text without help.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pablo</td>
<td>Level 1</td>
<td>Nov-24-2008</td>
<td>2.1</td>
<td>Level 1. B3. Lunch at the rock</td>
<td>10.38 min</td>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:35</td>
<td>Feel</td>
<td>O.K Level first part went O.K in spite of the use of help</td>
</tr>
<tr>
<td></td>
<td>Help</td>
<td>No use</td>
</tr>
<tr>
<td>1:30</td>
<td>Translation</td>
<td>To reinforce more what he understood then he accessed the transcript</td>
</tr>
<tr>
<td>2:00</td>
<td>Completion exercise</td>
<td>Transcript was not used</td>
</tr>
<tr>
<td>2:40</td>
<td>Translation</td>
<td>Is accessed when he wanted to have a general idea of the text.</td>
</tr>
<tr>
<td>3:31</td>
<td>Dictionary</td>
<td>Transcript – Dictionary In order not to use the translation</td>
</tr>
<tr>
<td></td>
<td>Dictionary</td>
<td>Specific word – In order not to use the translation</td>
</tr>
<tr>
<td>4:51</td>
<td>Video</td>
<td>Image, helps him focus Working with audio only facilitates Distraction – the image is a good tool</td>
</tr>
<tr>
<td>6:09</td>
<td>Buttons</td>
<td>Used pause/ play – for text completion</td>
</tr>
<tr>
<td>6:35</td>
<td>Cultural notes</td>
<td>Not used because he didn’t deem necessary he emphasized more reading the text</td>
</tr>
<tr>
<td>7:03</td>
<td>Objective</td>
<td>It helped people locate people</td>
</tr>
<tr>
<td>8:14</td>
<td>Preferred help</td>
<td>Dictionary – check dictionary outside of the program</td>
</tr>
<tr>
<td>8:30</td>
<td></td>
<td>Recording was heard several times; he understood context but there were key words missing Transcript was then used</td>
</tr>
</tbody>
</table>
## Level 1: Yolima

<table>
<thead>
<tr>
<th>Participants' name</th>
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<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yolima</td>
<td>Level 1</td>
<td>Nov-20-2008</td>
<td>1.1</td>
<td>Level 1. A5. The first day</td>
<td>4.52 min</td>
</tr>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:25</td>
<td>Used help regarding the fact she didn’t use.</td>
<td>To explore the program. Very easy to understand and in spite she understood everything she decided to use the help options.</td>
</tr>
<tr>
<td>0:44</td>
<td>Video</td>
<td></td>
</tr>
<tr>
<td>1:24</td>
<td>Transcript</td>
<td>Video and transcript were accessed separately.</td>
</tr>
<tr>
<td></td>
<td>Glossary</td>
<td>Methods to what she was used to.</td>
</tr>
<tr>
<td>2:48</td>
<td>Cultural notes</td>
<td>Complements the information they gave you. They contextualized.</td>
</tr>
<tr>
<td></td>
<td>Help options</td>
<td>She used help to verify her own prediction if more complicated to get to the correct answers.</td>
</tr>
<tr>
<td></td>
<td>Objective</td>
<td>To understand.</td>
</tr>
<tr>
<td></td>
<td>Video</td>
<td>Images complement.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants' name</th>
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<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yolima</td>
<td>Level 1</td>
<td>Nov-20-2008</td>
<td>1.2</td>
<td>Level 1. C3. Lunch with the stars</td>
<td>5.23 min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:12</td>
<td>Feel</td>
<td>A bit more complicate, but she managed to complete it.</td>
</tr>
<tr>
<td>1:00</td>
<td>Influenced by the researcher</td>
<td>To see it what I told her right.</td>
</tr>
<tr>
<td>1:20</td>
<td>Memory exercise – Cultural notes</td>
<td>She try to memorize the dialogue to complete the text. - failed attempt</td>
</tr>
<tr>
<td></td>
<td>Explanation</td>
<td>She didn’t see them that are way she didn’t accessed them. I didn’t see it instead. She restarted the whole exercise.</td>
</tr>
<tr>
<td>2:35</td>
<td>Listen it by parts</td>
<td>No good because she got fragmented versions of it and it is more difficult to understand.</td>
</tr>
<tr>
<td>3:00</td>
<td>Pause</td>
<td>When she knew the correct answer.</td>
</tr>
<tr>
<td>3:25</td>
<td>Transcript</td>
<td>Accessed because she wanted to complement the audio with the text.</td>
</tr>
<tr>
<td></td>
<td>Video</td>
<td>No much attention to the video, she preferred to listen because she really wanted to understand. She got distracted by the video. I wanted to try to understand the video.</td>
</tr>
<tr>
<td>Participants' name</td>
<td>LEI Level</td>
<td>Date</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Yolima</td>
<td>Level 1</td>
<td>Nov-24-2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Start time</strong></td>
<td><strong>Topic</strong></td>
<td><strong>Comments</strong></td>
</tr>
<tr>
<td>1:45</td>
<td>Level ease</td>
<td>Level ease</td>
</tr>
<tr>
<td>2:01</td>
<td>1st art used help option</td>
<td>Although</td>
</tr>
<tr>
<td>2:30</td>
<td>Video</td>
<td>Complements</td>
</tr>
<tr>
<td>2:49</td>
<td>Glossary</td>
<td>Only audio is very complicated</td>
</tr>
<tr>
<td>3:10</td>
<td>Transcript</td>
<td>Read and . Learning when I only / Como se</td>
</tr>
<tr>
<td>4:18</td>
<td>Buttons</td>
<td>Rewind – by questions</td>
</tr>
<tr>
<td></td>
<td>Objective</td>
<td>Understand – then I just wanted to complete the answer.</td>
</tr>
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</table>

**Level 2: Andrea**

<table>
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<tr>
<th>Participants' name</th>
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<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
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<tbody>
<tr>
<td>Andrea</td>
<td>Level 2</td>
<td>Nov-29-2008</td>
<td>1.1</td>
<td>Level 2. A1. Do I know you</td>
<td>11.53 min</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Start time</strong></td>
<td><strong>Topic</strong></td>
<td><strong>Comments</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0:55</td>
<td>Objective</td>
<td>Correct response – get the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:25</td>
<td>Transcript</td>
<td>Turn – Taking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identifying characters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:17</td>
<td>Dictionary</td>
<td>Used once</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:55</td>
<td>Translation</td>
<td>To relate what part of the language the words belongs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:35</td>
<td>Translation</td>
<td>To have a general idea and specific idea of the text.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:20</td>
<td>Rewind/Forward</td>
<td>She was instinctive relate the control buttons with the ones in tape recorder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:18</td>
<td>Cultural notes</td>
<td>Image distract people from using cultural notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No needed because the image helps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:55</td>
<td>Video size</td>
<td>Bigger – attempts to resize failed then OK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:40</td>
<td>Questions</td>
<td>To find some links between questions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:20</td>
<td>Video role</td>
<td>Help her to focus and understand weak level of English can be supplemented by images to help her understand.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participants' name</td>
<td>LEI Level</td>
<td>Date</td>
<td>Session</td>
<td>Activity</td>
<td>Recording time</td>
</tr>
<tr>
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<td>-----------</td>
<td>------------</td>
<td>---------</td>
<td>-----------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Andrea</td>
<td>Level 2</td>
<td>Nov-29-2008</td>
<td>1.2</td>
<td>Level 2. A3. Somebody new</td>
<td>7.48 min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:39</td>
<td>Feel</td>
<td>Easier. More confident. Doubt. Whether I am doing it right. She stops and reads the questions</td>
</tr>
<tr>
<td>1:21</td>
<td>No use of help options</td>
<td>Only listening to the text twice because</td>
</tr>
<tr>
<td>2:06</td>
<td>No need</td>
<td>From the first time she understood and related to the situation.</td>
</tr>
<tr>
<td>2:45</td>
<td>Transcript</td>
<td>Looks at the whole text then by parts</td>
</tr>
<tr>
<td>Dictionary</td>
<td>No use, because the translation was accessed, so, what’s the point.</td>
<td></td>
</tr>
<tr>
<td>3:23</td>
<td>Buttons</td>
<td>No need to use them because she played the whole test first.</td>
</tr>
<tr>
<td>Video</td>
<td>Of course helped her understand. Helped her to locate thing</td>
<td></td>
</tr>
<tr>
<td>4:30</td>
<td>Cultural notes</td>
<td>It is a support she understood some behaviours used by the characters</td>
</tr>
<tr>
<td>5:23</td>
<td>Play</td>
<td>Only read. Listened to the complete</td>
</tr>
<tr>
<td>5:50</td>
<td>Explanation</td>
<td>She forgot what the button was about. She saw it, but she didn’t use</td>
</tr>
<tr>
<td>6:20</td>
<td>Importance of training</td>
<td>Training is important because if she doesn’t know English and doesn’t know the program, then how can it be accessed.</td>
</tr>
<tr>
<td>Suggestions</td>
<td>Good structure, good navigation</td>
<td></td>
</tr>
<tr>
<td>Objective</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrea</td>
<td>Level 2</td>
<td>Dec-06-2008</td>
<td>2.1</td>
<td>Level 2. A3. A quick lunch</td>
<td>5.40 min</td>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:39</td>
<td>Feel</td>
<td>O.K She compared success based on the number of correct answers.</td>
</tr>
<tr>
<td>1:30</td>
<td>Explanation</td>
<td>Frustration whit this help option because it didn’t meet her expectations.</td>
</tr>
<tr>
<td>2:10</td>
<td>Transcript</td>
<td>Two times</td>
</tr>
<tr>
<td>2:24</td>
<td>Dictionary</td>
<td>Do not fit the expectations. Check the word and it should appear in Spanish</td>
</tr>
<tr>
<td>3:58</td>
<td>Buttons</td>
<td>Listen to music in the computer. Used to buttons in her music player.</td>
</tr>
<tr>
<td>Questions</td>
<td>Listen to the video</td>
<td></td>
</tr>
<tr>
<td>5:20</td>
<td>Cultural notes</td>
<td>They are good, but they are no necessary given the type of situation. They don’t add up much.</td>
</tr>
<tr>
<td>Participants' name</td>
<td>LEI Level</td>
<td>Date</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Andrea</td>
<td>Level 2</td>
<td>Dec-06-2008</td>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:10</td>
<td>Feel</td>
<td>She listened several times because she understood isolated words in site of reading the questions She just didn’t get it.</td>
</tr>
<tr>
<td>1:24</td>
<td>Frustration</td>
<td>This was more difficult</td>
</tr>
<tr>
<td>1:47</td>
<td>Transcript</td>
<td></td>
</tr>
<tr>
<td>2:18</td>
<td>Transcript</td>
<td>Very necessary because she couldn’t understand the text.</td>
</tr>
<tr>
<td>2:36</td>
<td>Used the bar</td>
<td>But she couldn’t manage it.</td>
</tr>
<tr>
<td>2:55</td>
<td>Video</td>
<td>She missed having the video.</td>
</tr>
<tr>
<td>3:30</td>
<td>Second attempt</td>
<td>She attempted do it again option is good because</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants' name</th>
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<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrea</td>
<td>Level 2</td>
<td>Dec-06-2008</td>
<td>2.3</td>
<td>Level 2. A4 What a weekend LC</td>
<td>4.14 min</td>
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<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:10</td>
<td>Feel</td>
<td>She felt better. She found the text and the questionnaire. Longer than others . Characters speak.</td>
</tr>
<tr>
<td>1:04</td>
<td>Transcript</td>
<td>Faster, but video helped her to understand.</td>
</tr>
<tr>
<td>1:45</td>
<td>Video</td>
<td></td>
</tr>
<tr>
<td>2:00</td>
<td>Buttons</td>
<td>Better to answer</td>
</tr>
<tr>
<td>2:25</td>
<td>Explanation</td>
<td>She keeps forgetting to use it. // Though explanation  She relates the E to the word</td>
</tr>
<tr>
<td>2:58</td>
<td>Cultural notes</td>
<td>Very common and it doesn’t require much explanations</td>
</tr>
</tbody>
</table>
### Level 2: Eduardo

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eduardo</td>
<td>Level 2</td>
<td>Nov-20-2008</td>
<td>1.1</td>
<td>Level 1. A3. A new arrival</td>
<td>11.29 min</td>
</tr>
</tbody>
</table>

#### Start time | Topic | Comments
--- | --- | ---
1:30 | Feeling | Easy for him. He completed the answer at once. Good program / very didactic
1:50 | No help use | No translation, no dictionary because there were words he didn’t understand
2:25 | Feeling | O.K. Level feels challenging enough
3:50 | Transcript | Farewell it is easier to use the transcript but it is better not to use. People depends on the transcript no relation if reading

<table>
<thead>
<tr>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanation</td>
<td>To correct the ones</td>
</tr>
</tbody>
</table>

#### Start time | Topic | Comments
--- | --- | ---
6:20 | Dictionary | No use hypothetical use – English – English help. People to adapt more to the language Spanish people more words are heard by looking at English words

<table>
<thead>
<tr>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation</td>
<td>No use</td>
</tr>
</tbody>
</table>

#### Start time | Topic | Comments
--- | --- | ---
7:26 | Buttons | Rewind button used because / 4 times listened to the text. Text was heard once. Pause – To rewind again

<table>
<thead>
<tr>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>No help - distracts people. He avoided watching at the video – It’s just a dialogue – actions do not help</td>
</tr>
</tbody>
</table>

#### Start time | Topic | Comments
--- | --- | ---
9:45 | Cultural notes | No need – Error

#### Start time | Topic | Comments
--- | --- | ---
10:22 | Objective | Understand

### Level 2: Eduardo

<table>
<thead>
<tr>
<th>Participants' name</th>
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<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eduardo</td>
<td>Level 2</td>
<td>Nov-20-2008</td>
<td>2.1</td>
<td>Level 2. B3. Weekend plans</td>
<td>7.50 min</td>
</tr>
</tbody>
</table>

#### Start time | Topic | Comments
--- | --- | ---
0:22 | Feel |

#### Start time | Topic | Comments
--- | --- | ---
0:46 | Transcript | He read the text to verify only one question. Context

<table>
<thead>
<tr>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation</td>
<td></td>
</tr>
</tbody>
</table>

#### Start time | Topic | Comments
--- | --- | ---
2:30 | Buttons | 4 times. Forward only used it.

#### Start time | Topic | Comments
--- | --- | ---
3:25 | Video | Didn’t help because there were two people talking and

#### Start time | Topic | Comments
--- | --- | ---
3:50 | Cultural notes | He forgot they existed

#### Start time | Topic | Comments
--- | --- | ---
4:48 | Design | Locate

#### Start time | Topic | Comments
--- | --- | ---
5:20 | Importance of training |

#### Start time | Topic | Comments
--- | --- | ---
5:56 | Training provided by the program |

<table>
<thead>
<tr>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suggestions</td>
<td>Video bigger there is a standard video. Get used to</td>
</tr>
<tr>
<td>Participants' name</td>
<td>LEI Level</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Eduardo</td>
<td></td>
</tr>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:10</td>
<td>Feel</td>
<td>Measured by the number of correct responses. The video could be understood</td>
</tr>
<tr>
<td>0:59</td>
<td>Help</td>
<td>No used because he didn’t need it</td>
</tr>
</tbody>
</table>

| Explanation                           | No used in spite of having the questions incorrect. He prefers to listen to the text again. |
| Cultural notes                        | The conversation was common, nothing out of the ordinary |

Level 3: Rosa

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
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<tbody>
<tr>
<td>Rosa</td>
<td>Level 3</td>
<td>Nov-15-2008</td>
<td>1.1</td>
<td>Level 1. C5. You are hired</td>
<td>3.50 min</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:00</td>
<td>Feel</td>
<td>Better much more paused. Easier. Three times</td>
</tr>
<tr>
<td>0:52</td>
<td>Transcript</td>
<td>No needed because the exercise was pause, only used what she</td>
</tr>
<tr>
<td>1:38</td>
<td>Video</td>
<td>No needed because the exercise provided all the info required to be completed</td>
</tr>
<tr>
<td>1:27</td>
<td>Buttons</td>
<td>Listen to video complete</td>
</tr>
<tr>
<td>Participants' name</td>
<td>LEI Level</td>
<td>Date</td>
</tr>
<tr>
<td>--------------------</td>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>12:55</td>
<td>Intro</td>
<td></td>
</tr>
<tr>
<td>13:28</td>
<td>Transcript</td>
<td>No need because everything was understood</td>
</tr>
<tr>
<td>13:52</td>
<td>Buttons</td>
<td></td>
</tr>
<tr>
<td>14:50</td>
<td>Translation</td>
<td>The text was understood</td>
</tr>
<tr>
<td>14:57</td>
<td>Cultural notes</td>
<td>The situation was obvious</td>
</tr>
<tr>
<td>15:16</td>
<td>Video role</td>
<td>Context helps to understand</td>
</tr>
<tr>
<td>26:28</td>
<td>Level of difficulty</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No need to use help option Because of the ease of the text</td>
</tr>
<tr>
<td>27:20</td>
<td>Transcript</td>
<td>Familiarity with words</td>
</tr>
<tr>
<td>28:03</td>
<td>Translation</td>
<td>No because the main context</td>
</tr>
<tr>
<td>28:32</td>
<td>Dictionary</td>
<td></td>
</tr>
<tr>
<td>28:50</td>
<td>Translation</td>
<td>Delays learning Try to understand in same language</td>
</tr>
<tr>
<td>29:38</td>
<td>Subtitles</td>
<td>Use because of quantity of new words When she is not sure of the meaning When she wants to confirm the no use – because she know the word.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
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<tr>
<td>Rosa</td>
<td>Level 3</td>
<td>Nov-29-2008</td>
<td>2.1</td>
<td>Level 3. B4. No one by that name</td>
<td>7.50 min</td>
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<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>0:14</td>
<td>Feel</td>
<td>OK, but it has more difficult because in the video people spoke faster.</td>
</tr>
<tr>
<td>1:18</td>
<td>Buttons</td>
<td>Pause to make sure she understood.</td>
</tr>
<tr>
<td></td>
<td>Number of time</td>
<td>3 times.</td>
</tr>
<tr>
<td>1:57</td>
<td>Dictionary</td>
<td>She got confused and decided to use the vocabulary then she figured it.</td>
</tr>
<tr>
<td>2:56</td>
<td>Cultural notes</td>
<td>There was no need. Very similar to our culture, very similar to.</td>
</tr>
<tr>
<td>3:20</td>
<td>Video</td>
<td>Reaction, the way she was mocked up, help her to focus. It is a great help option.</td>
</tr>
<tr>
<td>3:57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:17</td>
<td>Transcript</td>
<td>She preferred to use she wanted to make sure. The difficult was not that strong. It was just a W she didn’t get.</td>
</tr>
<tr>
<td>5:04</td>
<td>Dictionary</td>
<td></td>
</tr>
<tr>
<td>5:24</td>
<td>Transcript</td>
<td>She knows that listening is one of her weaknesses. Then she wants to push herself.</td>
</tr>
<tr>
<td></td>
<td>Level influences</td>
<td>Using only the video</td>
</tr>
<tr>
<td>Participants' name</td>
<td>LEI Level</td>
<td>Date</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
<td>------------</td>
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<td>Nov-29-2008</td>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:26</td>
<td>Transcript</td>
<td>She couldn’t understand, then she used it. After she verified the questions were correct.</td>
</tr>
<tr>
<td>1:33</td>
<td>Video</td>
<td>Yes it helped.</td>
</tr>
<tr>
<td>2:06</td>
<td>Transcript</td>
<td>Only one part. Did it help to use the transcript yes/no</td>
</tr>
<tr>
<td>3:00</td>
<td>Dictionary</td>
<td>No, because</td>
</tr>
<tr>
<td>4:07</td>
<td>Location</td>
<td>Help – on the side.</td>
</tr>
<tr>
<td>5:50</td>
<td>Cultural notes</td>
<td>No needed</td>
</tr>
<tr>
<td>8:20</td>
<td>Deceitful</td>
<td>Help</td>
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</table>

Level 3: Sandra

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
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<tbody>
<tr>
<td>Sandra</td>
<td>Level 3</td>
<td>Nov-19-2008</td>
<td>1.1</td>
<td>Level 1. C3. Lunch with the stars</td>
<td>2.09 min</td>
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<table>
<thead>
<tr>
<th>Start time</th>
<th>Topic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:44</td>
<td>No. of times</td>
<td>0. 2 times</td>
</tr>
<tr>
<td>0:50</td>
<td>Translation</td>
<td>Because reading in easier To confirm times because</td>
</tr>
<tr>
<td>1:48</td>
<td>No dictionary</td>
<td>Easy not very fast Very easy for her level</td>
</tr>
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</table>
### Participants' name | LEI Level | Date       | Session | Activity                        | Recording time |
--- | --- | --- | --- | --- | --- |
Sandra  | Level 3  | Nov-27-2008 | 2.1 | Level 3.B1 Nick's explanation | 17.29 min |

**Start time** | **Topic** | **Comments** |
--- | --- | --- |
0:38 | Feel | Better. Easier. Than before |
1:26 | Software | |
1:37 | Google translate | She doesn’t |
3:00 | Video | Complements, boring images, help focus on the activity |
4:35 | Dictionary | |
5:25 | Exploration | |
8:06 | Objective | Understand and complete the answer correctly |
8:35 | Cultural notes | I used them once. I don’t consider it relevant |
9:17 | Suggestions | Video bigger - bigger option |

---

**Level 3: Duvan**

| Participants' name | LEI Level | Date       | Session | Activity                        | Recording time |
--- | --- | --- | --- | --- | --- |
Duvan  | Level 3  | Nov-21-2008 | 1.2 | Level 3. A1. Another busy day | 9.18 min |

**Start time** | **Topic** | **Comments** |
--- | --- | --- |
+/− 08 | Feeling | |

Transcript | Words/ Expressions
| Transcript me permit
| Vocabulary he doesn’t know
| Vocabulary that he knew but pronunciations |
2:20 | Cultural notes | No needed although he acknowledges his importance |
2:57 | | Better to be used for reading as a foot note |
3:57 | Video role | Gestures help understand the situation body gestures |
5:52 | | More difficult if video is not present |

Feedback | Transcript helps to understand the dialogue |
6:25 | Buttons | |
8:15 | | Translation mental |
8:39 | Forward | |
<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duwan</td>
<td>Level 3</td>
<td>Dec-2-2008</td>
<td>2.1</td>
<td>Level 3. A3. A job for Talia</td>
<td>12.4 min</td>
</tr>
<tr>
<td><strong>Start time</strong></td>
<td><strong>Topic</strong></td>
<td><strong>Comments</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0:26</td>
<td>Feel</td>
<td>He used more help option.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:52</td>
<td>Transcript</td>
<td>After answering the questions because he couldn’t understand some questions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:33</td>
<td>Dictionary</td>
<td>3 time – bench – figure out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:20</td>
<td>Better for understand</td>
<td>Transcript – Auto-evaluation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:14</td>
<td>Cultural notes</td>
<td>He was curious to identify what the cultural notes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:35</td>
<td>Bar</td>
<td>More control of when people wants to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:23</td>
<td>Exercise without bar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:50</td>
<td>Video</td>
<td>Listen without video</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:11</td>
<td>Explanation</td>
<td>No need – Incorrect – correct it.</td>
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Level 4: Vilma

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<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
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<tbody>
<tr>
<td>Vilma</td>
<td>Level 4</td>
<td>Nov-19-2008</td>
<td>1.1</td>
<td>Level 2. B3. Weekend plans</td>
<td>3.45 min</td>
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<td><strong>Start time</strong></td>
<td><strong>Topic</strong></td>
<td><strong>Comments</strong></td>
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</tr>
<tr>
<td>50</td>
<td>Nice experience</td>
<td>Different to traditional class</td>
<td>More personal experience one / 2 easy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No. times</td>
<td>Three times</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Help</td>
<td>No need</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:29</td>
<td>Transcript</td>
<td>No necessary</td>
<td>More complicate dialogues to help you keep track of the situation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buttons</td>
<td>No she didn’t use them because she likes to listen them completely</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural notes</td>
<td>She missed them</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explanation</td>
<td></td>
<td></td>
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Level 4: Elena
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<th>Topic</th>
<th>Comments</th>
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<tbody>
<tr>
<td>10</td>
<td>Level of comfort</td>
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</tr>
<tr>
<td>1:17</td>
<td>Transcript</td>
<td>Phrasal verb – She didn’t understand the pronunciation</td>
</tr>
<tr>
<td>1:53</td>
<td>Dictionary</td>
<td>English – English dictionary is O.K</td>
</tr>
<tr>
<td>2:55</td>
<td>Video role</td>
<td>More difficult to understand</td>
</tr>
<tr>
<td></td>
<td>Pause</td>
<td></td>
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<tr>
<td></td>
<td>R/F button</td>
<td>No use. Prefers to listen to the whole text</td>
</tr>
<tr>
<td>4:54</td>
<td>Rewind</td>
<td>When she got absent minded</td>
</tr>
<tr>
<td>5:26</td>
<td>Video</td>
<td>Helps her focus – Attentive in the images</td>
</tr>
<tr>
<td>5:57</td>
<td>Cultural notes</td>
<td>She didn’t seem them necessary. She wasn’t sure what cultural notes were</td>
</tr>
<tr>
<td>8:10</td>
<td>Explanation</td>
<td>To verify the answer. Answer and then if she doubt she feedback were hihts’s provided is much better than feedback that provides the answer</td>
</tr>
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Level 4: Sofia
<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
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<tbody>
<tr>
<td>Sofia</td>
<td>Level 4</td>
<td>Nov-29-2008</td>
<td>1.1</td>
<td>Level 4. A1. The straight story</td>
<td>10.18 min</td>
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**Start time** | **Topic** | **Comments** |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>0:57</td>
<td>Objective</td>
<td>Listen and understand most of the conversation very well pronounced</td>
</tr>
<tr>
<td>1:44</td>
<td>Number of times</td>
<td>6 times</td>
</tr>
<tr>
<td>1:55</td>
<td>Transcript</td>
<td>After answering the questions to verify the things she had to learned</td>
</tr>
<tr>
<td>2:47</td>
<td>Dictionary</td>
<td>Bride / set up + Add – to be sure. To get a better understanding for very words Real situation imitating the real situation Dictionary was used at the end</td>
</tr>
<tr>
<td>4:37</td>
<td>Video</td>
<td>Not relevant. I was very visual – Distracting because Ideal length of text. 5 m</td>
</tr>
<tr>
<td>6:45</td>
<td>Buttons</td>
<td>5 -6 times – Rewind button used to listen something because she got distracted</td>
</tr>
<tr>
<td>7:30</td>
<td>Bar</td>
<td>Bar more specific. Bar is better because there was more control</td>
</tr>
<tr>
<td>8:18</td>
<td>Cultural notes</td>
<td>Used because she was curious disappointed with the content</td>
</tr>
<tr>
<td>9:24</td>
<td>Cultural notes</td>
<td>Need to have info that was relevant to the culture not just the vocabulary</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants' name</th>
<th>LEI Level</th>
<th>Date</th>
<th>Session</th>
<th>Activity</th>
<th>Recording time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sofia</td>
<td>Level 4</td>
<td>Nov-29-2008</td>
<td>1.2</td>
<td>Level 4. A1. The straight story</td>
<td>2.37 min</td>
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**Start time** | **Topic** | **Comments** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0:33</td>
<td>Transcript</td>
<td>First I listened and then I didn’t understand it all</td>
</tr>
<tr>
<td>1:01</td>
<td>Glossary</td>
<td>All of them I used the glossary because → LOST</td>
</tr>
<tr>
<td>1:30</td>
<td>Video</td>
<td>Not necessary / images</td>
</tr>
<tr>
<td></td>
<td>AC buttons</td>
<td>There was no bar because it was not a conversation. There was not need to use the buttons.</td>
</tr>
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</table>
# E2. Study One and Study Two- Translated data

## Study One:

<table>
<thead>
<tr>
<th>Level</th>
<th>Participant</th>
<th>Data translated</th>
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<tbody>
<tr>
<td>Beginner</td>
<td>Camila</td>
<td>Phase 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3</td>
</tr>
<tr>
<td>High-beginner</td>
<td>Julio</td>
<td>Phase 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Maria</td>
<td>Phase 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3</td>
</tr>
<tr>
<td>High intermediate</td>
<td>Lina</td>
<td>Phase 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2</td>
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<td>Phase 3</td>
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## Study Two:

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<th>Name</th>
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<tbody>
<tr>
<td>Beginners</td>
<td>Yolima</td>
<td>Phase 1.1. and 1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2.1. and 2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3.1 and 3.2</td>
</tr>
<tr>
<td>High beginner</td>
<td>Andrea</td>
<td>Phase 1.1. and 1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2.1. and 2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3.1 and 3.2</td>
</tr>
<tr>
<td>Intermediate</td>
<td>Sandra</td>
<td>Phase 1.1. and 1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2.1. and 2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3.1, 3.2 and 3.3</td>
</tr>
<tr>
<td></td>
<td>Duvan</td>
<td>Phase 2.1. and 2.2</td>
</tr>
<tr>
<td>High intermediate</td>
<td>Sofia</td>
<td>Phase 1.1. and 1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2.1. and 2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3.1 and 3.2</td>
</tr>
<tr>
<td></td>
<td>Vilma</td>
<td>Phase 1.1. and 1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2.1. and 2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3.1 and 3.2</td>
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### E3. Study Three and Study Four - Translated data

#### Study Three

<table>
<thead>
<tr>
<th>Session</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus group one</td>
<td>Paper prototypes evaluation</td>
</tr>
<tr>
<td>Focus group two</td>
<td>Paper prototype creation</td>
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#### Study Four

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APPENDIX F: VERBAL REPORTS SAMPLES
1. R: Did you use the translation?
2. C: I did not use the translation because I could not open the window for transcript. I used the translation that is given for the directions.
3. R: Did you use listening tips?
4. C: No…let me see… Let me have a look at it that I do not remember. Yes I used it. I clicked on it but I did not find it relevant because it was in English and I did not understand what it said. It did not make any sense to me…so, I just closed it.
5. R: Did you use the cultural notes?
6. C: Yes…
7. R: Yes? What triggered you to use the cultural notes?
8. C: No, I did not see the cultural notes. I saw it but I thought it was the same as the information in the listening tips and as that information was not helpful, I just skipped it. All I wanted was the translation to understand what I was dealing with. I wanted to see the translation in Spanish, my language.
9. R: When you watch a movie you try to check the subtitles
10. C: Yes, to match the words in English and in Spanish where they are. And I used the listening tips, but it was not helpful so I thought the cultural notes were the same.
11. R: Do you think that if the listening tips were in Spanish you would have used it more?
12. C: Yes and the same with the cultural notes.
13. R: When you checked your answers…
15. R: Did you check the explanation?
16. C: Yes, I checked it and it was helpful the first time, but then it did not help at all, I think it would be better if it were in Spanish because if I have an answer incorrect then what’s the point of having the explanation in English if it was incorrect it was because I did not understand it…something they use to make emphasis and I had already noticed that fact so I decided to continue with the exercise
F2. Study One: High-beginner–Julio

Interview 3 (p3)
Data collection:
Date: June 17 2008
Duration: 14min
Activity A1. Another busy day
Text units: 472

1. R: O.k. Julio, when you were working on the previous exercises I was recording every single thing you were doing
2. J: Really?
3. R: Yes, I know what you did and you did not so that I could realize some behavior patterns you followed
4. J: I see
5. R: It was really interesting because there are certain things that you do in the basic level which you do not do in the advanced level so I am going to begin to ask you why certain things
7. R: So we are going to watch the videos slowly and I will make you some questions as we are watching
8. Well, in this video I see that you begin to listen, you had not listened to it before, and then you start to answer the questions directly...I see that you answer the questions as you are listening...so my first question is why did not you listen to the video before starting answering the questions?
9. J: You mean listen first and then answer the questions?
10. R: Right
11. J: Well, no because I can guide more with what they say so I immediately answer for instance I heard that Luis’ parents lived in X place so I immediately chose Mexico
12. R: Well, but I have another question. Why did not you read all the questions first and then listen to the text; why did you use that methodology?
13. J: That is the way I always do it. For example in the English lessons when they administer an exam they always tell you to read the story first and then answer the questions but I always go directly to the questions, to the first question so that I can focus better. I just underline and answer the questions
14. R: But you do not read every single question to get a general of the text
15. J: No, I do not
16. R: You just read the first question and scan the text for the answer
17. J: That is right. If I do not find the answer for the first question so I try and find the answer for the second one, and so on
18. R: O.k. but what is the reason for doing it like that?
19. J: Well, it is a matter of custom
20. R: A matter of custom?
21. J: Right, maybe that is because I was taught to do it like that at school
22. R: I see. Is it a regular behavior or just when you have to sit an exam, to save time or...
23. J: Exactly. That is to save time because I think it is nonsense to read once if then you have to read once again; I just need to be concentrated so I read quickly and scan for the similar words (it is common that when they ask a question there are some similar words both in the text and in the question) so I start reading a little before or a little later, just to save time
24. R: You do it to save time. You mean that when you work on an exercise the main purpose is not learning at all but answering the questions, fulfilling the exercise and that’s it
25. J: Well, not exactly. It is obvious that I want to learn too
26. R: But how do you think you can learn in that case because I cannot figure out how
27. J: Well, I feel I learn because I know that certain word in the question is also in the text and I certainly learn because if I do not understand I immediately begin to look up the meaning of that word and of some others in my translator
28. R: I see. O.k. now you are answering the questions in there, then you are done
29. J: Right. Another reason why I use to do it like that is because I have a terrible memory, so if I do not answer the questions immediately after having listened I forget about the answer
30. R: It also happens to you when you are reading, right?
31. J: Right
32. R: I see. It is more a matter of memory than…
33. J: It is a matter of retaining the information. If I do not answer immediately, I forget it all; it happens to me even in Spanish, my native language
34. R: Really?
35. J: Sure
36. R: Well, that is interesting…in here you are like checking the exercise, that is incorrect, then you rewind it and then you listen again…I thought you were not listening in there…you go forward once and again and then you go to the question. Why did not you listen to the whole text just to make sure?
37. J: Because in the first part I already knew it was the answer and…
38. R: The answer was correct
39. J: Right
40. R: If the answer would have been incorrect, would you have focused just on the first part of the text?
41. J: Yes, I would
42. R: O.k. you listen then to the whole text, you rewind again, you look like searching the part of the text and then you kind of mark it, right?
43. J: Right
44. R: Well, then you change the answer and listen again. What did it move you to listen to that part again? The fact that you did not understand a word or…
45. J: Well, I did not know when they were saying that. I did not know when they talked about this or that because none of the words in the answer allowed me to find the answer but…
46. R: You have to infer it, right?
47. J: Right
48. R: I see. That is why you were trying to locate where the answer was, that is why you begin to manipulate the forward and rewind buttons
49. J: Exactly
50. R: O.k. That is the first exercise. In this following exercise you begin to listen and then you answer directly; I notice the questions in there are really easy
51. J: They are really common
52. R: They are really common, right.
53. J: They are so common that without listening…
54. R: That is my question
55. J: I can know what the answer is without listening
56. R: You just need the context, right?
57. J: Right. Just the context
58. R: O.k. wait a little
59. J: Anyway I think I made a mistake in there
60. R: Yes, I think so, that is my question
61. J: Yes, I guess I made a mistake
62. R: What I can notice in there is that you are not reading and listening to the recording at the same time…it seems the recording is a little bit more advanced
from what you are doing. You begin going ahead the recording but there is a time when you fall behind the recording, right?
63. J: Right
64. R: So what were you doing in there? Were you listening, reading, trying to understand the written text or what?
65. J: Well, there were like two or three questions that were really easy
66. R: You mean the two or three first words?
67. J: Yes, the first two or three words are really easy, for instance, where are you from?
68. R: You immediately knew, with no need to listen
69. J: That is right. But then I listened to the text and I already knew some of the answers but it was difficult because I sometimes tried to rewind it and it started all over
70. R: I see
71. J: I do not whether you notice it, because the recording started all over so I tried to retain some information
72. R: Yes, in fact they say in here that all of the answers are correct and then you just shift the exercise...now let's see what you did in there...ah, there you go to the study plan, O.k.
73. In this third question you follow the same methodology as in the first exercise; you begin to listen, then you begin to answer at the same time
74. J: Right
75. R: You turn the volume up and down in there...what did you do in that specific part? You started the video but you could not answer that question, the video carries on and then you go back again, you did not follow the whole text
76. J: Well, that is because I could not listen that well in that moment
77. R: I see. Hold on!
78. J: I turned the volume up
79. R: O.k. so that had to do with the volume and not with the fact that you did not understand, right?
80. J: Right
81. R: It was a technical problem
82. J: Exactly. Then I turned the volume up and I could understand
83. R: I see. I was wondering why you stopped it like that and then you went back
84. J: That was because I was not concentrated on that; I was distracted by the issue of the volume
85. R: I know.
86. O.k. you are answering the second question in there, you do not do anything, the video carries on and you remain still...oh well the image is frozen...You find a question and you answer it, then you rewind it, but is it exactly to the part where you think you will find the answer?
87. J: Exactly
88. R: You do not listen to the whole text but you rewind it, right?
89. J: Right
90. R: Then you answer the question but it is incorrect. Now you have two incorrect answers then...why did not you listen to the text in there? I mean, you have two incorrect answers in that exercise, two over three, right? So why did not you listen to the text again instead of going directly to the transcript?
91. J: Because I definitely could not understand it at all
92. R: You could not?
93. J: I could not understand the listening so I thought I had to...
94. R: But do you think it is because you have to infer the answers to the questions? Or because the text is so fast, or you do not understand the vocabulary, what is the reason?
95. J: I do not know. I guess maybe the text was so fast and I could not understand what the people said in there so I decided to use a written help option to know what they were talking about.

96. R: I see. Why did you read the transcript twice? I noticed that you opened the transcript, and then you read it twice. Was not it enough reading it just once?

97. J: Once is not enough but anyway I also did it to set what the question was.

98. R: I see. So you are always looking forward to answering the question correctly.

99. J: That is right.

100. R: O.k. Why did not you use for instance the translation, if you have the option available?

101. J: Well, I know I do have the option but I try not to use it because I am learning English so I do not want to have contact with the Spanish.

102. R: But if that is so difficult to understand so why not to use the help options?

103. J: Well, I guess that is not that difficult; if that was so difficult that I could not understand anything at all, then I would go and use the help options in Spanish. I mean, the exercise is in a medium rate in which I still feel I can do it.

104. R: I see.

105. J: So if I would answer and everything was incorrect then I would use the option in Spanish. Or if I would read and I realized that from all the words that there are in there I understood nothing.

106. R: Why not to listen to the transcript?

107. J: You mean listening and reading at the same time?

108. R: Right.

109. J: Well, maybe but…

110. R: Did you have that idea? Did you think it could not be done? Or you just do not like combining the two of them: reading and listening at the same time, or…

111. J: I think I am sort of slow in that part. I just read or I just listen but I cannot do the two of them at the same time because I would not be that concentrated.

112. R: Really?


114. R: O.k. Do not you think that the fact of reading and listening at the same time would help you work the pronunciation and all of that. Do not you think it would be an advantage?

115. J: Yes, absolutely but as in this moment I am not focusing on pronunciation but on answering the questions so I prefer to concentrate on answering; I really focus on what I have to do.

116. R: I see. O.k. it seems you read in there and after reading you go back and try to locate the question.


118. R: And then, they are all correct and the exercise is over, right?

119. So for you the focus is always on…

120. J: Depending on the activity you are working on.

121. R: For instance…

122. J: For instance, I focus on answering those questions well but if you told me we have to focus on pronunciation so I would concentrate on pronunciation.

123. R: You mean you would focus on trying to see the orthographic equivalence with the pronunciation.


125. R: O.k. you do not use to combine for instance reading and listening at the same time, do you?

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127. R: Because the purpose is comprehension, right?
128. J: Exactly
129. R: O.K. in Exercise number four, you are closing the transcript from the previous exercise, now you are listening in there, it is such a pity that this part does not have a bar to see where you are exactly. Anyway you are supposed to have listened because you pressed the play button
130. J: Right
131. R: Then you answer the questions, you do not have a transcript available in there now
132. J: No, I do not
133. R: What happened in there?
134. J: I was hesitating because they were talking about many things at the same time. That was what I told you because they talked about this one, and the other one, and the other one so I got very confused
135. R: You mean because all of the three options were the same
136. J: That is right. I could not understand well because they were mentioning all of the three options in the text so I felt I had to process the data well
137. R: O.K. before you started to answer this exercise, did you read the instruction? Because I notice that you just went and pressed the play button and began to answer the questions
138. J: That is true
139. R: As if you had totally ignored this part of the instruction. Did you ignore it or you read it?
140. J: I ignored it
141. R: Why?
142. J: I do not know
143. R: You did not see it or you did not feel interested
144. J: Well, I saw it but I did not feel interested
145. R: Why?
146. J: I did not like that because it did not have anything
147. R: What do you mean?
148. J: It looked boring; it did not have help options or something like that. I once thought I would use the transcript but it was not available so I felt lazy about that because you can guide better with it.
149. R: I see
150. J: Well, I did read the text the story about San Francisco and the famous building
151. R: But you did not read it before answering the questions, it did not attract your attention
152. J: Yes, I played it once and quickly but anyway I thought it would not be that useful
153. R: But that is practically the instruction
154. J: I know, the instruction about the tour
155. R: O.K.
156. J: But for me that is not a help option
157. R: Do not you think that the instructions are help options? Do not you think they locate you in the context?
158. J: Well, they tell me what the text is about but I do not think they are help options
159. R: Alright. One of your answers in here is incorrect, then you mark it again and that’s it... why did not you listen again? You had one incorrect answer and there were two possibilities, were you hesitating?
160. J: Because when I was listening to the text I said to myself: if this is not the correct one, so it is the other one. I had those two options
161. R: You had doubts
162. J: I was hesitating
R: So what for listening again if you were hesitating between the two of them, O.k.
J: I thought that if none of the two were correct then I was totally out of focus
R: I see. O.k. so you listened, answered, then changed the answer, checked the correct answer and then you stopped
J: Right
R: Anything else? Ah, you go to the study plan, O.k.
Question number five. This is the level three. I thought the kind of questions made the previous exercise so easy. And in this exercise, you do not follow the common pattern in the sense that you do not begin directly with the questions but you start directly by listening. Why did you do it like that?
J: because I thought that when I pushed P then I would be asked a question or something, and then I noticed it was the preamble to what I was displayed later but then when I played the video I read what was displayed in there, but it was later
R: You did it later
J: Right. Because I did not see the questions so I thought that pressing the play button the questions would be uploaded but it did not happen
R: Ah, that is because you were used to previous methodology
J: That is right
R: Where the questions were immediately displayed
J: Uh huh
R: I have a question regarding that, the fact that they are just three questions makes it easier in contrast with the four distracters used in the previous exercises, for instance? Or is it more difficult?
J: Well, that makes it easier
R:Really?
J: You mean the fact that they are just three questions?
R: No, not three questions but three options because they are generally three or four questions about the text and each question has three options, so is it easier?
J: I think so
R: Why? I will always ask you why even though I know why I need you to tell me, even though they are repeated, I need to confirm
J: Because when you read they normally provide the translations, in general one answer has nothing to do with the text, the other one is similar but you get the answer by discard
R: You mean when they are three options, right?
J: Right
R: Is it easier to get one answer by discard when they are three options?
J: Yes, it is. Because you always leave one out by discard. There is one that is almost 100% and the other one has a little to do but if you concentrate well it is in there but in a different place
R: Was that the methodology you used in the previous exercise where you had the three answers and you immediately discarded one and then you said well, as it is not this one so it is that other which has more to do but it was not precisely because you were absolutely sure
J: You mean a hundred percent sure?
R: Yes
J: Well, not exactly
R: O.k. Let’s see in here, you begin the prediction parts, you are used to
another kind of questions, the questions are not displayed
195. J: I pressed the play button again
196. R: Why?
197. J: Because I was waiting for the questions to appear
198. R: jaja. O.k. you were already used to the fact that when you played the video the questions were immediately displayed
200. R: That is O.k. Think about the instructions used in the second and in the third level; did you find difficulty to understand the instructions from one level to another?
201. J: No, I did not
202. R: You did not?
203. J: Not the instructions. I found difficulty to answer later but not in the instructions
204. R: Not in the instructions, O.k.
205. In there you are listening, what happened?
206. J: I listened to it again and then I realized that I had to press next
207. R: Did you realize that in this level there are not certain help options such as translation, displayed in the level one and two
208. J: Do not worry, I already noticed that!
209. R: Did you notice that?
210. J: Certainly!
211. R: What do you think of that?
212. J: It was very difficult for me to answer
213. R: Why?
214. J: If I am not wrong, there was a part where these options appeared
215. R: Well, no. In this level the transcript is displayed but not the translation or the listening tips, or the cultural notes
216. J: Ah, you mean those help options. Anyway I did not use them so I was indifferent to them
217. R: You were indifferent to them
218. J: Yes, totally indifferent
219. R: O.k. but do you think that if the translation had been available for this level which is a little more demanding, you had used it?
220. J: I think so
221. R: Would you use the translation for this level?
222. J: Certainly
223. R: Why?
224. J: Because there were some questions which I did not understand at all...there was a verb that I did not know its meaning so I could not know exactly what I had to answer
225. R: I see. So you would have used it
226. J: Yes, in this level
227. R: To conclude, you use the help options depending on the difficulty level, O.k. so, when it is very easy...
228. J: It could be that it is not that easy but I can understand the context. Maybe I do not know the meaning of a verb but I can read the rest and infer the answer
229. R: I see
230. J: It is similar to when I listen: from all that you talk I do not understand the 100% but I extract certain words, for instance he is saying that you have to take the train in X place...they can speak for five minutes from which I understood just one minute but anyway I understood this...
231. R: You mean you extract the general idea
232. J: Right. But if definitely I do not understand certain parts then I get lost
233. R: Alright. What happened in here? You begin to listen again and then
234. J: I begin to answer as usual
235. R: You begin to answer as usual, but you do something strange in there
otherwise I would not have record it, you
did something that you did not use to do.
Did you find that text difficult to
understand? Was it very fast? I mean in
comparison with the second level
236. J: Yes, I did
237. R:Really?
238. J: Yes, I could notice the
difference, that is why I asked you that
day if this exercise was a little more
difficult
239. R:Well, certainly this the third level
but anyway I think the second level waseally easy for you, especially the
listening exercises
240. J: So I am neither in level two nor
in level three
241. R:You are in two and a half
242. J: Right, jaja!
243. R:Well, now what happened in
here? You listened to the text, then you
answered the questions, checked your
answers and all of them are correct and
that’s it. Whenever you work on this
kind of programs, every time you check
the answer and they are correct you just
go to the next exercise; you never take
your time to revise or something like
that. Why do not you do it?
244. J: I do not feel curious about it
245. R:You do not feel curious about it
246. J: No, I do not. I just see it is
alright, well and the I carry on
247. R:You would not like it to reinforce
your knowledge or something…you just
finish and that’s it
248. J: Right, done!
249. R:Done. That was my question.
O.k. Question number six.
250. J: Oh my! That really gave me a
hard time
251. R:Why?
252. J: Wait and see. I guess I just had
like two correct answers and then I had
to do it by discard because I understood
nothing
253. R:You did not?
254. J: No. I think it was precisely in
that exercise
255. R:But what exactly you did not
understand, the questions they made or
the conversation you were listening to
256. J: I tried to organize the
information I listened and I think it was
one answer and then I began to hesitate
257. R:But the problem was because of
the questions or the conversation?
Because it was the same conversation as
in the previous exercise, was not it?
258. J: Right
259. R:And you had already listened to
it like three or four times before
they were talking about in the
conversation so I guess the problem was
the questions because I do understand
what they say but the answer was not
that clear so that you could choose it at
once
261. R:You mean you had to infer the
answers
262. J: Exactly. And I do not like it that
much
263. R:You do not like it! jaja. Why not?
264. J: Well, I do not like it at all. I
prefer the answers are already in there,
and that’s it
265. R:Why? Does it require more
mental effort to think and all of that?
266. J: Absolutely
267. R:O.k. but why did you use the
transcript in this case?
268. J: I hoped to catch up something
but I definitely could not
269. R:Even though you were reading
270. J: I could not
271. R:Why could not you understand
it? Because maybe there were some
words you did not understand, because
you did not understand the context or,
why?
272. J: I could not understand that well in order to infer the answers because I thought O.k. this question is related to the boss and I guess it was in there where I made the mistake, did not I?
273. R: Well, I do not remember at all
274. J: Give me a second to remember and I will tell you what it was.
275. R: O.k…you just stopped in there, you just said I will not listen any longer, I am going to read
276. J: Exactly, I tried to read to see if this way I would get more confused!
277. R: Jajaja.
278. J: I find those kinds of questions really difficult, you know?
279. R: Do you?
281. R: O.k. now what happened in there?
282. J: I guess it is in there where I answer the questions but then I get upset and I begin to answer whatever
283. R: Really?
284. J: Yes, to be honest I did it
285. R: Why? Because you feel frustrated?
286. J: Yes, I do
287. R: Why?
288. J: Because I get upset
289. R: Why do you get upset?
290. J: Because I do not understand so I just forget about it and answer whatever because I definitely could not understand and even though I read a lot of times I could not understand it
291. R: Why did not you use the dictionary where they display you some underlined words?
292. J: Well, I think they will provide me with the word but not exactly what they are asking me in there
293. R: If you had had the translation available in that moment, would you have used it? The question is: you definitely do not want to listen anymore because you feel frustrated, you go and read the text…
294. J: It is not in there, it is in another one
295. R: In another one?
296. J: Right. The thing is that there is another one which is very similar to this one
297. R: I see
298. J: So it is in the next one
299. R: O.k. but in this precise moment when you listen once and again and you realize that you cannot do it, then you read it once and again, you feel frustrated, in that moment you read the transcripts but you do not use the dictionary, but if you had had the option of the translation available in that exact time, would you have use it or not?
300. J: You mean the translation of all they were saying, right?
301. R: Right
302. J: Well, I would have done it then
303. R: Would you?
304. J: Yes, I would
305. R: Why?
306. J: Because if I have it in Spanish I think it is easier to organize it and figure out what they are talking about, it is easier now
307. R: O.k
308. J: But you know what? I do not like the translations word by word
309. R: You do not like it?
310. J: No, I do not like it at all
311. R: The thing is that when I tell you about translation I mean a translation of the whole text. When I am referring to the dictionary, I mean word by word
312. J: I see
313. R: So, you would use the translation of the whole text but not the word by word translation, right?
314. J: Right, not word by word
315. R: Why not?
J: Because I just do not like it
R: But why not?
J: Because I use these help options when I do not understand the question or the context of the question at all, so the word by word translation is not that useful because they only choose some words which are supposed to be the complicated ones
R: You mean because they chose them and not because you chose them
J: Yes, I do not choose them because they are the ones in blue, right?
R: O.k. but I mean if you could choose those words, would you use them?
J: Certainly but in that case the program would assume that is a complicated word for me and maybe some other words as well
R: I see
J: So in that case I would prefer to have the whole text translated into Spanish, all at once
R: O.k. and if you are translating a single word, the context helps you. If you have a global idea about what is happening in the conversation I think just one single word would not delay you from what you are doing
J: Exactly
R: Is that the reason?
J: That is the reason
R: O.k
J: Because sometimes you see a word in a question and the issue with the English language is that the meaning of some words vary too much
R: They vary depending on the context
J: Exactly. So if you try to translate a song in English, it is almost impossible to turn it into Spanish if you translate it word by word
R: Right. That is why you avoid it, right?
J: Yes, I avoid it. Because sometimes I get absolutely lost
R: O.k. Question number eight, which was supposed to be the number seventh. This is the same previous exercise. You start reading, you stop it, then you do not do anything, you just read in there
J: I was like a well-behaved boy in there
R: What were you doing, reading?
J: Listening and listening
R: It seems you just listened and then you stop to read or something like that, it is not very clear... then in this exercise you start listening, then you answer the questions as you are listening again
J: That is something I will not change
R: I see, that is you normal pattern. In fact, that is very interesting because most of the people go and read all of the questions first
J: Really. Has not anybody done it that way?
R: Not really. Most of the people listen to the whole text first, or they read all of the questions but they never start immediately to answer the questions as you do. I have a question, why did not you finish listening and then go to answer the questions? You answered all of the questions already
J: This is the same as when I began to listen, and had listened twice to it
R: So the answer was so easy for you that you already knew the answer
J: That was what I thought
R: O.k. another question, in this moment you are told that the answers are incorrect. Why did not you think of reading the explanation?
J: Well, because I did not know what that E was for
R: How come? I told you what that E was for the first time I showed you.
J: That E?
R: Right
J: Well, I do not remember.
R: So you did not use it because you did not know what was that for, but did not you feel curious about what that might be for? Does not that symbol say anything to you?
J: Well, I noticed it and said well there is an E in there but I did not feel curious enough to move the mouse over it to see if it had a link or something.
R: That E as it is now does not say anything to you, right? That does not tell you it means Explanation.
J: For me it means Error.
R: Ah, you think it means Error.
J: It is not for me.
J: I like the second one.
R: But you would not like the speaker.
J: Why not? Because the speaker sends you to the exact point of the text where you can find the answer.
J: I see.
R: And the other option tells you the answer is incorrect because this and that.
R: Yes, I do.
R: Why?
J: Because this option will tell me why my answer is incorrect and this way I will be able to figure out what the correct answer is because I have already listened what they are talking about so that I can extract the general idea.
R: So you mean the kind of feedback you would be provided in that option should guide you to the correct answer instead of providing you with the correct answer itself.
J: Exactly, I prefer to be guided.
R: What about if the option just provides you with the correct answer so that they say: your answer is incorrect; the correct answer is B, for instance?
J: Well, I think it would be nonsense. I would not like it at all.
R: Why not?
388. J: Because that is not the idea. The idea is that they explain to me so that I can figure out the correct answer by myself.
389. R: So in this case, if you have the two options available, the one of the speaker and the other one which tells your answer is incorrect.
390. J: Ah, does it tell you: it is incorrect and this is the correct answer?
391. R: For instance.
392. J: Is that option like this?
393. R: No, it is not, at all. For instance if you had this option that tells you: this answer is incorrect, the correct answer is this one, and if you had the speaker available, which of them would you choose?
394. J: The speaker option.
395. R: Why?
396. J: Because I want to figure the correct answer out by myself.
397. R: So if you are provided with some feedback, it should be...
398. J: It should guide me.
399. R: It should guide you but should not provide you with the correct answer.
400. J: No, it should not. Maybe if I try four or five times and I definitely cannot come up with the correct answer, anyway after trying several times you come up with the correct answer simply by discard, but I would not like it that way; I would prefer...
401. R: You would prefer to be guided.
403. R: O.k. let’s continue. In here you checked the answers, you had two incorrect answers so you listened again, which is not common from you because you answered the question number three skipping the number two and you use to follow a certain order.
404. J: Well, I already knew he had mentioned big project; the thing is that I got confused because I thought it was transportation report as she mentioned something related to that. So I thought it definitely had nothing to do with her. I had understood that at once.
405. R: So you did it by discard as in the previous exercises. You had three options, one of them was totally left aside, two of them were among the possibilities, the answer that you chose was not the correct one so you chose the other one you had in mind.
406. J: That is right.
408. J: I did it all at once.
409. R: All of the answers are correct and that’s it. Then you go to the next exercise.
410. J: I had two incorrect answers in there.
411. R: Is this question the one you said that got you frustrated?
412. J: Yes, it is. I ended up answering whatever.
413. R: You answered at random?
415. R: Why?
416. J: Because I did not understand anything. I do not know why but I could not understand.
417. R: But you said you did not understand because of the kind of question, right?
418. J: Right, because of the kind of question.
419. R: Because you have to infer the answers in here.
420. J: Exactly, that is why I answered at random in there. If all of the answers had been correct, anyway it would have been because of the chance.
421. R: Because of the chance, O.k.
422. J: However, I think I played it again.
R: Yes, you do. But you were already frustrated in this point, right?
J: Yes, I was. I go and read what I see but anyway I cannot
R: You are still reading in there
J: Right. Do you know what I did not like in here?
R: What is that?
J: I wanted to see the question and the transcript at the same time but it immediately went back to the help options bar. Do I make myself clear?
R: Not really
J: Let’s suppose I open this one and wanted to see the help options displayed in here
R: You mean the two of them at the same time
J: Yes, at the same time. But it immediately went down to the help options bar so I did not like that. I can show you if you want to
R: O.k. I can notice in there that you started to do it at random although you had already listened to it several times
J: Well, I certainly had but anyway I chose the answers I supposed could be correct. In the only question I was sure was the third one. In the rest of them I just answered at random
R: O.k. Then you play back, read the transcript
J: I did not want to listen any longer
R: I see. Why did not you want to listen any longer?
J: Because I was sick and tired of listening to that guy talking to that woman
R: Jajaja. You listened to it like three or four times, did not you?
J: Certainly. I listened to it a lot of times that is why I did not want to listen any longer
R: It was just a matter of frustration so I do not want to listen any longer; I better go to the transcript to see if I can do it by using it, right?
J: I did not care about anything because anyway I could not add anything else
R: Ah, I see now
466. J: Well, I did want but I think it was not fair because I only had two options
467. R: I see. So if you had had the opportunity to do it, you would have done it
468. J: I certainly would
469. R: You would have tried it until you were able to do it 100% correctly, right?
470. J: Of course
471. R: O.k.
472. J: But I was not allowed to do it; I immediately was logged off
F3. Study One: Intermediate learner–
Maria

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1. Do you remember the help options I mentioned last time?
2. A: I used the one you check when you make a mistake.
3. R: You mean the explanation?
4. Yes, the explanation. It is an E in orange and when I accessed it took me back to the moment of the sentence where I could find an answer. And liked it, it is good because I start to get it. I also used the one that tells you what the conversation is about, where they contextualize the video for you. I don’t remember how that help option is called, but I liked that one.
5. R: I see. Did you use the dictionary?
6. A: Dictionary? I did not use that one. Not in the program I used Google to look up the word I did not understand… because it is like a habit
7. R: Is that what you normally do when you are working on line?
8. A: Well, before I used Google a lot, but now as I have as my translator I use the translator all the time
9. R: How did you know the spelling of the word?
10. A: What do you mean the spelling?
11. R: Yes, how did you know how the word was written? The spelling…
12. A: I see…Well, because it was written in the questions… ah no, not in the questions but in the contexts where they tell you what the exercise was about… It was a key word, that’s why I looked it up.
13. R: So, you did not use the dictionary for words that appeared in the video.
14. A: No, even if I wanted, it wouldn’t have been…
15. R: Why? Because it was too easy?
16. A: No, I don’t think it was that easy… no, because the video wasn’t clear but because I got lost in the conversation, but I guess that’s normal. At first it was easy, especially when she was talking to her mother, but then when the man appeared I could not figure out who the man was… I got lost a bit… I was wondering if he was a friend or not a friend. So, let’s say in that part I got a bit lost… then I knew what’s happening… that’s how people are related… I think the exercise is demanding… yes it requires a lot attention from you, but I guess that’s the idea. Right?
17. R: At any point did you rewind the text?
18. A: Yes of course
19. R: How many times?
20. A: In the text? The text I listened to it only once, but I played the mistake several times.
21. R: So, do you find it better to listen to it again after you have answered and you have found there is a mistake
22. A: Of course, but I think… my method was listening to the complete text once and check how much I understood and from there I tried to answer the questions… because when you talk to a person…It is what I see in daily life, a person who has a conversation with me is not going to go back to repeat the conversation, and from what you do in a conversation with a person that’s when you get it… So, you keep talking to that person and you are aware you did not understand
everything but you get bits and pieces and it is ok...even if you don’t understand everything...that’s why I did it this way here because nobody is going to repeat a conversation for me, nobody... or who is going to tell me: “Hello Annie, how are you?” several times until I get it? Nobody! Even if you don’t understand everything, you get bits and pieces and from there you build up the message.

23. R: Transcript, did you check it?
24. A: No... what’s the transcript?
25. R: It is similar to the close caption in the TV whatever people say, the same it appears in written form
26. A: No, but you know why? Because I did not remember it existed. Maybe because it is the first time I am working the program. I guess I would have liked to use it, because we use close captions in the TV all the time. I missed the chance to use it.
27. R: I see... cultural notes? Did you use them? there was a button...Did you use it?
28. A: Yes, I found it very good because I could see the context.
29. R: The help option you used the most was the explanation. Right?
30. A: I used the explanation all the time, and for example I did something to...I intentionally marked the answer incorrect to see what the mistake was to listen to a specific part of the text, I did not want to miss the chance to listen to an important sentence several times. I looked for the mistake all the time. I did not care about having all the answers correct because I know that at this point with my level I can’t have all of them correct, but I can learn from the mistake. Well, that was the way I did it.
31. R: I see

1. R: Well, we are going to compare the two dialogues. Maybe you didn’t do so well in the last one, but the two dialogues had the same format, didn’t they? So, try to compare the last dialogue with this one? Was the previous exercise more difficult? easier?
2. M: Actually, this exercise was much easier than the previous one. The thing is that I had some difficulties in doing the last exercise. So, today I didn’t know how to do the exercise. I didn’t know that I could fill in the blanks while I was listening. That’s why I was waiting to be done with the listening part to start doing the activity. So let’s say that I feel I could have been listening and doing the activity; I didn’t know it could have been done at the same time. It was also difficult to use this icon [pointing the transcript]
3. R: The transcript?
4. M: Yes, because I thought that I could listen and read the dialogue at the same time, but I couldn’t.
5. R: How does it work then? Tell me about it.
6. M: I accessed the transcript first and then I saw the text. However, I kept reading thinking I could read and listen to the dialogue at the same time and actually could have done it. I saw the dialogue, but then I thought I could not read and listen at the same time. So, I closed the window and I missed the chance of reading it at the same time.
7. M: I missed the chance to read it
8. R: Ok, but could you read the text?
9. M: No, I couldn’t since I thought it was better to wait until the listening started, but when the listening started I couldn’t access the text.
10. R: Did you access any help option?
11. M: What help options are you referring to?
12. R: The same ones I showed you last time. Let’s see the help options. Oh...the reason why this program is not working well is because I have it in Mozilla Firefox.
13. M: that was the reason. It is good you have found the problem.
14. R: but... wait! I have to take note of this problem before I forget it. that’s why you had so many problems doing the exercise. For instance, you had transcript, dictionary and cultural notes, you also had the rewind and the forward buttons, etc...
15. M: I didn’t see them.
16. R: You didn’t?
17. M: I only saw the transcripts icon and that was the one I clicked on. That icon is the only one I remember, I can’t remember having seen the other ones.
18. R: And the rewind and forward buttons?
19. M: No, I didn’t use them. I listened to the complete dialogue again.
20. R: Did you listen to the complete text?
21. M: yes, I did. because I didn’t know I could have been rewound as well. So I played it all the way through.
22. R: Did you use the explanation option this time?
23. M: No, I didn’t see it. The program wasn’t working well...and moreover it was very, very easy to understand what they said.
24. R: what about the previous exercise?
25. M: I enjoyed myself doing that exercise, because I went straight for the mistakes. However this time I preferred to repeat the dialogue.
26. R: The complete text?
27. M: Yes.
28. R: Why?
29. M: Because I wanted to try another way to do it.
30. R: What for?
31. M: To see which of the two methods I liked the most and maybe to figure out which one was more convenient for me to use this time.
32. R: In your opinion what would it be the result after trying the two methods?
33. M: The second method.
34. R: The second one?
35. M: Yes, to repeat the conversation because the first time what I did was to listen to it and start working on it. But this time I preferred to listen to it several times until I got the message.
36. R: Did you read the questions before listening to the conversation this time?
37. M: The first one? There were two exercises, for the first one I didn’t read the questions but I did it for the second one.
38. R: Which one of them works better for you?
39. M: I don’t know. I felt more comfortable with the first one.
40. R: You mean with the method without reading the questions?
41. M: Although I liked more the first method, I think it would be better to read the questions.
42. R: Why?
43. M: Because I like to know how I was doing.
44. R: Is it a way to challenge you?
45. M: Of course, that is a way to know how I was doing, you see?
46. M: But the first time, I enjoyed to seeing the results and realizing that I was getting the message.
47. R: Ok, now we are going to speculate about this. Think about those help options. For instance, when you said you accessed the transcripts at the beginning you were thinking about listening and reading the text at once, weren’t you? What encouraged you to access the transcript? I know I have already asked you these questions. But you might change your position after having done two or three exercises.
48. M: Actually, I wanted to be surer about what I was listening to because when you read and listen to the conversation at once, you have a better understanding of what the listening exercise is about. That’s totally different when you are just listening.
49. R: Don’t you think those transcripts deviate from the purpose of a listening exercise?
50. M: sure, they do, but there is nothing to do about it. The option was there.
51. R: What do you mean by the option was there?
52. M: There was an option to be used. You are right, that was a listening exercise. But maybe the option might be there just for you to compare pronunciation.
53. R: would you use the transcript to compare the pronunciation?
54. M: It’s a matter of learning style. For me there is no other way in which you can notice what mistakes you made. On the contrary if you are reading and listening how the words are pronounced it might be easier for you to understand them and get the message. For me, that’s a way to learn...The transcripts are there for a reason …right?
55. R: Regarding the listening exercise did you listen to the complete text this time? Didn’t you?
56. M: Yes, I did it because I couldn’t remember all the information. That is why I had to listen to the complete text again. I could remember neither what has been said at first nor who had said it. Therefore I listened to it once again.
57. R:Cultural notes. Did you access that help option this time?
58. M: Yes, I did. I had that option for this exercise, but for the previous one…
59. R: What happened with the previous one?
60. M: There was not the cultural notes option. This option is important because it gives you information about the context. That information helps you understand better the situation you are listening. For instance, you listen to a man that is talking about an attempted bribery and you wonder who is that man? It is good that before the text you have the opportunity to contextualize yourself.
61. R:If this context wasn’t there to help you would you have felt lost doing the exercise?
62. M: No, I wouldn’t because of the questions.
63. R: because of the questions?
64. M: Yes, because the questions help you contextualize. Well, if the questions are about a man who is asking questions to the person who is speaking. You try to relate this information to what you are listening, therefore that helps you get the context a bit more. But without the questions you might get lost.
65. R: I see. Now think about all the things you did today. Approximately how many times did you access the transcripts? Just once?
66. M: Yes, just once because I couldn’t do it again[She refers to the technical problems she experienced]
67. R: And the rewind and forward buttons?
68. M: I never used them because…
69. R: Did you listen to the complete text again?
70. M: The thing is that you immediately focus on the mistake and this mistake takes you to the context. So, what’s the use [of using the rewind/forward buttons] if you are listening to the audio and then you focus on the mistakes, and this mistake is going to give you the context? Then, what for? At least, that’s how I see it.
71. R: Ok. I have another opinion question, you stated you used the transcript in order to make sure that you were getting a good understanding of what you were listening, didn’t you? Which other reason would you have to access the transcript?
72. M: Listening
73. R: Listening?
74. M: Sure, listening to the pronunciation
75. R: Pronunciation?
76. M: Literally, That is it pronunciation.
77. R: Pronunciation. Didn’t you have a look at the dictionary?
78. M: No, I didn’t because as far as I know in the dictionary only some words are highlighted
79. R: You mean in the transcript?
80. M: Yes, and it doesn’t highlight the words I don’t know
81. R: Did you access Google this time?
82. M: Yes, I did it again. This time it happened to me the same than the previous time I worked with the exercise. The unknown words for me were not highlighted. So how I was expected to look them up in the program if those words were not highlighted?...I knew that just highlighted words are in the dictionary. That’s why I had to access Google which was the only tool I knew. If I had known another option I would have accessed it.
83. R: Do you think that if there was a dictionary included in the program you would use it? I mean, an online dictionary where you can type the words, not the glossary which is the one that we have in the program.
84. M: Yes I would use it. The use of the dictionary was necessary for me to contextualize myself. For instance, I looked up the word “bribe”.
85. R: Was that the word that triggered you to use the dictionary?
86. M: Yes, it was. “Bribe” is a key word when you are reading this story. I would have been lost if I hadn’t known that they were talking about a bribe and that word was not highlighted in the transcript. You see? After reading the text I realized there was a man tackling a problem, but he was trying to defend himself saying that it was not his fault. However, it was not clear to me what the problem was. So, when I knew the meaning of the word “bribe” I came to understand the plot of the story.
87. R: Do you think that would it have been necessary to have a dictionary in the program so that you did not have to access Google?
88. M: I don’t have a dictionary. Do I have the option of looking up all the words I want?
89. R: yes, you do.
90. M: But I don’t know how much it can actually help you because...
91. R: What is better for you, I mean, understanding by a general context or word by word?
92. M: I don’t need a general context. The thing is that I can look up word by word in the dictionary, but even if I find those words the learning is not going to be meaningful because if you look up 100 words, it doesn’t necessarily mean you will learn them. It is better if you identify keywords from a text and look
them up. Obviously, keywords in a text range from 5 to 10 words which you are more likely to learn. You need to know some essential words within the text in order to understand it.

93. R: I see. Do you remember how to say “soborno” in English?
94. M: yes, I do.
95. R: How?
96. M: that was bribe [braibe]
97. R: Ok. Bribe
98. M: that’s what I was trying to say.
99. R: Ok.
100. M: As I told you I changed the method
101. R: I see. That’s perfect.
102. M: By the way, we accessed a website in class.
103. R: Excuse me?
104. M: We accessed a website in class.
105. R: What web site did you access?
107. R: Was it a website for listening?
108. M: It was a website for grammar and tests. In fact, I have to access this website to study for a test tomorrow. I liked it because it has lots of exercises to review the theory/ the grammar explanations we learned in class.
109. R: Really? Let me stop the recording here and you can tell me more about it. Ok?
1. R: So, what was the procedure to work that video?
2. First, I listened to it without answering any question. Then I clicked on forward key and checked the questions...then I think I listened to it again. Then I answered the questions and listened once again to make sure I answered well.
3. R: You mean that is the process you always follow: you answer first then you listen again to confirm, do you?
4. L: Yes, I do because there are some times when I change my mind.
5. R: I do not understand what you mean by change your mind.
6. L: I mean I had answered X thing and after I listen again I change the answer because this time I understood better or something more important. This time I listened to the answer well and it is...
7. R: You are reading the questions first, right?
8. L: No, I do not. First, I listen to the video, then I read and answer the questions and finally I listen to the video again.
9. R: You listen to the video again just to confirm. O.k.
10. L: That's right.
11. R: That is what you did with this one. O.k. in the second video I notice that- please hold me this for a moment-
12. L: I listened to it.
13. R: Hold on let's see what happens in here.
14. L: To get the general idea...
15. R: You listen first to get the general idea and then...I notice you are listening to it then it seems you listen again because it starts again.
16. L: Yes.
17. R: Then, let's forward a little.
18. L: Is this one or...
19. R: It is O.k. Let's see what the next scene is. Well, you go to the next page.
20. L: Yes, I do. It is where the questions are...I guess I listened to them again. Ah, no I did not. I think those I read.
21. R: You are reading them in there.
22. L: Can you see all I did? Well.
23. R: Are you reading them in there?
24. L: Yes, I am.
25. R: Because for example in this case you had access to cultural notes but you did not use it...why did not you use it?
26. L: What are cultural notes?
27. R: that is where you are given some explanations about for instance the gestures, the expressions they use when they are talking.
28. L: I see. Well, I do not know really. I focus on watching and looking up the information, but not in that.
29. R: Do not you focus on exploring the other options?
30. L: No, I do not.
31. R: You just.
32. L: Well, I think I need somebody to explain me the help options that are available otherwise I end up skipping them.
33. R: Did you skip it?
34. L: Yes, I did.
35. R: O.k. in here you are listening again and you listen to the whole text without answering the questions.
36. L: I guess there is a part in which I stopped it, but later on I listened a lot of times I think
37. R: Why did you listen to it so many times? Why not to begin for example from the beginning?
38. L: I am answering in there, I guess
39. R: Yes, and you are not listening to it at the same time which is different to what you had done with the previous one. In the other time when you listened once and again, then when you began to answer…you started to…you played it at the same time, right? I mean that is a pattern, a constant in all the exercises you did before, but in this one it was different. I have a question for you regarding this exercise Why for example…hold on and see what happens in here…
40. L: I played it again
41. R: Yes, you played it again
42. L: I wanted to be sure. I played it again
43. R: O.k. that is perfect
44. L: But there is one in which I did not begin from the start but…for instance I changed the answer because I listened again and…I think it was a different answer in there
45. R: What did you do in there?
46. L: Because there was a question in there. Then when I answered the question, I clicked on play again to answer the following questions
47. R: Then, hold on, I skipped something I wanted to ask you, O.k. there it is. O.k. that is the second video and the third one is…let’s see
48. L: No
49. R: No, because I…[not clear] thank you. In the third question you were already selecting, that has to do with the same previous text…right? Here you have the transcript…
50. L: O.k.
51. R: Did not you see it?
52. L: No, I did not. Because of what I was saying before, the exercise is water clear and very short so I searched in here (Points at the right on the top of the screen) and I said well, Monica…
53. R: What is it in here? What is it in here?
54. L: You mean in at the right on the top, I tried to find the transcript, because you had told to me to find the transcript. I automatically came here and I did not look at this (pointing at the transcript icon on the screen), I did not see it
55. R: Did not you see it?
56. L: No, well, there is a round one in here (points at the transcript) but it said nothing to me. The thing is that the transcript should be displayed bigger, like this (pointing at the right on the top)…
57. R: Do you mean it should be at the right?
58. L: It should be in bold and a little bigger because I did not see it
59. R: A little bigger, O.k. you have the help option of the transcript which you do not use, and then you start to answer the questions or to select the questions from the exercise
60. L: Right
61. R: And by the end, you are listening to it while you are answering on this (Points at video number 3)
62. L: Right
63. R: O.k. why did you pause in there, in video number 3? Are you listening to it by segments?
64. L: Yes, I am. I know she is in there and is saying this (pointing at the questions), so I wonder, which of the three options is the correct one?
65. R: So, instead of letting the video progress…
66. L: Yes, I pause it
67. R: Then, you just pause them continuously, right?
68. L: Yes, I do, otherwise I would get confused...because she carries on with the next question, with the following answer so that I forget the answer for each one of the questions
69. R: O.k. and there you restarted it, right?
70. L: Then I forwarded it. it is then when I forwarded the video because I am no longer interested in what she has answered but in the last questions
71. E: You mean that you just use the forward and rewind keys to find the specific part of the text where the answer might be?
72. L: Yes, that’s right
73. R: O.k.
74. L: I was not sure about the answer in that question, so I forwarded it again until I got to that specific question. I mean for instance that [inaudible] I would have found it...where are the cultural notes? It is not in here
75. R: No, it is not. The help options no longer offer the cultural notes for this level
76. L: O.k. That’s why
77. R: That is what you would find
78. L: I see. I did not understand it. I guess I even answered that question wrong. I did not understand at all, and certainly the cultural notes help because I did not know what that meant
79. R: Was there any word that you did not understand in the text?
80. L: Not exactly the words but the meaning
81. R:The meaning of the expression
82. L: I did not understand the meaning of the expression
83. R: O.k. now, what happened in this video (video 4)? Hold on
84. L: pause it
85. R: No, there it is
86. L: Pause the...
87. R: Well, the question I have is... why? now you check the answers, right? Yes, you select, check...there you are thinking...could not that be a little bigger?
88. L: Sure
89. R: I guess I closed it
90. L: No, you did not. You just minimized it
91. R: O.k.
92. L: O.k. it is better
93. R: No, that is the top, wait and I close the window
94. L: It is a little closer
95. R: It shines already
96. L: Well, I thought a lot
97. R: It is O.k. you changed it, you rewind it and listened to it again
98. L: Yes, because those are the questions I told you are not explained but you have to infer
99. R: You have to infer them, right
100. L: Yes. I mean, because they are not talking about the question in there but they say Talia, probably feels, there is where I have to infer
101. R: Let’s see in this one, I skipped it...there by the end of the video, there is one question that says, wait because it cut abruptly. There you are told it is incorrect and you are offered an explanation but why did not you open that explanation?
102. L: Because I did not know what that was
103. R: Did not you know what the E stood for?
104. L: No, I did not. That’s why I told you that it is better for you to be explained everything from the start...now I know that is something I should know because I did wonder what happened when I saw the correct answer and mine was incorrect, why was that? I
wonder, but I did not know, I thought that option was not available.

105. R: O.k. what about the final one?

106. L: Well, I would like to be explained that, or in a written way to be told to read certain things that are very important; something like that I do not know, something before starting.

107. R: Do you think that if the software had a tutorial to tell you about the help options, would you use it before starting with the program?

108. L: Sure. I think that would be the first step to follow, you have to read this... because otherwise you do not read it. I would like it was like.


110. L: That’s right.

111. R: O.k. what about the last video?

112. L: No...

113. R: No, this is the last of the series.

114. R: The thing is that cultural notes... because this again is another question.

115. L: I am glad I did not know that one... I skipped it.

116. R: O.k. just because you did not know what it was.

117. L: I do not know. Maybe it should be a little bigger.

118. R: O.k.

119. L: Something that draws more your attention or, I do not know.

120. R: Or maybe... there is a lot of space in here, right? How do you think it would be better?

121. L: I think it would be better if something was displayed from here (pointing at cultural notes) and it immediately showed you those help options.

122. R: You mean like a drop-down menu like those displayed like this (moves the computer from top to bottom) so that it provides the explanation for the right answer instead of having the transcript, down here below the menu, I mean all the help options on just one side or spread as in the software.

123. L: Well, they do not have to be on the same side, for instance the transcript can go in here (pointing at the screen) on the top... for it to be highlighted.

124. R: That’s right.

125. L: and regarding the incorrect answer, there should be displayed something in here (Pointing at the X which means incorrect) or the explanation.

126. R: Something like a pop-up menu... something like a new window.

127. L: Yes, something like that.

128. R: O.k. or for instance the dictionary... it should not be pasted but you should be able to open it.

129. L: You mean the transcript?

130. R: Yes, I do. Sorry. You do not find the dictionary. How do you consider the dictionary should be?

131. L: Well, you could place in here (pointing at the right on the top) the transcript and vocabulary or something like that so that you know that they are in there.

132. R: Because remember there is the transcript... here you have the transcript and the underlined words are which will give you the meaning so, if you do not use the transcript, you will not notice there is a vocabulary option included. So you said that in the transcript should say transcript and vocabulary or should those two buttons be two separate buttons? How would you like it the most?

133. L: I think they are O.k. in there but you need to be sure it is alright because you read and you know beforehand... you should know that the underlined parts have a previous explanation as I told you before, but you
should also know that inside the transcript it is the vocabulary

134. R: What would you prefer, would you like better if the words are underlined? What would happen if for instance inside the transcript there are some words underlined that they assume you do not know? Because those are the words that the designer

135. L: Oh, sure

136. R: What about if there is a word that you do not know but it is not underlined?

137. L: You mean, what would I do if it’s not underlined?

138. R: How would you do to understand it?

139. L: Well, in that case you have to infer the meaning according to the context…but if anyway you do not understand it so…I do not know what to do

140. R: Let’s suppose this computer has internet access. Would you go to a dictionary online? Or would it be easier…

141. L: No, because…

142. R: Why do not you want a dictionary online for example through Google?

143. L: Well, maybe if it is through Google, it could be…but I insist it would be better to have everything in the same webpage

144. R: Would you like that the dictionary was included among the help options in there?

145. L: But how?

146. R: That is my question

147. L: If it is not in there…

148. R: That is exactly what we are trying to analyze, the design, and suggest for instance, the transcript will have some options

149. L: But there will be some people who will not know

150. R: That’s right

151. L: But if the software does not provide it to you, it does not provide the help option so you would have to search on internet there is no other option but, the same, it should be explained in the initial introduction

152. R: Sure

153. L: I mean…it should make you feel interested in answering the questions even though you know or you do not know the answer…but if I provide more induction at the very beginning, the person will know how to do it

154. R: It certainly can be done…O.k. that is all for today
1. R: Tell me how did you feel doing this exercise
2. Y: It was all right. I don’t know…it was very easy. Well, I understood all of it and answered the questions without using the help options, but still I accessed all the help options.
3. R: Why?
4. Y: To explore what the program and to see what different things it has to offer. I liked the possibility that we have to translate the text and to check the dictionary
5. R: What type of help options did you spend the most time with?
6. Y: All of them equally. I checked them individually
7. R: When did you check them? Once you finished watching the video?
8. Y: No, first I watched the video, then I read the questions, I checked if I understood them and then, I used the help options to confirm if they were correct
9. R: Did you answer them?
10. Y: No, I answered them in my head, not there …but to check if what I was thinking was correct I accessed all the help options
11. R: What help option did you use first?
12. Y: I started with the transcripts where the complete dialogue appeared. Then, I checked the hyperlinked words and checked the glossary, and then the cultural notes
13. R: When you checked the transcripts did you read it completely or did you read it as you listened to the video?
14. Y: No, no, I first watched the video and then I read it
15. R: Separately?
17. R: Why so? Why not for instance listening and reading at the same time
18. Y: Because it is easier to see what I understand when I listen and then when I read to see if I have some mistakes… but reading and listening at the same time, no I don’t do it that way Moreover perhaps because I am used to the class that we do it that way. First the teacher asks as to listen to a text without letting us check the unit we are working on. Then, we check it, once we have listened to the text when we have talked about the audio file, we check it
19. R: So, you think you are transferring what you normally do in the classroom to the computer?
20. Y: Yes
21. R: Was it more effective that way?
22. Y: I am not sure because the exercise was very easy… so I am not sure whether the help options helped or not
23. R: Cultural notes, what’s your opinion about them. Did you understand them? Did you translate them?
24. Y: They do complement the information one is given. They contextualize and tell you what they are talking about. They do contextualize… you know the context there is very different from here. That is for instance a professor here won’t take the role of a student to welcome you in class. In first place you may not understand, but once you see and read the cultural notes you complement it
25. R: Did you understand the cultural notes in English or did you check them in Spanish?
26. Y: Well, I used the same procedure than before. I checked how much I understood and to verify if it was correct I checked the Spanish translation
27. R: That means that you use the help options, not to find the correct answers, but to verify your own hypothesis
28. Y: In this case, with this particular exercise I did it that way, but as I told you before this exercise is very easy that's why I used the help options in that way... but I guess with a more complex exercise I would use those help options to get to the correct answers
29. R: Ok. The goal of this exercise was... understand what was going on or answering the questions?
30. Y: Understand it
31. R: Ok. Did the video help you?
32. Y: Yes because through the images one complements. If I had listened to the audio only, perhaps I wouldn't have imagined the class instructor sitting next to the student and the video shows it. That is what I liked the most about the program...that it gives you various help options to complement the information so you can get to the correct answer.
33. R: Ok. That’s all for now.

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1. R: How did you feel with this exercise?
2. Y: It was a bit more difficult, but in general I felt ok
3. R: What was the procedure you used for this exercise?
4. Y: I watched the video first and then I checked the complete dialogue, I mean the transcript. As they spoke I followed what they said with the reading, they answered the questions
5. R: Why did you decide to do that?
6. Y: To vary because you told me before I was following the same procedure. To vary.
7. R: Did you find any difference? Was it more difficult, easier?
8. Y: Yes, it is a bit easier to comprehend. What else I did?... Well, I forgot to check the cultural notes...and when completing the dialogue I tried to memorize because all the options are given, but then I failed in the attempt
9. R: What did you try to memorize?
10. Y: As in here [shows the first screen] you have all the words and then you click next you have the same dialogue to fill in the blanks. Then I tried to memorize the order of those words when I realized I was doing that, I opted for listening to the audio and filling in the blanks as they spoke. I had like three mistake, so I did it again
11. R: Did you use the help option for explanation
12. Y: No...[looking puzzled]
13. R: The one where an “E” appears
14. Y: No, I don’t think I saw that one, not in that moment
15. R: You said you had three incorrect answers. Right? Generally, I mean always when you have an incorrect answer it is marked with a cross and there is an “E” on the side... and it tells you ...
16. Y: No, I didn’t see it. What I did was to use the “try again” button and I started all over again
17. R: Did you listen to the complete dialogue?
18. Y: No, I listened to the whole dialogue. Always from the beginning to the end.
19. R: Why not to listen to it by parts?
20. Y: I don’t know … it helps me to contextualize better when I watch to the complete video, I understand it better, otherwise it would be fragmented and I wouldn’t be able to understand completely what the dialogue is about.
21. R: For you would be easier to understand the whole dialogue than to understand by parts.
22. Y: Yes for me it is much easier.
23. R: Did you use the pause button?
24. Y: Yes, in some parts.
25. R: What for?
26. Y: When I made some mistakes and I finished the dialogue to choose the correct when I understood it. Then I kept listening to the audio file.
27. R: When you checked the transcript, did you access it because there some words you did not understand or because there were complete segments you did not understand?
28. Y: No, because I wanted to complement the audio with the text. I mean, I wanted to read the text as I listened to it, just because of that.
29. R: The video, did it help you this time?
30. Y: Yes, it helps… but what I have noticed is that I do not pay much attention to it. I watch it but I try not to look at the video I try to listen more…
31. R: Does the video help you focus, or does it distract you?
32. Y: In this case, I think it distracted me because I was not watching the video, I was listening to the audio. Perhaps one tends to focus the attention in the images, but for me it is more important to understand what they are saying than seeing what they are doing… it must be because of that, the gestures distract me.
33. R: This time, in the previous exercise the video did not help.
34. Y: In the previous one, the video help me a lot, but in this one it did not help much perhaps because there was a change and there were two scenes, perhaps because of that.. but in the previous exercise the video was lineal.
35. R: Regarding the previous exercise, is this much more difficult or is this in your level? You feel this is your level?
36. Y: I feel I can do it.
37. R: Do you want to try another level just to check if you can do it?
38. Y: Let’s try something a bit harder just to check what my level is.
1. R: O.k. Andrea, we were previously talking about the translations. I was asking you if when you used the translation, you had thought it was referring to the text
2. A: Right
3. R: I mean, you think that translation icon can be misunderstood, right?
4. A: Well, I thought so first but then I thought that as there is not any picture, the bar can indicate me that I have something to listen, right? but anyway I thought that maybe they were going to refer to what it was being spoken but…it was not this way; you just had to listen and try to relate that with the questions at the same time
5. R: You mean you did not imagine that translation was referring to the instruction itself
6. A: I did not
7. R: You thought it was referring to…
8. A: I thought it was referring to the conversation itself
9. R: Alright. Well, after that what you did in here was answering, checking (that is incorrect), you read the explanation
10. A: Right
11. R: What about that explanation? Is it useful for you?
12. A: No, it is not
13. R: Why not?
14. A: Because I thought the explanation was going to tell me which the correct answer was
15. R: You were expecting to be told which the correct answer was
16. A: Yes, I was and I…
17. R: So, what does the explanation say?
18. A: I was told to listen again
19. R: To listen again?
20. A: Yes. I wondered what to do. I thought they were going to tell me in the explanation something like this verb is wrong or it is bad related and immediately I would be provided with the correct answer, right? but I was wrong. But also I realized that there are two options such as start again, try again and the other one to check where I had the mistake
21. R: So, what did you choose?
22. A: First, I thought I would select the clear option to start over the exercise and try to do it well but I did not do it, I just carried on
23. R: O.k you go to the explanation again, you cleared, you did it again, it is correct now, you go back and start the next exercise in which you do not read the transcript but listen twice to the recording before reading the transcript. Why did you do that?
24. A: Because of the situation developed in the video which I found from the daily life, in an office and I thought some words were already known for me such as the way they said hello, the way to ask what they had done the weekend…it was a job conversation so I found it appropriate watching the video first and then go to the transcript
25. R: O.k…you watched the video twice, then you read the transcript sentence by sentence, then you go to the translation at the same time…why did not you use the words displayed in the
glossary but you went to the translation immediately instead?
26. A: Because in the previous exercises I had used it but I did not find the answer I needed so, I thought what was the use to go to that option if I was going to get the same as before, in English and I did not understand and to say the true in that exercise the idea of going to the dictionary crossed my mind just once after having read the translation in Spanish but I just did not do it
27. R: O.k. so it is far better for you to have access to the translation, right?
28. A: Absolutely
29. R: Because of the level you are in
30. A: Exactly
31. R: Do you think that if you were at a higher level the procedure to do the exercise would be the same or it would change?
32. A: I think it would definitely change because I would have a better vocabulary so I would not need the dictionary that much but would try to connect better the words that I already know so that it would be easier
33. R: O.k. so the so-called dependency you have on the help options has to do with the level you have
34. A: Absolutely because I do not have that much vocabulary
35. R: O.k. again there is something odd in here…you go to another program
36. A: But that is because I made a mistake
37. R: And there is also an overload of windows which tells us that you never close those pop-up menus but you minimize them instead
38. A: Yes
39. R: So, that is why you end up with such a quantity of opened screens throughout the tool bar, let’s say
40. A: Yes, that because we were saying that I had to close one window to open another one which is uncomfortable because they should be displayed on one side instead of one over another because otherwise you cannot focus on the important part of the exercise
41. R: O.k. in here we see that you answered this exercise, you go to transcripts again and then the explanation, and then there is something curious, which nobody else had done before, you kept open the page of the transcript in the previous page. Why did you do that?
42. A: Well, because I did not remember who said what even when it was talking the man or the woman. But for instance, regarding the use of the verbs and what was asked in there I found it easy and helpful to go back to the page I had let opened in order to confirm whether my answer was correct or incorrect
43. R: O.k. but the fact that you had the transcript in here means that it is absolutely the same in there, so do not you think that procedure to do the exercise leads you to cheat yourself?
44. A: Maybe, absolutely
45. R: So?
46. A: Well, I did it first because I felt insecure about my English level which is not that good so there are some things that you know but there are some others that you do not but anyway you are right, that is like cheating because a listening exercise should not be done this way, but anyway, I do not know I found it easy doing it like this and I did it
47. R: O.k. you found it easy like that but do you think that you could memorize some of the vocabulary you studied or do you think you did not learn that much?
48. A: Well, I could memorize a few things but certainly after having done the test first, the exercise is supposed to
evaluate how much you learned in the previous one or how much you remember about all you have studied in the process, right? But I just did it like this
49. R: O.k. in here you read the transcript, translation again which means that you do not use the translation in here but you have it already opened in there
50. A: Yes, I have available in here
51. R: You have all those webpages open, you look in there and that’s it…you check the answers, and the exercise is over
52. O.k. Andrea, is there any final comment you want to add regarding the sessions you worked, or regarding the software…anything you want to add
53. A: Well, apart from what I had said before, I said it should be more eye-catching
54. R: O.k.
55. A: The software should have not only colors but also images…In order to attract the user, right. But as a whole I think the program is really good because personally I had never had access to any program like this. And it is really helpful despite the use I did of the transcript on the other page at the same time which should not be done, I found this program really good and I wished they made available that proof for us because at the university we lack this kind of tests because the teachers just bound themselves to write and read out
56. R: Right
57. A: And they do not mind if we learn. The problem is that one thing is being read out and made write and one different thing is listening
58. R: Sure
59. A: And from that being corrected what you did wrong. That is why I think it was really good the fact of listening, reading and relating the texts in English with texts in Spanish…that was really good for me
60. R: Alright, Andrea. Thank you very much
1. R: Tell me Sandra how did you feel in this exercise?
2. S: I felt better. I consider that as you work this program, you develop your listening skills and you understand better. As the story has a sequence so it helps you understand easier. Because it is not a story in the first exercise, then a different story in the second one...it all has a sequence from the beginning to the end that is why I think the exercise is really good.
3. R: O.k. Did you use any help options in this exercise?
4. S: Yes, I did in this exercise. I used the notes...
5. R: Cultural notes?
6. S: That is right.
7. R: Why did you use the cultural notes?
8. S: Because I had never used them so felt curious about it. Moreover I found nice the fact that they tell you some expressions that are not that used, so they explain to you through a picture and all of that.
9. R: Picture? You mean the video?
10. S: Right, the video.
11. R: So, how did you use the cultural notes? Did you just read them? Or...
12. S: Yes, I just read them to see what they said because I had already done everything.
13. R: When did you use them, after having answered all the questions?
14. S: Yes, after having answered the questions. I did use the explanation option because I had two mistakes; I always use this option. I find it really good because they always tell you where the mistake is and if you make the mistake again you do not have the opportunity to correct it, you have to select “take again” and answer back all of the questions so it is good because you learn more.
15. R: I see. Regarding the feedback or error option, do you like the fact that they tell you which the correct answer could be? Or would you rather they told you which the correct answer is?
16. S: No, because if I am told what the correct answer is then I would not develop the ability to infer what the answer is; instead, if I am given a sort of clue to know what the answer may be then I can relate different elements, learn more and develop some other skills. I would really find boring if they told me all the answers and what is more I would tend to answer incorrectly just because the program would provide me with the correct answers while in that option you...
17. R: You have to think about it, infer it.
18. S: Right, you have to think about it.
19. R: Did you use the transcripts?
20. S: No, I did not.
21. R: Why not?
22. S: Because I listened twice to the text. The first time I understood well and as I try not to use the transcript in order to develop my listening skills.
23. R: O.k. so, do you think that you would use the transcripts if you were not that interested in learning English?
25. R: Why?
26. S: Because if I had not a good English level, I would use the transcripts.
all the time because the listening exercises are really hard to understand even more when it is a recording or a tape recorder by your side, at least for me. I understand well when I am talking face to face with another person but…
27. R: Why it is easier for you when it is face to face?
28. S: Because I consider that the conversations on a tape recorder or in videos are too fast and it does not matter if you do not understand, so that is why I do not like it that much and try not to use the transcripts because I understand, not every single word but anyway I understand well the general idea and that is important in English, not to understand every single word. That is why I say, if I did not have a good English level, although I am not saying that mine is excellent, I would certainly use the transcript option because it would be easier for me to read what I am listening and I would understand better
29. R: Do you think so?
30. S: Sure
31. R: So the transcript would not be that beneficial in certain way because it would provide you the whole stuff on a plate?
32. S: Not exactly because the transcript would be good for a person who for instance is beginning to learn English so he/she could first of all listen to the conversation and answer the test, then he/she could go to the transcript to see what was listened and if what he/she understood is the same written in the transcript
33. R: You mean to use the transcript to confirm
34. S: Exactly, to confirm what you understood and in addition there will be some words that you did not know so, it can be good to learn some vocabulary too.
35. So I say the transcript is really good if you want to learn some vocabulary
36. R: You think it is a good help option to learn vocabulary
37. S: I certainly do
38. R: O.k. what about the control buttons?
39. S: I always use the one to rewind
40. R: But you use the control button or the progress bar?
41. S: The bar
42. R: you prefer to use the bar
43. S: Yes, I do because when I am watching a video I find it easier, more quickly
44. R: Is it easier to relate the picture with the…
45. S: It is certainly easier to relate the picture with the answer because I am always very attentive to the pictures
46. R: I see. What about the dictionary, did you use it?
47. S: Well, I did not. I did it just for one single word and that was it
48. R: I once saw that you had used a dictionary found in Google. Why did you use it?
49. S: Because I needed to know the meaning of a word
50. R: Why did not you use the dictionary included in the software?
51. S: Because I use to do it so. I never use the dictionary of the program; I just search a dictionary on Google, type the word from English to Spanish and that’s it while the dictionary in here is similar to the cultural notes
52. R: No, it is not. The dictionary in here is based on the transcript so if you want to use the dictionary, you have to use the transcript. Do you think that is the reason why you do not use it?
53. S: Well, I think so because I try not to read the transcript, in fact I have never opened the transcript that is why I have never used the dictionary
54. R: So, if the dictionary was a button similar to the cultural notes, do you think you would use it?
55. S: Absolutely. For example if the dictionary is English-Spanish, you could write the word on the space provided and the dictionary would display you the translated word, it would be perfect
56. R: You are referring to this level. What about in a more advanced level?
57. S: I think the dictionary should not be displayed in a more advanced level
58. R: It should not be displayed, or even if it was English-English?
59. S: English-English?
60. R: Yes, I mean the word displayed in English as well as the corresponding meaning.
61. S: Well, I think it would be better because as you progress you develop higher abilities in the use of the language. If I have an English-Spanish dictionary I acquire certain vocabulary; when I reach a higher level, let’s suppose level 8, and I have an English-English dictionary that tells me what a word in English means, explained in English, and I understand it all, it means that I have not wasted my time, I have learnt.
62. R: I see.
63. S: So I think it is a good idea to have an English-English dictionary in a higher level.
64. R: O.k. for instance, you have to use the transcript and find a dictionary which is English-English, it gives you the word and the corresponding explanation of it in English and many of the times it also provides an example. Do you think it would be a good help option?
65. S: Yes, I think so… because it is requiring you to know English to be able to understand. That is why I think it is good, moreover they are using basic English in here so as you progress, the issue is getting more complicated.
F8. Study Two: Intermediate learner—
Duvan

1. R: Tell me how did you feel with the exercises you were working on?
2. D: Well, taking as a reference the previous exercises, I felt a bit better because this time I used more help options such as transcripts and cultural notes.
3. R: OK. How many times did you listen to the text? Think about the first exercise you just did.
4. D: In the first exercise, I listened to it about 4 times.
5. R: What was the procedure? with transcripts, without transcripts…
6. D: Well, the first thing I did was to listen to the complete dialogue and I tried to understand it. I did it that way twice, kind of… Then, I tried to answer the questions, but when answering the questions I did this by intervals. I mean I decided in what moment the answer to the question began and so on.
7. R: When did you decide to access the help options
8. D: Once I answered the questions, I decided to check the transcripts because..
9. R: After having answered the questions?
10. D: Yes, after answering the questions, I decided to check the transcript because there were words… not that I couldn’t understand but words that I induced.
11. R: you mean deduce?
12. D: Yes, deduced I had a look at the transcript. I accessed the transcript.
13. R: How many times did you access the dictionary?
14. D: I accessed it about three to four times
15. R: What words did you look up?
16. D: Bench that means “banco”. Figure out
17. R: Figure out….To discover
18. D: Yes, there were some other words that right now I don’t remember. I mean, I tried to answer by deducing them. I think it was much beneficial for me to have a look at the transcript and listen to it because in that way one can learn new words and it helps for improving pronunciation
19. R: So, you suggest that people should check the transcripts on what occasions?
20. D: Well, as this is a listening exercise, then the best thing to do is to listen as much as possible, and understand as much as possible and answer the questions. Once you have answered the questions, and then check the transcript. Just to check how much one understood and how well you did.
21. R: What if the questions are all correct. Wouldn’t this be a way for self-assessment?
22. D: Yes, but in a way it would not be complete. In this situation more than assessing yourself it is a matter of learning because you are learning expressions, you are learning unknown words.
23. R: You mean the transcript could be used as a tool for self-assessment?
25. R: and to check to confirm…if..
26. D: Yes, but... There were some questions incorrect. There were two options and I chose one and then the other and then this was correct, but only by listening.
27. R: Then, when you read the transcripts you were sure what the correct answer was as a fact but not randomly.
28. D: No, no. I didn’t do it at random. What happened is that some questions could be taken in different ways, but still I kind of identified the context of what was happening. For me there were two options to answer the question, but I did understand the context.
29. R: How many times did you access the cultural notes and why?
30. D: Well, the first time I accessed them ... as in the previous exercises I didn’t use them. Before I did the exercise I wanted to know how to access the information however I did not read the information. I did this in this exercise to know how the cultural notes were. Once I answered and read the transcript I checked the cultural notes because I realized that they enrich the information more, both for the exercise and for general knowledge.
31. R: Why for general knowledge?
32. D: Because there are some expressions that can be used in an everyday conversation, but I didn’t know such conversations and then you enrich your vocabulary and the forms to express yourself.
33. R: Did you use the control buttons. The buttons or the bar?
34. D: I used the moving bar.
35. R: Why the bar?
36. D: Because I have more control and I am the one who decides when I want to start listening. When I decided to listen, I listened to the complete dialogue and I paid attention to where the image was. Moreover I related situations to where the bar was located. Then I created a mental reference of where certain parts of the dialogue were without accessing the buttons, but just by using the bar.
37. R: Why didn’t you use the control buttons?
38. D: Well, because they didn’t offer me the control I needed. Additionally, as I told you before I already knew where the dialogue was then I placed the bar where I wanted.
39. R: And in the exercise where there was no control bar? In the second exercise where you had to complete and there were only control buttons. Did you listen to the complete text or did you stop it?
40. D: I tried to stop it, but I don’t know if I stopped it correctly because it kept running.
41. R: The translation, did it help you understand?
42. D: Well, the first thing I did was to listen only. I didn’t look at the image.
43. R: Why not to have a look at the image?
44. D: or the transcript. ... because it is a help option... because the video helps you understand based on the people gestures you can... it is like some help. I tried to exploit the listening component and listen only to understand what they were saying. Once I... I do this as a way to challenge myself. After that, I watched the video and it offered me a context given the expressions used by the people that took part in the dialogue.
45. R: Did you use the explanation?
46. D: No, I didn’t use it.
47. R: Why not?
48. D: Because I didn’t need it.
49. R: All the questions were correct?
50. D: No, there were about two incorrect
51. R: Then, why didn’t you use the explanation? Did you correct them?
52. D: Yes, I corrected them.
53. D: What was the procedure to correct them?
54. D: As I told you before, I had two options. I tried to correct them that way, without listening to them.
55. R: I see. OK.
F9. Study Two: Intermediate learner—Rosa

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<tr>
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</tr>
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<td>Text units:</td>
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1. R: Tell me how did you feel working with this exercise?
2. C: Good. It was more difficult if compared to the previous exercises. I did not use any type of help options in spite of this…
3. R: When you say it is more difficult why so? Because the text is more difficult… why?
4. C: Because the video was faster. Then, that makes it more difficult to understand. So, I had to use the pause button in the video to make sure I understood the main idea of what they were saying
5. R: That means from all the video control buttons you only used the pause button?
6. C: Yes
7. R: How many times did you listen to the text?
8. C: Three times
9. R: What was the procedure?
10. C: What do you mean?
11. R: I mean you listened to the complete text, then, answered the questions, you answered as you listened?
12. C: Ok. At first I listened to the complete text. When I found the questions I noticed there were some parts I had forgotten… so I played it again and listened to it by parts and the third time I played the video because there was a new ‘scene’ just to call it that way and I had to use the video again.
13. R: You said that although you found the exercise more difficult you did not use help options?
14. C: No. I only tried to check here—the vocabulary— but there was nothing of what I was looking for.
15. R: Vocabulary is another type of exercise. It is not the vocabulary you have there in the text. For checking the vocabulary of the text you need to access the transcript first. Did you use the transcript?
16. C: No
17. R: Why not?
18. C: The truth is that I was going to use the transcript, but I got confused… Then I said to myself let’s read again and by reading the answers I got the idea, the conclusion of what was going on…
19. R: The dictionary, did you use it?
20. C: No, I didn’t use it
21. R: Why? because you got confused
22. C: Yes, I tried to get the ideas from the answers
23. R: The cultural notes? Did you use them?
24. C: No, I didn’t deem it relevant because there were no behaviors different from our culture
25. R: The behaviors shown in the video were similar to the ones in our culture.
26. C: Of course
27. R: Did the video help you understand the text?
28. Yes
29. R: What type of things did the video help you understand?
30. C: For instance…it helped me understand Thalia’s reaction regarding to what was happening… to see the way they were mocking at her
31. R: That means that without the video it would have been more difficult? Easier? to understand the text?
32. C: More difficult
33. R: Does the video help you focus? Does it distract you?
34. C: No as I told you the video is of great help to see how people react... in listening you need to work both with images and seeing people helps a lot
35. R: Ok let’s go back to the transcript. You said the exercise was more difficult than the previous ones, but in spite of it you decided not to use it. Why not?
36. C: Because... although I wanted to use it... since I couldn’t access the vocabulary. I said to myself well, let’s try with no help ... moreover the difficulty I had was with a word, not with the content of the video...it was a word in one of the question
37. R: A word. Do you remember that in this program you have the transcript and from it you can access the dictionary? If the dictionary could be accessed directly, would you have used it?
38. C: Yes
39. R: Why?
40. C: As such transcript I won’t use it
41. R: Why do you keep insisting on not using the transcript?
42. Because I know listening is one of my weaknesses, so to improve it
43. R: And how do you know listening is one of your weaknesses?
44. C: Because of what I have studied during. I mean from what I have studied, I have realized that listening is one of my weaknesses because I understand better when reading. That helps me understand more words, what they mean, how people use them, to learn more contractions...is that the way they are called?
45. R: Yes. Ok. That is to say for you the transcript is not a help option?
46. C: No, the transcript is not a help option. For me the transcript makes me get behind. For me it is better try to get ideas to see if I can reinforce what I know and further advance in the language.
47. R: When you think... the transcript is not for you because in a way you change the goal of listening? Is that it?
48. C: Of the exercise... because the objective of the exercise is to watch the video and get the idea without the help options... they do exist and you can use them, but If I want to learn much more and reinforce more, it is better to try to do it using just what the exercise contains.
49. R: But don’t you think that it also influenced by your level?
50. C: Yes
51. R: If you know nothing, maybe the transcript can help you...
52. C: Yes,
53. R: So, you would say that for people in advanced level
54. C: You can say that by using only the video one has to be able to understand only with the listening not by using the transcript because in an advanced level I am more capable to deal with more complex exercises
55. R: The video control buttons, you said you had used them, the cultural notes...OK. I think that’s all.
1. R: Ok Sofia, tell me how did you feel doing this exercise?
2. F: It was too long
3. R: Too long? Why?
4. F: A disadvantage of this exercise was that it didn’t have the progress bar to see how long the listening exercise was. I thought I was about to be done with it but the speaker kept on talking, talking and talking. So, it was too long for me. Moreover, before the listening ended I already knew most of the answers. The question about football was the only that required me to listen to the complete text. For instance, the text was too long to have people just introducing to each other, talking and then having dinner.
5. R: Did you access the transcript this time?
6. F: Yes, I did.
7. R: What did you use it for? I mean, did you listen to the text just once?
8. F: I listened to it twice. I didn’t listen to the complete text because it was so long and I got bored. I tried to listen to it twice. But, the third time I listened to it while I accessed the transcript to check some unknown words.
9. R: I see, did you use the dictionary?
10. F: Yes, I did.
11. R: Did it help you to look up those words? Does it help you memorize them?
12. F: Well, I had a look at them, but it is difficult to memorize the words just by looking them up.
13. R: What would you prefer a dictionary with hyperlinked words or one where you can type the word?
14. F: It would be better if I can type them.
15. R: Why?
16. F: Because once there was an unknown word which I tried to look up in the dictionary but I didn’t find it. In fact, I thought it was a dictionary with all the words, but it just includes the ones that are highlighted in the text, right?
17. R: Yes,
18. F: I didn’t like that
19. R: Is that a limitation?
20. F: Yes, it is. But it’s good that the most difficult words are highlighted
21. R: And keywords?
22. F: Yes
23. R: Ok back to the video, you told me that you missed the progress bar this time. Then, in your opinion the progress bar helps you to have control over the exercise and to see how long the video is, right?
24. F: Yes, it helps me see how long the video is and how long I still have to go. That’s important for me. This exercise was better than the previous one
25. R: Are you referring to the exercise of the last session or the one you did a few minutes ago?
26. F: I am referring to the exercise from the last session. The exercise in which I had to choose the image according to what the man was saying. That was boring because of the topic. Maybe, I am not into this kind of topics. This exercise was better.
27. R: This part?
28. F: The one I did today. I think this was cooler than the previous one
because there was more action involved, you know the woman was very excited... it is much better than the previous one
29. R: I see. I think this is all for today
F11. Study Two: High-intermediate learner– Vilma

Interview 5 (p3.1)
Data collection: Phase 3 trial 1
Date: December 3, 2008
Participant & role Vilma (High-intermediate)
Duration: 8.43 minutes
Activity Software suggestions
Text units: 71

1. R: Do you have any suggestion in relation to this software?
2. Y: Well, I think the help options should be displayed in a sequence, in a sort of bar in order for them to be more visible and easy to use
3. R: O.k. What order should those help options follow? For instance, if you transcript, translation, dictionary, cultural notes and the explanation or feedback, what order should they follow if you say that they should be organized in a horizontal bar? Which one should come first, second, and so on?
4. Y: First of all, if they are visible enough I think the order should not matter that much. Anyway I would place the dictionary first, then the transcript, the translation, the cultural notes and finally the explanation
5. R: I see. Why would you place the dictionary first and not the translation or the transcript?
6. Y: Well, you are displayed some questions in there and I think that if you do not understand anything about that question you might have to use the dictionary first… I place the help options according to the order in which you might need them
7. R: I see. So, you think that in your case you would use the dictionary first instead of the translation for instance
8. Y: I guess so
9. R: O.k. Why not the transcript first?
10. Y: Because I usually use the transcript when I find some things that I definitely cannot understand
11. R: You mean you never use the transcript at the beginning
12. Y: Exactly. I use it a little later
13. R: What do you use it for?
14. Y: When there is something I definitely do not understand by listening, then I read the transcript
15. R: Anything else?
16. Y: I think the font is okay, it is very understandable. The help options are not displayed from the beginning but as you progress, so I would rather they were displayed from the start
17. R: You wish they were fixed in there from the beginning
18. Y: Right
19. R: Why do not you like them as you are doing the exercise?
20. Y: Because I might need to use the dictionary from the beginning for instance, or I normally do not use the transcript but if I wanted to use it from the start, I think it could be more at the reach of the hand
21. R: I see, O.k.
22. Y: I think everything is well located maybe, I would rather have a bigger video
23. R: Is it too small?
24. Y: I think it is too small
25. R: How big should it be?
26. Y: Well, I think it should be a big square. it should be full screen
27. R: O.k. Do you remember the standard size of the videos in YouTube?
28. Y: Yes, I do
29. R: Should the videos from the program be the same size of those?
30. Y: Yes, I think so
31. R: Is this video smaller than the ones in YouTube?
32. Y: Yes, it is
33. R: So it would be O.k. a YouTube-
sized video, right?
34. Y: I think so
35. R: What about the audio control
buttons?
36. Y: I think they are alright
37. R: When you watch the video, do
you use the control buttons or do you use
the bar?
38. Y: I sometimes use the control
buttons but some other times I use the
bar. Normally, when I need to rewind or
go forward I use the bar
39. R: Why the bar and not the control
buttons?
40. Y: Because the bar is more at the
reach of the hand. You slide the bar and
locate it in the exact place where you
want to listen again
41. R: Right, but the control buttons
also allow you to do it so
42. Y: Certainly, but you have to click
several times so I think the bar is more
practical
43. R: O.k. Do you think that the
preference for that bar, for I have
analyzed the videos in YouTube and
they do not have the rewind or forward
buttons but just the bar
44. Y: Exactly
45. R: But if you observe, in the past the
tape recorders, the VCR and all of that
had the control buttons
46. Y: Right
47. R: Do you think that certain
students might have preference for the
bar or for the buttons according to what
he/she is used to? Do you think it has
something to do?
48. Y: Well, maybe if it is a matter of
custom; we tend to create habits and
rules according to those habits but
nowadays for instance YouTube has a
bar so I think the people prefers the bar
49. R: You mean the people from your
generation
50. Y: Right. In addition, for instance if
you open the Windows Media Player
and you are listening to a song it does
not have control buttons to rewind it but
to go to the previous songs or to go to
the next one
51. R: You mean in this case you relate
these buttons to…
52. Y: To the ones in the tape recorder
53. R: Or maybe as if there were several
videos and the buttons would send you
to the previous video or to the next
video, right?
54. Y: Well, not exactly. I know these
buttons are to rewind and forward the
video itself but those kinds of buttons
are normally used to go to the previous
or the following video
55. R: I see. Good point…did you use
the translation?
56. Y: Yes, I did. In the previous
exercise I had some mistakes because
the answer options were very similar so I
used the explanation and I liked it; I feel
it has been useful for me and I also find
adequate the place in which the option is
located because you can immediately see
what the mistake is and the explanation
is also right there at the reach of the
hand
57. R: You mean the explanation should
not be in these charts but just these three
options
58. Y: It would be better, right
59. R: The explanation should go in
here
60. Y: Right. Anyway you do not use
the explanation if you do not make a
mistake
61. R: Sure. What about the video
control buttons? Should they continue in
there or should they be moved?
62. Y: I think they are okay in there
because they are close to the video and
perfect to be used whenever you need them. Anyway, I placed the cultural notes in the final place because I do like reading the cultural notes, but I accommodated all of the options according to the use.

63. R: Do you think the cultural notes contribute to the exercise?
64. Y: They do contribute to the exercise but I am not sure if I would miss them in case they were not in there.
65. R: I see. You do not consider them that relevant.
67. R: You are referring to a listening exercise, but do you think these cultural notes would be better for a reading exercise for instance?
68. Y: Yes, I do. They would be better for a reading exercise.
69. R: Would they be better in a reading exercise than in a listening exercise?
70. Y: Well, the thing is that I like the cultural notes to know certain details but in a reading exercise I think they would be more important because in a listening exercise for instance you are watching the video and you can notice some of the expressions and the attitude from the people, so the cultural notes are not as relevant when you are listening as when you are reading.
71. R: I see.
72. Y: If you are just reading then you cannot notice when the people make the commas in the air; I mean in that sense.
73. R: I get the point. Is there anything else to add?
74. Y: No, there is not. I think it is alright.
APPENDIX G: PARTICIPATORY DESIGN SESSIONS
G1. Study Four: Prototypes creation
Beginners & High-beginners

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<td>Olsen: Software designer</td>
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<td>Sonia: HCI designer</td>
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<tr>
<td>Javier: Language teacher</td>
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<td>Place: IDEA lab</td>
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<tr>
<td>Length: 1.05 hours</td>
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<td>Text units: 243</td>
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1. R: The goal for today is to start designing in paper. I hope you have already forgotten the prototypes you got to see a few weeks or days back and the software you were working with last week and bring some new ideas. Maybe the language learners felt curious about some computer-based listening software and might come with some new ideas that can be transferred to the paper. The idea is to design a prototype for a group of beginners. So, the first question is what kind of help options we need to provide beginners with. Think back when you were English-as-a-second-language learners. You certainly know what kind of help options a student of a beginner level should have. Then, here is a board in case you need it or maybe if you prefer you could make a list of the help options you think the prototype should have. Later on we will discuss about the location, colors and all of that, but anyway that will come later on. Right now, we the discussion is around the help options you think a beginner student should have.

2. S: Do you mean related particularly to listening?
3. R: Right, particularly to listening. So does anybody want to begin with an opinion?
4. Ja: Well, you are always shown a video, but you can never lower down the speed. Even in class the teacher sometimes says something and the students ask to repeat it but slowly, so I think it would be great having an additional button that allows you to lower the speed down, at least just a bit, so that you can catch the pronunciation in a clearer way.
5. R: Do you want to write the opinions down in here or maybe use the board?
6. L: I will write them down
7. R: Okay, thanks Maria. Jose, any other opinion? apart from the low-speed button?
8. Jo: I am thinking about it...one button to widen the screen for you to watch just the video
9. R: I see. What for?
10. Jo: Because you can concentrate even more on the video... you can catch more movements, the performance of the scene, and they help you make an idea of what you are listening to...so, the bigger, the better
11. R: Right. But that implies that the questions and all the other elements in the screen would be hidden, I mean with a full screen
12. Jo: I know but anyway you will be able to watch it again
13. L: Right. Similar to the way videos are displayed in computers
14. Jo: Right. It is just to complete the listening exercise and then you can go back to the activity itself
15. L: Do you mean like immersing completely into the scene as if you were living that situation yourself?
16. R: Okay, I see. What else?
17. O: I think it is quite handy having the pronunciation of certain words which
might be unknown for the student because most of the time you have the meaning of the word but not the pronunciation, so it is not the same.

18. Jo: But do not you get the pronunciation throughout the video?
19. O: Sure, but it is different if you can look up a word, click on a it and get the pronunciation.
20. R: what is exactly your idea?
21. O: Well, when you read the transcript, it would be nice if in addition to having the meaning the user is offered with the pronunciation. In order to locate either the exact pronunciation on the video or in another audio.
22. R: You mean provide the isolated word in one case.
23. Ja: right, the isolated word.
24. S: what if when you lower down the speed of the conversation you also have available a sort of caption?...I know we already have the transcript but...if you could lower down the speed of the conversation in a way that you can distinguish some words that sound similar but in the phonetic part they are different. For me, there are still some words that I cannot differentiate on the pronunciation, so I can listen to them but I can also see how they are pronounced phonetically.
25. R: You mean the phonetic symbols.
26. S: Exactly, so that you do not need to go to the transcript to read what exactly the people are saying...I would like to have the subtitles but also have the phonetic symbols because sometimes the words can sound the same for you who do not have a hearing used to the language but if you have the possibility to see the phonetics you realize that they sound in a different way.
27. Ja: I think it would be appropriate, but for an elementary level you have grasped basic notions of how phonetics work.
28. S: but in an elementary level the phonetics is supposed to teach you how the words are said, the alphabet for example and how the letter A is pronounced in a certain way in some words and in another way in some other words, or I do not know how it works.
29. Ja: the thing is that you since you are still learning and you could mistake the spelling of a word with the phonetic transcription, so I think a mental conflict could emerge in there.
30. L: Yes, I think if a student is given a phonetic transcription it would be quite confusing, I mean just the basic symbols because you are sometimes explained for example that there are words such as “bat” and “but” in the elementary level and the person does not know yet that is part of a set of symbols that you are learning progressively, but it would be nice if you could be taught some things which would allow you to differentiate some basic sounds. I obviously know they cannot be all at the same time but the basic ones so that you realize that the A is not always pronounced in the same way, but if it is combined with another letter it changes...I don’t know, that is the idea.
31. R: Remember we are designing for a basic level. Javier, what would you think, as a beginner if you were faced to software with all of these options in it?
32. Jo: Well, I think it would be appropriate but for another level.
33. Ja: Right. Maybe it would be more helpful a kind of close-up to the mouth of the speaker for the student to notice how he/she is moving it.
34. R: you mean like an additional picture.
35. Ja: Right. Like an additional picture to notice the movement of the mouth.
36. Jo: would all of that be made word by word?
37. S: maybe in the case of special words.
38. Ja: Right. I would say emphasizing the words which may cause more trouble. I do not mean word by word but just some specific things
39. S: But would not it be more difficult for the person to read the lips?
40. Jo: I agree with that. It would be easier to teach the phonetics than doing the close-ups to the speaker’s mouth
41. S: Anyway, I think that having more available options leads the student to be the one who determines his work pace, so you can disable some functions if you think you are going to confuse the student but sometimes it is not a matter of understanding the phonetics but to read the two words and notice some differences when they are pronounced. You do not necessarily do it but…
42. O: I think we are providing an overview of all of this as we are only talking about listening but we are touching topics such as the pronunciation, reading and how the student is going to see all the skills. Regarding the mouth movement in certain words I think it is appropriate because the person must get adapted to those words, however the fact that the close-ups should be that focused on the mouth has to do more with pronunciation than with listening, so I think the focus of the software, which is intended for listening, is missed because it is being mixed pronunciation, writing and listening, so the person does not exactly know what he/she is going to do
43. R: Okay. Let’s keep that idea in the back of our minds. What other help option should we include for listening? Should we include a dictionary for the basic level in listening for instance?
44. Jo: Sure. I think the dictionary must be always available in there
45. R: you think the dictionary must be always available
46. Jo: Absolutely. There should always be a link to the dictionary
47. R: Remember that there is a difference between the glossary and the dictionary. In the dictionary you have to type the words while in the glossary you are provided with a link for you to follow it. That is the main difference between them. For the basic level, which one would you choose?
48. Jo: For the basic level, the glossary
49. R: Why the glossary?
50. Jo: because it provides you with the words already classified. When you are beginning you listen to a certain word and you may think it is another one, or you do not know how to write it yet, so the glossary will give you just key words so that you can listen and associate the word with the written form
51. L: Moreover, when you are a beginner you are still short of vocabulary
52. Jo: Exactly
53. R: What about your idea from the previous session in which you said that instead of calling it glossary it would be better to call it “keywords”?
54. Jo: Oh, I forgot about it.
55. R: How would you display that keywords option? Through the transcript, as well or as an additional option?
56. Jo: Well, if it was displayed in the closed caption, it would be possible to display it as a link or something looking different, something highlighted or I do not know how to do it.
57. R: So you say that apart from the transcript, there should be an additional option which should be the closed caption
58. Jo: Yes but… I don’t agree with the closed caption because I prefer to be concentrated just on one thing, you are going to listen and pay attention to the scene or you are going to listen or to read. So I’d rather have it as another link. The keywords displayed in a different link
59. R: I see. But how would you separate the closed caption from the video?
60. Jo: Well, you do not have to separate it. My idea is not having the closed caption
61. R: ah, it does not include the closed caption
62. Jo: right
63. S: for instance, when we lower down the speed of this video which is really advanced, so if you do not want the subtitles when the person says for example “I went for a walk in the blue mountains” and you can control the speed as you prefer, maybe those key words could be displayed as speech bubbles to highlight that in the moment they are saying a key word, and as the conversation progresses they could disappear if you do not want to have the subtitles in there…or maybe the subtitles should be on and off in case you want them or you do not, they just would not appear that could be a way to display the keywords in the video
64. R: right, in the video, in a way that they are talking and the keyword appears but then it disappears again
65. S: exactly
66. R: Olsen, what do you as a designer think? How complicated would that be?
67. O: well, as a designer I think the video would be too heavy because I would have to make some edition and, if it is a web interface it would make it even heavier, so it would take much more time to load the video for the first time. It certainly can be done because we have the appropriate edition software, but it would be heavier regarding the production and the development once the page is loaded on the server
68. R: but in general the students would think it is an ideal help option to display the words as the conversation progresses in the video. Should the word be displayed just in the written form? What would I do if I do not know the meaning of this word?
69. Jo: Well, the word should just appear
70. R: but what for?
71. Jo: for the student to identify it, then he/she will know how to write it and will be able to look it up
72. R: how would the student look it up?
73. Jo: through the glossary
74. R: so for you the keywords should be included in the video
75. M: but those keywords which are difficult to pronounce or have different meanings or which are unknown, so the speech bubble should appear in the video, right. For example the person says “glue”, and it appears on the video in the bubble so that the person immediately knows that is a keyword. It should also be included in the transcript, but there it should be just to identify that is the keyword they said
76. Ja: instead of having a speech bubbles, why not let’s say this is the video, these are the control buttons, and up here in a separate square we place some pictures of the keywords which as they are mentioned in the conversation they are highlighted
77. R: I do not understand
78. Ja: well, let’s say this is the video, and on the top of the video are displayed the keywords, let’s say they are six or seven. Here[] are the two people talking, and instead of having the speech bubbles, if for instance they say “chicken” so the picture of the chicken gets highlighted
79. R: but that would imply that for the design issue…what implications would that have, Olsen?
80. O: Well, basically the same ones I told you before
81. L: It is still too heavy
82. O: it could be displayed in a more organized way but exactly the same because in order to do that you can do two things: you can low the video and mark the place where the word is in order to create an interaction with the upper part or we can just include it in the video
83. R: From the two options, which is one is easier to perform?
84. O: regarding the edition, the speech bubble option is easier but in the programming the other one is easier. When we talk about edition we refer to how much web page performance we desire; if we want a fast web page so we need to include it in the video. If we want a slower page with much more interaction with the user so we need the second one
85. R: I see. Okay, that is exactly what we are trying to figure out
86. S: so, when the keywords are highlighted, could the users click on them in case they want?
87. R: you mean click on the word?
88. S: on the word, right so that they can be addressed to the glossary or whatever the place containing the description of the word
89. R: so it would be easier for the interaction to take place in this [on top of the video] part than in the other one where the words simply appear and disappear as a picture
90. O: This part along with the pronunciation part is more important and clearer in here [top of the video] because you will be able to see the word, click on it and program the video to go specifically to the keyword again. You will have to decide once and for all which the keywords will be as the speech bubble will be very complex. The words will have to be defined for video approximately twenty or thirty so that the programming can be set
91. R: Let’s say we are talking about a common video for the basic level of about forty-five seconds to one minute as a maximum, how many words would we be able to include?
92. O: For forty-five seconds, about four or five words. More than five words would overload the program because it must be managed through the programming and we need to rewind the video. I mean in case we want to click on the word and be addressed to the pronunciation, we need to rewind the video and that means reloading the video on the web. So, the more words, the heavier and the slower the video
93. R: I see. Let’s continue. Let’s say we have the idea to display these words in this way and if for example I have the option to have the words written in here, so it would obviously take me to the glossary, right?
94. Jo: It could also be possible. But what would the glossary do? It is just going to tell you what the word is in English, right? It is going to provide you with the translation or the meaning…
95. R: not the translation but the definition of the word
96. S: So when we have the word “chicken” for instance, and we have a full screen video, so when we click on the word the video gets small and it takes you to the glossary or if the video is already small, it will take you to a different page?
97. Jo: Well, it will simply open another window
98. R: How would that be?
99. S: Do you mean like a pop-up menu?
100. O: The thing is that if you are going to use a full screen video it might look like the one in YouTube. You turn to full screen and the YouTube page is closed, I mean the video is blocked and you just can watch the video until the video is over. Then you can interact with another function. There are two differences in there: this one must be done through the programming and this one through video. Virtually, we cannot click on a video and be sent to a specific part of the video. That is impossible to do in programming. When it is in full screen, we would need to include a sort of banner in another program in order to be able to rewind the video which is what they do with the controls.
R: You mean that if we use for instance these options to display the vocabulary in here [main frame], so we are not giving the option for the video to be turned into full screen. I mean we would have to sacrifice that option.

O: Right. You can either miss the option to go to the glossary and check the pronunciation just on the video or not be able to watch the video in full screen.

R: Which one would you prefer, Marcela?

E: I do not know. In this case I would not choose the full screen but I’d rather have the two possibilities where just in one screen you can interact with the video and the words at the same time.

R: I see. So until now you said you want the option to display the keywords on the top of the screen, right? The video can no longer be watched in full screen as the other part would be sacrificed. When you access to this screen, you are taken to the glossary, right?

Jo: Right.

R: How would you display the transcript?

Jo: I have a question. When you click on the keyword, what happens with the video then?

O: The video would wind back to the keyword.

R: Would the whole video wind back?

O: Well, for instance in a video segment someone says “I like chicken” so the chicken appears in there, you can click on it and the pronunciation for chicken appears; it would not wind back to the beginning where they say I like chicken but just to the word chicken and from then the video would go on.

Jo: But the video would be paused?

O: Right, it is paused and it rewinds to the part where the pronunciation is found.

R: Wouldn’t take much more web space?

O: No, it would not because the video is already uploaded. On the web for instance the video is always uploaded and, for instance in YouTube, the whole video bar is loaded and then you are able to interact with the video back and forth, to pause or stop the video and when you stop or pause the video while it is loaded, no machine is required any longer. It is only required when you want to download the video, once the user has downloaded the video, he/she can manipulate the video back and forth with no need to connect the server again to download it.

R: I see. Okay. Again my question: That would take you to the glossary, but where would you place the transcript? What other options would you include? Remember we had talked about the listening tips, the cultural notes, the feedback, so which of them would you include for the basic level? The dictionary, the glossary.

M: I think the transcript is okay for this level.

Ja: I agree with that.

Jo: well, this is all like sectioned by transcript, glossary, dictionary, cultural notes and so on. For me the ideal thing would be… and to make the interaction more fluent, so that you don’t have to go from one place to the other, and for you to have of the help options in just one screen at the reach of your hand, I do not know if it would be possible to place the transcript at the bottom or similar to subtitles as the conversation progresses or something like that in order to try to minimize the number of distractions or to go to another place to use the options. It does not mean you are not able to do it; you still can go and use the glossary just because you want to use it not necessarily because you are listening to something. But
anyway when you are listening to something it would be nice to have all of the options related to the interaction area which you are in; so you can access the keywords or go back and forth

120. R: Do you mean making them available at all time, so that the user does not have leave the page to look for them, but instead having them readily available?

121. Jo: Exactly

122. R: Do you agree with the transcript, the display of the keywords, the progress bar and the controls, right?

123. Ja: What about the button to lower down the speed?

124. R: okay, the bar includes the speed reduction button. How difficult would it be to do that, Olsen?

125. O: That would be a bit difficult

126. R: And how much space would it take up

127. O: it is exactly the same in the video

128. R: What about the listening tips? Do you remember we were talking about listening tips? In case you do not remember, it was something like the teacher telling you are going to listen to a conversation and you are going to focus on the answer that Carlos provides to Sofia and the attitude….oh, I’m sorry, that is cultural notes. The listening tips just tell you to read the questions before listening to the conversation or something like strategies to listen, right? The cultural notes are those behaviors exclusive from the English speakers. For instance, the Japanese person is never going to kiss another person or shake hands but he/she is going to bow, the Colombian person shakes hands as well as the English person and so on. It refers to those kinds of behaviors. I am clarifying these issues because I noticed in the recordings from the previous week certain confusion between these terms; so the listening tips are the strategies to listen: first, read all of the questions, or pay attention to the details, or pay attention to the general idea. All of these are strategies to listen. The cultural notes are the people’s behaviors related to a determined culture, clear? So for this basic level, do you consider the listening tips relevant or not? Don’t you, Jose?

129. Jo: No, I do not

130. R: Why not?

131. Jo: Well, I would prefer the cultural notes

132. R: Why?

133. Jo: because it provides you with more information about the video; it does not tell you to pay more attention to this or that other thing, but tells you about something more specific, so I think it could help you more than the listening tips

134. R: I see

135. Jo: Are the listening tips somehow related to the questions? When they tell you to pay attention to this because this…

136. R: Not necessarily. They are just strategies; they are preparing you not only for the exercise itself but also when you are faced to a listening exercise you can use those strategies in different contexts, not only for the exercise. So the listening tips are general strategies. They say listening to this, in this video you are going to try to identify the general idea. In another context you may need to figure out the specific ideas, in another one you may have to focus on the numbers and so on. They are strategies which could not only be applied for that exercise itself but also in the daily life, see?

137. O: I think the listening tips are not that important for the level we are working in because they are really basic things which are supposed to be always done such as go to buy something, or greet;
the vocabulary in general is so small, they are the most basic things. Maybe in a higher level, the vocabulary would require those kinds of help options. By the way, I see the transcript and I think it should not appear the first time you watch the video because it would turn limiting for the student as he/she would think that if he/she does not understand the video for the first time anyway he/she will have the transcript option available. Instead, if they do not have the transcript available the first time they watch the video but they do the second time they watch it, they would tend to think I have to understand it. Moreover, I would not like the transcript to appear along with the questions. I’d rather prefer to have them separated in two different frames on the screen. For instance, the transcript should not appear in here and the questions in there. It would not be right because if the students do not understand a question so they could go to the transcript and read it.

138. R: So you mean that when they try to answer the question, this pop-up should disappear
139. O: Right
140. R: Do you agree?
141. All: Yes, we do.
142. S: Well, I am in disagreement because I think the student should always be in control, deciding which options should or should not be displayed. The purpose for the person is certainly to learn English so I guess he/she would not cheat on himself. So I think there must always be the option to activate or deactivate the functions depending on what you need in that moment
143. R: Right, but we are talking about a basic level
144. S: I would also include it even in a basic level
145. R: I see. Okay. What do you say, Marcela?
146. E: I agree with Oscar. It is true that we are in a basic level, but we are also supposed to learn and given that, the least you can do is to demand yourself, so if you have the options in there, you may be willing to learn but you will also have the curiosity, the temptation, and it will represent a big shortcut.
147. Ja: There will be the possibility to try once and then if you did not understand, you could go and use the help options
148. M: Exactly
149. Ja: if you see the help options in there so it is possible for you to use the help options before watching the video
150. R: but what if it is a person in level 1, in the first day, who does not have any idea about English, and he/she listens to the video and understands nothing at all and doesn’t have idea about what he/she has to do. Remember that in the software I showed you before even the instructions are translated
151. Ja: Well, it would be okay if the instructions were displayed and you had the possibility to translate them at the bottom
152. R: That would be offering some help, and you were saying it was better not to offer any help
153. Ja: Well, it is important for them to know what they have to do from the beginning, but not when they are watching the video and after listening they immediately go to the other help options
154. R: I see
155. Jo: that would be like management help options...I mean related to the software
156. Ja: exactly
157. R: what do you mean?
158. Jo: for me, the only thing displayed in the native language should be that related to the use of the software
159. R: Do you mean for instance, to listen, click on the play button, is that it? or if you want to read the transcript click on the transcript button
160. Jo: Exactly, something like explaining the help options they have and when they can use them or maybe how they can get to those options. Moreover, the page should be designed in a friendly way and easy to use
161. E: or maybe it could be done a kind of process, something like first we are going to watch a video and then if you feel you did not understand and wish to watch it again so some help options will be displayed for you or...something to get the person immersed in the program so that he/she gets to watch it and then I can analyze what I saw in the video and get more oriented
162. R: I want you to consider that this program is addressed for a generation who is a little bit younger than ours. Honestly, when you are faced to a video providing such a lot of information, do you follow that information?
163. O: well, I do not. The problem is that the buttons at the top cannot be deleted because the person who is watching would be totally isolated. Even, when you watch a video on a screen with the instructions on one side, you either watch the video or read the instructions. That would imply that when I display the first exercise I would also have to widen the window showing the instructions. As every one of us belongs to the next, next, next culture because nowadays every single system works like that, we seldom read the instructions. For instance, when you go to the library you can see a set of instructions about what you can or cannot do through the library net; what we do is reading the “I agree” button, click on it and then on “I accept”. They are like one thousand instructions, it is quite a long text but everybody just stretches the window and click on next. That is because you already have a pretty good idea what is in there, you are ready set in the context. Removing the buttons from the screen and making the student face the exercise, first decreases the level of interaction and second suggests that it is the software the one that is going to command the student; that cannot be done. What we can do is leaving the buttons at the top of the screen because if the student makes a mistake and he/she has to wait until the video is over to go to the main menu and apart from that, I did not like that video because it talked about the food and I hate food, I am anorexic or something like that (ha, ha), that would be boxing the student up in the rules of the software and that should be well distributed; if you feel you are in a basic level, but you also feel you are able to understand a conversation about a dinner, but the first video is about the greetings so you would have to cover all of the topics until you get to the one of the dinner or maybe if I did not like the topic of the video or it is too hard or too easy for me, that would limit the student to watch the video and then go back. What I conclude is leaving the buttons at the top of the screen as they were, always visible. The transcript should not be accessible the first time a student watches the video, I mean it should appear but the student should not be able to click on it. When the video is played for the second time, then the transcript could be activated. as it is all a matter of culture, we could explain all of that the first time of the first video. I also think that since this level sets up the basis for your learning for the learning process, it is important if you are used from the beginning to read the transcript, to locate the keywords and so on, you will continue to look for and use the same help options as you progress; so will always click on the transcript...and so
on. The buttons cannot be removed. They can be blocked, or turned transparent for a moment, or a pop-up can be adapted in which they say you cannot use the transcript until you watch the video for the first time or something like that.

164. R: you mean something to say try to listen without reading the transcript or so
165. O: exactly. But we cannot remove the buttons
166. R: Okay. What do you think, Maria?
167. L: I was thinking about what Olsen said. I mean, it should be a friendly guide, not a guide that tells me what to do, but instead a guide that allows me to interact freely and suggests me some steps to follow at the same time because I am learning and I need to be guided. I could learn through experience, but I also need some steps to follow, so a friendly guide as the one Olsen mentioned is a good option. I should have some information, but I also should be a little limited in order to carry out a normal process.
168. R: okay. Do you have any other opinions with this regard? Do you, Jose, insist on having the software more guided?
169. Jo: No, I don’t
170. R: Really?
171. Jo: I don’t but anyway I prefer to have at first, the demanding attitude in order to create conscience that it is a listening exercise and you obviously have to listen and then, because you are a beginner it is probably you do not understand, so you read the transcript and you progressively learn, but you should consider that it is a listening exercise so you should focus on listening.
172. R: I see. To wrap up, keywords, transcript, translation, we never talked about translation in a basic level.
173. Ja: That is really important. As I was saying before, the instructions should be displayed with their corresponding equivalent at the bottom.
174. R: but you mean the translation just for the instructions, for the video you listened to, for the cultural notes, for the listening tips or what?
175. Jo: I think we should not provide a translation of the whole video.
176. R: you mean something simple like ‘hello’, ‘hola; ‘how are you?’, ‘como estas?’
177. Jo: I mean just some keywords which show you context in which the conversation takes place, for instance if we are having dinner so they should explain you that dinner is in the evening; they should locate you in the time. If they are talking about the plans for the vacations so they should explain that we are talking about the future.
178. R: you mean like a grammar coach?
179. Jo: Well, not like that but there should be the keywords indicating you that it is “dinner”.
180. R: Do you mean they should be related to these buttons in here[]? So that when you click on the keywords they take you to the transcript and the translation as well?
181. Jo: the thing is that the keywords option should include the most difficult or strange words while in the translation there should be the words...
182. R: Related to the context...those words which locate you in the context.
183. Jo: Exactly, those words that locate you in the context of the conversation. I mean, they are having dinner, with the whole family, three or four words which locate you in the context.
184. Ja: That sounds like the listening tips.
185. R: that’s right...wait, no...the cultural notes, in a certain way.
186. Jo: I don’t think so.
187. R: you mean a description of the situation and that should be included in the instructions where they generally say you are going top listen to two people who are
in the supermarket. Listen and choose the correct answer. That is part of the instruction, is that what you want?

188. Jo: Yes, that’s it
189. R: Lucia, what do you say?
190. L: I think that when you are a beginner you tend to rely on the translation too much to help you locate yourself in the conversation because your vocabulary knowledge is too limited. Also I think it would be helpful if you are provided with some context which helps you locate on the situation, but anyway I think it is necessary the translation of the conversation taking into account that I am following a guide which suggests me certain steps in order to learn, being the translation the final step. I think they can be combined
191. R: I see. Who else wants to give an opinion on the translation?
192. S: I think it should also be available
193. R: You mean for the instructions, for the cultural notes, for the listening tips or what specific part?
194. S: For the video you are watching, the conversation you are listening to. I am not sure about the instructions because I agree with you. Nowadays it is unlikely for you not to know what to do with a video, you just play it...I think the instructions should be related to the general context of the situation you are going to listen, but not related to how to use of the software itself.
195. R: okay. What about the cultural notes?
196. Ja: I think they are okay because you learn a language along with a culture not in an isolated way. You always need to know why some people do some things or behave the way they do in certain situations. It does not matter if it is something really basic, the culture is always part of the language.
197. Jo: They should explain that in this culture they use this word in this certain moment
198. Ja: even if the word is pronounced in a different way, they should explain why this happens. For example, someone who lives in Los Angeles, but comes from London for the season or something like that. That is why his accent is different from others
199. R: I see. What do you think Elena?
200. E: I think this could be confusing for a student in the basic level
201. Jo: I think the English is standard. it finds its roots on the British English
202. E: I think this because you assume the student is a level zero. You are beginning to learn. If you are told from the beginning that in certain culture they speak like this or something like that...that’s too much information. You begin to hesitate what to say when you talk to certain person. Initially, I would say that the cultural notes should contain the most basic information.
203. Jo: Right. It should be more culture-focused, not that general but more specific
204. R: What do you say, Olsen?
205. O: If we analyze the topic of the video, to begin, you are not going to listen to a big conversation with eighteen people included, so the variety of accents and cultures is not going to be that broad. In a beginner level video the topics are more like greetings and farewells, fruits, colors, etc. so I think that if we are in Australia the video should have Australian accent because that would allow the student to identify him/herself in the culture in which he/she is immersed. If you are faced with a variety of accents, that is shocking. For instance, for the people who learnt English in Colombia, the shock is big regarding the accent when you are received in the airport, for instance. That is why I think the videos for the basic level should have either Australian or standard accent.
206. R: We have some ideas about which help options should be included such as translation, cultural notes and keywords. I want you to define how you are going to organize those help options on the screen. Let’s say this is the computer screen; where would you place the video and the help options according to the list you made before?

207. Jo: I think the screen is okay on the left side and it should be really big

208. L: It should be as big as the space on the screen permits

209. R: What about the colors?

210. Jo: I would like the help options as a scroll-down menu

211. R: How many of you agree? Because remember we all have to agree on this design. The buttons should be on the top or what?

212. S: I think most of us do not want to use the help options as you think you are capable of doing something without relying on help. I think it is better if you have the help options at sight instead of accessing them through one click. However, we could not have enough space on the screen to place the different help options. So I think we must make up our minds on how to display the different help options, either in a drop-down menu or all of them on the screen at the same time, because we could run out of space on the screen to place them all

213. R: What do you think about it?

214. O: well, I agree with her maybe because of the space in which we plan to display the help options. Making a drop-down menu in a web site is a little bit complex because the mouse generally tends to glue when it is on the internet. For instance, if you say click here and the menu drops down, it might cause errors, but if you make a roll-over menu, that is place the mouse on the menu and it is displayed, then it might cause errors as well because when the mouse is on the web, it gets very sensible; you can see for instance when you widen the screen that you lead the mouse to the top but it goes to the center of the screen and then disappears. So, in some cases this menu is not that useful

215. L: I also agree

216. R: How many of you are in agreement with the help options menu displayed along the screen?

217. Ja: I think it is very practical

218. Jo: I agree

219. R: We need to agree on this. I have a question, these are supposed to be the keywords...

220. L: The ‘chicken’ that is going to be highlighted. And the buttons in there[,] are the other options such as cultural notes, translation

221. R: But where should the screen be placed? On the top, in the middle or at the bottom?

222. S: Are we designing a website or just a webpage?

223. R: Just a webpage

224. S: So when we talk about the page we do not refer to the typical ‘home’, ‘contact’...

225. R: Well, it obviously must have a ‘home’, ‘contact’ and all of that, but right now we are focusing on the page in which the student is interacting already

226. E: Will it have an introduction or not? I mean in the video because every time we see an introduction it is in the video

227. R: That is exactly what you have to decide

228. E: Maybe it is a good idea to show the introduction before the video because if it is at the bottom so you will not read it

229. Jo: I do not understand what you mean by introduction

230. S: I mean the introduction of the video, something like the video you are
going to watch now is about two women who are buying some fruits, for instance
231. O: Couldn’t that be introduced by the assistant of the video, in the video itself?
232. R: What do you mean by assistant of the video?
233. O: There is a person who will always introduce everything related to the help options. For instance when you get lost, it will say go to this or that place, something like a virtual teacher. So, before starting with the video, that person or assistant should appear and make this entire introduction. Though, I am not that sure about this because we are talking about a basic level and it would be very difficult for the student, who lacks a lot of vocabulary, to understand what the assistant is saying in English. I do not know how possible it could be for someone to explain it in the video itself
234. R: I want to ask you a question. When you are working in Word and the paper clip appears, what is your impression on that?
235. Jo: Well, I remove it. I delete it
236. All: Me too.
237. O: I am not saying the assistant should appear as a picture on the screen but in the video.
238. L: Do you mean like a person in the video
239. Jo: like a teacher by a board, with a ruler and all of that
240. R: We are short of time and we have not made much progress but what really matters is that the discussion has been very interesting. For tomorrow, we are intended to work on the level two, but that is obviously for tomorrow. For today, if you have a couple of minutes at home, I just want you to think about how the help options should be displayed on the screen for us to design the prototype tomorrow, unless you can stay now and continue…
241. All: well, I cannot
242. R: I get it. Anyway, tomorrow we will be beginning from here. The most important was to decide which kind of help options we were going to offer and we already have an idea about how to display them, so tomorrow we will be just stating it on the paper, okay? Because we still have to talk about colors, something nice to the person’s sight taking into account that it is intended to teach and all of that
243. All: okay
G2. Study Four: Prototypes creation
Intermediate & High intermediate

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<thead>
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<th>Prototypes creation-advanced</th>
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<td>2:00 pm</td>
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<tr>
<td>Olsen: Software designer</td>
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<tr>
<td>Sonia: HCI designer</td>
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<tr>
<td>Javier: Language teacher</td>
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<tr>
<td>Jose: Beginner</td>
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<tr>
<td>Elena: High-beginner</td>
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1. R: What we did yesterday was decide what kind of help options the students of an elementary level would use, right? You came to the conclusion according to my notes, that the keywords should be displayed on the top of the screen as the video was in progress. Moreover, the keywords should be highlighted as they were pronounced throughout the video. The student could have the possibility to click on those keywords and they would take the student to the transcript from which the translation would come up, right? We had said we would incorporate translation, cultural notes, listening tips although some people were not in agreement as they said it was better for the advanced levels, the speed reduction button incorporated in the progress bar and something that remained unconcluded was the subtitles option which was suggested to be incorporated as an on-and-off option, right? But anyway, we did not agree on that. Those are the ideal help options to be incorporated. What we need to discuss now is what we have to sacrifice, because we were also talking about the full screen but if we decide to display the keywords on the top of the screen, so we would have to sacrifice that full screen, right? That is basically what we were talking about. So let’s retake our discussion for the level 1 and let’s begin with the design. First of all, I wished to know the location for those help options. You had mentioned the possibility to display them in a scroll-down menu. However, Jose was the only person who agreed with that. The rest of you agreed to have the help options aligned on the top of the screen. We have some paper, colors, and the other materials. We need to know where we are... What do you need, Sonia?

2. S: Well, I thought we still had the design we had made before

3. R: Right. Here it is. Okay. Remember that this is the interaction page, I mean behind this page there is the homepage. So take into account that there must be a link to home and since this is a learning website we need to make some decision regarding color, which should be different from a commercial website, and all of that. Obviously, deciding on a color is a matter of personal taste. It is difficult to agree with everybody, but anyway we need to try to address the general expectations of language learners, bearing in mind that this is a page for learning and applying what we already know about the language learning, visual display and interaction theories and all of that. So let’s begin

4. M: Should we start from what we had made before or start with something completely new?

5. R: well, let’s begin with the color issue. Let’s suggest some colors so that we know how to organize all of this

6. S: I would not suggest a particular color black or blue, but remember that the options transcript, cultural notes, I do not remember the others that are directly associated to the video you are watching, and these are the keywords that are
highlighted as the people in the conversation pronounce them. So I think we could use the same colors in all of them to convey the message that they are directly associated to that particular video. For instance, if this part is going to be red, so the other options should be also red to indicate that those words belong to that video and the same with the help options because I think there are some things that are general in the web page such as the dictionary which you can access without having to listen to something, or the help options that are related to the video you are watching, so for me there are like two levels: one associated to the video and another in which there are some general things such as the listening tips which may be applicable for any video.

7. D: But are not the listening tips related specifically to the video that you are going to watch?
8. R: Well, the listening tips are strategies to work a listening exercise. Once you have applied those strategies in that particular video, you can apply them in your daily life. Although you can use the listening tips in different situations, they are somehow related to that particular video. If you read the list of listening tips that for instance in this one, it says: say focus on the general idea. That is related to that specific video. Another tip may say focus on the specific ideas and so on. They are very general tips that may be applied to different videos. However, they cannot be displayed all at the same time, but distributed in different exercises, did I make myself clear? So what Sofia said is true. there may be two levels when you work a listening exercise, but although the dictionary is a general help option, it is also associated to the video in an indirect way, although the dictionary is general, it is also related to the video because

9. S: Because the words that they mention in the video are the same words that you are going to look up in the dictionary
10. Jo: But in the dictionary there will always be the same words
11. R: In the dictionary there is just a space for you type the word. it is a simple dictionary on line
12. S: It is something like a data base
13. R: Exactly, a data base
14. Jo: but it will always be the same dictionary. it will not depend on what you are studying at the moment
15. R: No, it will not. The glossary will, though
16. S: So according to this, although in the dictionary the words are already set in there, it is a more generic issue, isn’t it? I mean, it applies to any video you are watching while the glossary is more specific, more related to that specific context. So I wonder if when we decide on the colors, we could distinguish between these two levels: the general issues from the specific ones. It does not mean you cannot jump from one to the other. It is just a matter of clarifying to the user the part of the page in which he/she is
17. R: If we take that idea of the two levels which for me is not that inappropriate, which help options could we incorporate as general and which as specific? Would the dictionary be a general help option?
18. D: Yes, it would
19. R: What else?
20. D: According to what we said before the listening tips would be both a general help option and a specific one
21. S: Maybe as general help options we could place all of them and as specific help options we could place those related to the video
22. R: The thing is that it would be very difficult to provide a suggestion to work the listening exercise which has no specific intent, so it is always related to the video
23. D: I think the listening tips must be related to that specific video. What do I want some general suggestions if later on I will find them again and I will not be able to identify to what specific situation they correspond. I think they must be related to the video that I am watching in that moment.

24. Jo: But the listening tips are more generic or…

25. R: The listening tips certainly are generic but they are associated to a video. For instance, in certain exercises they just tell you to try to identify the general idea.

26. Jo: But that is independent from what the video is about.

27. R: Certainly, you can apply those tips to different situations, but when the program displays them to you, they associate them to a video which for instance is about a couple in a restaurant asking for the bill. The most relevant aspect in that context would be to identify the numbers, what and how they paid, and so on. Although the listening tip is general, it is always associated to a video for you to take advantage of it. Otherwise, it will be useless. That is why I agree with Diego.

28. D: The listening tips are supposed to change according to the video.

29. R: Right. In fact, there are some videos that do not have a listening tip. What other idea do you have? Was it only about the dictionary? The translation, for instance is associated specifically to the video. What about the transcript?

30. Jo: The transcript is also associated specifically to the video.

31. R: What about the keywords?

32. L: The keywords too.

33. R: So the idea of two levels in this precise moment will not have place.

34. Ja: Right. The only general help option would be the dictionary.

35. R: The only general option would be the dictionary, but when would you use that dictionary? For instance when you are listening to something and you hear a word that you do not understand, you will not be able to type it either. I do not know how it works in your case.

36. S: Unless you have access to the transcript.

37. R: Exactly. Unless you are reading the transcript or you find it in the keywords, you see the word and then you are able to type it in the dictionary. Otherwise, how will you be able to introduce the word to the dictionary, only by listening? So should we go back to the idea to incorporate all of the help options?

38. S: We could incorporate all of them because there is just one help option that is not specific to the video. If there were many options not related to the video then the confusion would arise about what is associated to the video and what is more general. Maybe it is not that necessary to make that distinction.

39. D: I think the dictionary button should go in the main menu where you have access to home and the different kinds of workshops or all of the general options from the page.

40. R: Yesterday we were pointing out that some of you did not use the dictionary in the software I showed you just because you had to leave the exercise and follow a series of steps to get there.

41. D: But those buttons are not supposed to disappear from the screen. The buttons for home and dictionary will always be in there in case I need to leave the exercise for some reason. When I look at the design you did yesterday I suppose you were
deciding where to place these buttons, right?
42. R: Well, we were not. We began to glue the different options in there but we did not decide anything at all. We did decide which buttons would be placed in there but not the order in which they should go, or the colors they should have, and that is exactly what we need to decide today
43. D: I think those buttons should always go in there, in most of the cases
44. S: That is why I asked you yesterday if we were designing the part of the page in which we are working the listening exercise or the main page because they are very different. The main page would have the banner on the top containing home, contact, about us or whatever, which is something you can access wherever you are in the page. So assuming that menu is going to be on the top of the screen
45. R: It can be on the top or at the bottom, you decide that
46. S: The most common is to find that menu on the top to keep the consistency
47. R: okay. So we start to see how to place the options, the colors
48. Ja: Let’s decide first the options we are going to display and then we can organize them
49. R: okay. I am really concerned about the colors. Yesterday I noticed you began with really bright colors
50. S: can we use these colors? I thought they were just to define the location of the help options because for me those colors are a little bit…
51. R: In a week I will show you a screen and you will select the colors that you like the most because you know that a page for learning that is full of colors might not be that recommendable. What do you think of that?
52. Jo: I think it should have light colors, it should be clearer, and should make you feel like in harmony. The help options you will need later on should be…
53. R: They should be more eye-catching
54. E: the important buttons in this case the help options buttons should be differentiated from the video because if I access a page that is so colorful, I feel as if I went back to my childhood or as if it was a page for children
55. R: You mean a page of entertainment
56. E: Yes, something like that. Moreover the colors should not fatigue the eye because there are some colors that make your eyes feel tired
57. R: Okay. Which colors are we talking about?
58. M: I would say light blue colors
59. Ja: Well, dark colors are not that recommended because they make you feel sleepy and bored. The light colors are too…
60. R: Do you mean light or bright colors? For instance neon colors
61. C: bright colors, right. But just the white color would be really boring. So we have to reach the harmony in there with a light blue, for instance or yellow
62. E: A yellowish color, better
63. C: Right. A mustard color or something like that draws your attention and invites you to open and explore the exercise.
64. L: Well, yesterday I chose those colors because for me they were the most appropriate because the color is neither too light nor to white because a very light color may make you feel sleepy but a very bright color is neither a good idea, so the most appropriate colors for me were that blue and this purple
65. R: You have a lot of colors to decide in there. Obviously, there is a wider variety of Y colors. these are just the ones I could find in the shop, but anyway you can make an idea from these. What do you want to add, Eduardo?
D: I would start from the background. I would choose a light background. If there are some people who do not like the color white, it is okay, it can have a different light color in which it may be easier to read because if you have the text in yellow, white or orange, it is way too difficult to read and you get tired of it. Again, the background should have a very light color. The buttons should have very eye-catching colors. I would not choose sky colors. The color blue for a button would be perfect for me. It is difficult to decide when you are not looking at the design, but maybe I would select a green color for the menu of the help options so that the person can notice they are in there.

R: I notice you are assuming the help options are going to be displayed in a drop-down menu, right?

D: Well, I am not assuming. The thing is that it does not matter if the menu is in a horizontal or in a vertical way.

L: You mean the titles that are displayed in the page in general.

Jo: Yes, because we had agreed that every single option would have its own button.

R: Each option in an isolated button. Something like the design we have in there. What do you think, Olsen?

O: Regarding the background, when it is an educational page they tend to use white. If we do not want the page so bright because it is white, what we can use is something called Calatrava which is nothing but a series of small dots from specific colors interposed in the background. They can be for instance grey or yellow. That is used when you do not want just white and to rest the eyes. Given that the combination is practically colorless, it allows us to play with the colors of the buttons. I also agree with the colors blue and green. They are the most common colors for the educational pages as they make you feel confident, tranquil and serene and that is what you want to achieve in a page with educational purposes. If we are going to use blue colors, when it is used a very dark color what we tend to do is use a white frame and shape it like an oval for them to look so strong on the screen.

R: In order to soften the frames, too.

O: Exactly. In the buttons, the font is typically white or a very light color which is like the rule of color combination for software with educational purposes. I think the buttons on the top of the screen should not have a background. If they have a background, the word should appear alone. For instance, if you say chicken or you want to display the picture of the chicken so that you do not need to go to the dictionary that much, and even more in my case that I am a visual student, the idea is for the student to be able to associate more the pictures to what they are listening, because personally, I prefer the visual dictionaries. I am like a child. If I can associate the word to an image, I can also remember easier than if I associate a word to another word.

R: That’s true, but if we touch the issue of offering visual aids, it tends to complicate things because it is easy to offer an image for concepts or things you can see, that are palpable, but what about if we have an abstract concepts like happiness, how could you represent that word?

O: Yes, that is impossible.

R: There are some abstract concepts which are really difficult to represent and I am not so sure I would like to deal with that either.

E: Well, we need to take into account that if this software it is going to be used world wide, many of the meanings will vary according to the country or the culture.
O: Anyway, I feel this is something that also needs to be discussed and that’s why I brought up the topic... but I understand the focus is just on listening. In conclusion, if we select the color blue as dark as the one we have in there [], then it should have an oval or semi-oval shape with a white frame. We generally combine the color blue with the color orange which is the best contrast, or we use a lighter tone from the blue spectrum. Another important thing which we did not discuss is that when you click on the option, personally I like to know where I am, so if I click on the transcript but I am already in the transcript, the button should appear in a different color, something like in white for you to notice that you are already in the transcript and you do not need to click again on it.

R: What do you think about Olsen’s idea of the screen in Calatrava?
S: I think it is okay. This is supposed to be white when you see it, right?
O: Right. The thing is that it is not a bright white. The color white is bright by nature even more on a screen because it is the combination of all the colors, but when you soften it with some stripes.
R: You said stripes or dots?
O: either dots or stripes, any of them. If we choose the stripes, they must be totally straight.
S: Anyway, the eye will not perceive those dots, right?
O: Right. They just make the color white less bright, less tiring.
R: Alright. So we can assume the background is going to be white with Calatrava. Is there any other specification for the color?
O: We generally use a very light grey or blue.
R: So, let’s begin with the design. Here we have the screen and the background which we already know is going to be light...
that they tell you it is correct or incorrect because in some previous options I had presented to you there were the help options and one of these help options was the feedback, but some of you argued that if it was displayed like that you did not understand that was related to the questions but to the whole page.

98. D: So the feedback tells you how many correct and incorrect answers you have, right?


100. D: But before that, does the feedback give me the option to correct the wrong answers?

101. R: That is exactly what we are going to discuss because yesterday we did not talk about the feedback. We did it but just in a superficial way, so we have to incorporate that too. So let’s begin. How can we do it?

102. D: I do not know I would propose it the way Javier did it.

103. Ja: I would say the screen must be bigger because if we have the possibility to turn it into full screen, it could be watched much bigger.

104. D: I would place two main elements on the screen: the video and the questions.

105. R: Is this the video? I mean this size?

106. D: Honestly, I am not sure about how to locate that but I would start with two main elements on the screen.

107. R: two main elements on the screen. Approximately, how big should the screen be?

108. D: I think it is perfect like that [pointing at a cut paper] not that big.

109. R: You can cut it down if you prefer.

110. E: I think the video is important for you, but what I really matter is the listening exercise.

111. R: Well, we have to get to the design. We need to start cutting, gluing, writing, and most importantly deciding how everything is going to be placed. That is to say you have to begin to play with these elements because the way to design it is just by trying some colors to see how they look.

112. S: Do you want these questions to be on the screen?

113. D: Yes, I do. I do not know if they are many or just a few questions but I want them on the screen.

114. R: When we talk about a video for a basic level, it is generally a one-minute video with no more than four questions.

115. D: That is what I want. I want the video with the play, stop, rewind buttons and the questions on one side. Independently from the help options I am offered, I want the questions along with the video so that to answer the questions I can play, pause or rewind the video and I would place the other buttons in another place. For me, those are the two main elements in there.

116. Ja: I have noticed that in the English tests they first provide you with the questions and then with the listening text. So it would be appropriate to place the questions on this [left side] side and the video on this other side [right side].

117. M: Remember that is a beginner, a person who is starting the process.

118. C: It does not matter if it is a beginner.

119. R: Please, consider the screen distribution of the software. Where does the eye focus directly?

120. M: The eyes focus on the video.

121. R: Where is the video commonly displayed... on the left, on the right or in the middle of the screen?

122. All: On the left.

123. L: almost always it is displayed on the left and on the other side it is displayed the information or the exam itself.

124. R: So let’s say this is the video. Then we have the questions.
S: The questions are part of the testing, right?
R: Right
S: I think we are mixing the learning process with the testing process. There is a learning mode and a testing mode. In the testing mode we have the questions because they are the ones that will tell you how well you understood the text.
R: When it is software intended to develop listening skills, they tend to display the questions because it is part of the practice.
S: It is part of the practice.
R: Exactly. When you are listening to something you are supposed to be provided with a context that will help you and the questions are part of that general context, so the questions must be always in there, okay? So let’s say this is the video, these are the questions.
Ja: I would use the color yellow in there.
D: If we have a light background, the questions are supposed to be black.
R: That is to say that is like a simple picture in here and they appear like this [frame 5]: one, two, three, right?
Ja: There is a chart with the questions.
R: How is that chart? Is that framed?
Jo: Yes, that is framed to make the difference and the color is the same as the background.
R: Let’s say you have the frame in here.
L: It is like a window.
Jo: Will the background of the window be white, as well?
L: I think the background color should vary just a little bit.
Jo: Yes, I would display it in another color. A light color, as well.
E: I design it like that just to make it easier to read.
Jo: Well, but it should be easier for you to see the options in there.
R: how can we organize that?
M: The help options should be in here [top frame].
R: Do you mean throughout the screen?
Ja: Right.
R: When I want to read the transcript, where will that screen be opened? Would it be on top of the video or on top of the questions?
D: Well, when you are working on the exercise and you want to see for instance the translation, this screen will be inactivated. That is why I argue that if these buttons are on top and I want to read the transcript, the screen will be on a second stage and the transcript would be displayed in the middle of the screen.
R: Do you mean like a pop-up?
Jo: Do you mean that the attention should be drawn to the transcript?
D: Exactly. I can read the transcript, analyze it, close it and then continue with the video.
R: but that way we would be removing the interactivity to the exercise. For instance, if the person is reading the transcript and he/she listens to a certain word and says: how is that pronounced? Let’s say chicken and the person wants to rewind the video, the interactivity is being missed, don’t you think?
D: Maybe it could be displayed in a window which can be moved to any part of the screen.
R: sure, but those windows are generally opened in some place of the screen. We cannot open the transcript on one side then something else in another place. We certainly can move the window, but there is one specific place associated to the pop-ups.
157. Jo: Whatever the case, they are going to cover something else
158. Ja: I would rather have the options appearing on the chart containing the questions
159. Jo: I agree with that
160. Ja: Because the main objective is to understand and to answer the questions. So the pop-ups should appear on the questions and the option to answer immediately should be inactivated as you use the different help options
161. R: How is that?
162. Ja: I mean you see the help options in there [ ] so you figure out the answers to the questions. So I think the help option should appear in there [ ] so that you can continue with the video and then you can go back to the questions
163. S: So, for you to answer the questions, you have to close the pop-up first
164. C: Exactly
165. S: What if the transcript is located by the video on the same screen so that you can read the transcript and manipulate the video at the same time without problems
166. R: What would that imply regarding programming, Olsen?
167. O: It would just reduce the video size to give some space to the transcript and then you can close it if you want
168. R: okay. That would be for the transcript, but what about the listening tips and the other help options. Where would they open?
169. S: That depends on how long they are
170. R: The programming should be very specific. If you want a longer transcript, the other elements on the screen will be distorted or I do not know
171. S: Well, that would be a work for the software designer. They are the ones who are going to try to avoid the distortion and all of those problems
172. O: I think we should have just two elements contained in a one element because in the programming you can not foresee that. You can come up with a certain design but the person may have a bigger or a smaller screen. In short, you as a programmer cannot define where exactly the pop-up is going to be opened, so for some people the pop-up will be on the left or on the right or on the top and so on
173. R: Generally when you open a pop-up, they always tend to open on a certain side. For instance, in the software I have worked when you click on the transcript, it is opened on this side and the same with listening tips. Obviously the exact location of the pop-up is difficult to determine because that depends on the computer monitor, but anyway we can have an idea. It can be opened on the right, on the top and so on, but there is a general idea about where the pop-up is going to be displayed
174. D: I agree with Fabio. I would place the transcript on the questions. What is more, I would place all of the options in there: from the transcript to the glossary
175. R: All the help options on top of the questions?
176. L: They should not cover the video, though because the video is the main point of reference
177. R: Are not the questions a point of reference?
178. L: Well, they are, but the questions are the point to which I have to get at the end. I mean, I have to answer those questions and the help options that are not related to the video could cover the questions so that you do not stop the interaction with the video because for instance, if I want to listen again, I will need the video in there. Almost always I will take the video as reference and with the help options I have in here [top frame] I can go directly to the video
179. Jo: But this [ ] window will always be opened
180. R: What window?
181. Jo: The one you open, the pop-up. Generally, when you click on something as you watch the video but you want to pause it, the pop-up is inactivated, right? So will the window be closed?
182. O: No, it is not closed. The thing is that when programming there is something that activates and inactivates the option. Maybe you have noticed that when a pop-up is displayed the blue frame of the window gets more intense. That means the window is activated and the window from behind is inactivated as it has a lighter frame.
183. Jo: Exactly. And if you click outside the window, the window from behind is activated.
184. O: Exactly. That is why I insist on replacing the options instead of displaying more pop-ups because you as a student must go step by step. If you did not have clear the concept of what you are listening, then, how are you going to answer the questions? Moreover, if the computer screen is very small, the windows from behind will be inactivated so you end up reading the whole conversation with your own pronunciation, without the help of the video which is a major goal of the software. If we use just two elements and every time we click on the listening tips it replaces another help option, there is not a problem because you will not click on all of the help options at once to see them at the same time. If you are reading the transcript, you cannot read the keywords at the same time.
185. S: but you will be able to see the transcript and the translation at the same time, right?
186. Jo: Sure, no matter if one window is lighter than the other because that is supposed to be the facility that the software offers. Do you know what I mean? You can open one window on one side and that is what you have activated. I use to do it like that. When you can move the window to anyplace, I place it where I need it so that I can compare two things or something. My point is that you can do different things at the same time.
187. O: But only in that particular case because when you are watching the video and you open the translation, you cannot associate Spanish and English. You cannot associate anything unless they are the transcript and the translation. I mean, when you are listening you cannot associate “Hola” and “hello” at the same time.
188. S: Think about the movies that are in English and they have the subtitles at the same time. Those subtitles are the translation and they are displayed as the person is talking in the conversation. You somehow associate what you listen to with what you are reading.
189. R: That would imply that we had to offer the translation option as a subtitle, but we had agreed to display it apart from the video.
190. S: Anyway that could be an option. The idea is to associate the help options to the video so that you do not have to go to another place or open some other windows. That could be an option instead of displaying the translation on a different window. When you select the translation option the only limitation is that you can only read it as the person is talking in the conversation and you do not have the whole text from the beginning to the end, so I do not know how useful that might be if you are not listening to the conversation while you are reading the translation. They are worked like two separate activities.
191. E: I think that if we display the video already subtitled, then it would not be a listening exercise any longer.
192. S: I mean the video would be displayed subtitled only if you want it subtitled. That is just an option that the user would have. I think it is important to
take into account that the help options are for the user. They are in there but the user can activate or inactivate them. It does not mean the user has to interact in a determined way according to the help options the software offers.

193. R: If we decide to display the subtitles, what could be the implications regarding the space?

194. O: The thing is that it depends more on the video. In the internet we cannot use simultaneous subtitles. That can be done only in the local which is a common DVD video, you can either turn the subtitles on or not. On the internet, as it is a server player and you download the main drivers according to the user, if we want to add subtitles to the video, that would imply that we had to display another video which is similar to what they do in YouTube. When you have a certain song, you can also have the same subtitled song but in a different video. They do not give you the option to have the song subtitled in the same video. That would represent a very hard work for the computer because if you are watching the video but suddenly you want to watch it subtitled, that would imply that you had to reload the whole video and go back to the start. So it is really hard regarding the space in the computer.

195. R: Would the person need advanced knowledge to access to the subtitled video? Well, I know you can do it easily on YouTube

196. O: Well, there is one possibility in which we would not need to include the subtitle directly on the video but we could use a separate small window similar to a karaoke so that the words are highlighted as they are pronounced in the conversation.

197. R: Would that require that much programming?

198. O: No, it would not. It is certainly very expensive because it is an additional plug-in that you have to buy but it is lighter than the video with the translation.

199. R: The question is because nowadays there are lots of English teacher who design their own English materials. For instance, Carlos said I have some listening materials because I lived for many years in Australia, I made these recordings and I want to upload them on the internet, but what most of the people do is upload the listening files with some questions and that’s it. They have no idea about the design or about the basic elements that might be needed for the listening exercise or anything. So what this research intends is to provide those teachers and people in general who do not have any education related to the design, with some parameters or steps to take into account when you work a listening exercise. For instance, Carlos, who does not know that much about the internet, can have a sort of handbook so that he figures out that for a listening exercise he is going to need certain help options which should be displayed on the top of the screen. The subtitles would imply a little bit more of knowledge. Obviously, the engineers and the software designers do have such knowledge but an English teacher does not.

I have to take into account the two parts: the software designer and the teacher. That is why I ask whether it is very difficult or not.

200. O: Well, it is really difficult because the karaoke requires synchrony between what you are listening and what you are reading. When you are a software designer you are given a conversation for you to display it in a certain way. So as the video is made up of micro seconds, you have to program the video in a way that every time the progress bar cover a second or a micro second so does the listening text. I insist it is very difficult. If it was a commercial page, we could hire the appropriate person,
but for you to set a handbook, it is not possible
201. R: Do you mean it is difficult for a common person who is just passionate about the internet if he wants to do these things
202. O: It would be very difficult
203. R: So there would be a distinction between what you want to do and what you can do
204. S: I think it is difficult to try to come up with a design taking into account the knowledge of a teacher may have because knowledge may vary very much between users.
205. R: That is true
206. S: Anyway, a good design is a good design either you know about programming or not. The thing is that if you are making it on your own, the resources are more limited. I think it is less ideal to design based on what a person can do on a webpage at a certain moment. I mean, this is the ideal and these are the guides as you were saying before, for instance if the help options should be on the top or on the right, or so. That is a general guide that people can take into account when they are designing a website for listening.
207. R: Sure. They decide whether they want to incorporate it or not and how
208. O: For me, the topic is quite broad because nowadays what they sell on the internet are the templates. For instance, all of the blogs are exactly the same. What the user can change are the colors, the photographs, the comments and so on. So the template could be very broad and we could suggest some options which is what they do for projects that offer templates like the “Moodle project”, a very big educational project. They sell the templates, and the teachers who do not have that much knowledge about programming or designing they simply select, copy and paste the different photographs, texts and exams and the software is the one that organizes all of the information and uploads the work to the net. For the teachers that is kind of transparent, I mean they do not notice when the photograph is cut or why the page has a determined line. In short, for me it would be easier to design the format itself so that for a person who does not know about computers it does not turn into a chaos when they want to include a video or something because that implies edition, to know what dimensions you have to use and why, why you cannot include a very long video or in that format and so on
209. R: Thanks for the explanation. Practically, what we would be doing in here is a simple template, you are right. So what we are trying to decide now is how that template should be displayed. As we already have a clear idea of what we want in the design and the elements we need to incorporate, we need to start sketching the design on paper to weight up the possibilities we have.
210. Ja: Well, yesterday we said if it was possible for all of the help options to be displayed in a same square.
211. R: Again, if you have the transcript in here but the questions are covered. Generally, the transcript is associated to the translation, or the glossary is also associated with the words in the transcript, so what would you do in that respect? Because if you cover this [], I mean, there is the transcript but you open the translation and it covers the transcript. then...
212. C: I would open a different window which would give me the possibility to see any of the two options.
213. Ja: I think the windows should be moved wherever you want in case you want to open all of the help options which is not a common case, but anyway, if you
want to read the transcript, the translation and the glossary at the same time, you would have to move the windows all of the time for you to see them well so that the video would end up covered because there is not that much space on the screen.

214. R: Do you mean the video should be in that other place and smaller?

215. S: I think the video should be resized depending on the help options you open in order to have it available at all time, otherwise, in a standard size the video might be covered at any time.

216. O: I think we are missing the focus. It is all linked to the transcript, right? Well most of the options are linked to the transcript. the only help option that is not linked to the transcript is the listening tips because the glossary is according to the transcript, the same with the keywords and the translation.

217. R: I have a question. Some of you said you would use the transcript as a last option to push yourselves to understand. So, if everything is linked to the transcript if a learner does not read the transcript the other help options would be overlooked. Because you would be overlooking the keywords, the translation, the glossary and all of the other help options linked to the transcript. So, in a way you got rid of four help options at once.

218. O: well, I have not finished my idea. When the transcript is displayed, the keywords will appear in a different color. When you click on the glossary, it will be displayed in a different color. So when you click on the glossary, the whole transcript will be displayed with the keywords in it in a blue color for instance. When you roll the mouse over these words, a small window will appear. it is not a pop-up but a ‘tool tip’ we call it like that. It will be a small window displayed under the mouse with the translation, obviously in English. I do not know how possible it would be without the transcript taking into account that everything goes according to the exercise. If we want to see just the list of the keywords...

219. R: Did not we say the keywords would be on top of the screen?

220. L: The keywords are supposed to be always visible. I mean you do not need to click on the keywords for you to read them.

221. R: Exactly

222. S: So you say these keywords would not be on the top of the screen any longer.

223. O: Exactly

224. R: According to what you said before, when you click on the keyword for chicken for instance, that keyword would take me to the translation or to the audio, wouldn’t it?

225. S: We had said that only if we clicked on the glossary, I guess, but it would not take us to another place. There would be a drop down menu the definition for chicken, something like the bird that you can eat or whatever, and then you can close it again. The word would not take you to a different place but you will have the information in just one place.

226. S: I do not remember if that was what we had decided before.

227. R: Up to what I remember, that was what we decided.

228. S: That is how the glossary would work. the definition for the word in that specific context.

229. R: That’s right.

230. S: So you are kind of getting that information out of the glossary. The definition for the word according to the context in which it is being used.

231. R: Sure. You mean the keywords are somehow connected to the glossary in general.

232. L: Exactly

233. S: I have a question. The glossary is contextualized according to the video, isn’t it?
R: But we could also display it in a separate button.
S: I think the most important thing to think about is not where the glossary is displayed but if we would be able to access the glossary even when we are not watching a video.
R: That is what we need to decide because you generally access the glossary through the transcript.
S: Sure. That is because the words are always in a context.
R: Right. Anyway, we could display it in here[]. A general glossary with a list of words.
Ja: Why don’t we place what we have already decided and begin to play with all of this.
R: I agree.
Ja: We had said the keywords would be on top, right? Okay, let’s place what we have in here. What color will the keywords be?
R: It was supposed to be a simple square, wasn’t it? According to what I had understood, the option would not have any color. It was something like a square with one, two, three words, something like a table.
Ja: And it would be applicable to any situation.
R: So it would not be associated to any color, would it?
L: I would use the same background as in the video.
R: but what background would the video have?
S: Well, let’s say this[video screen] is the dark part of the video where the image is displayed and there is an edge which is this color, so I would say that is like an extension of the edge with the keywords.
R: Are you all in agreement with this?
All: Yes, we are.
S: I think if they all have the same color, you can associate they all belong to the video you are watching.
R: Okay. That is clear.
D: I did not understand one thing. Are the keywords going to be words or pictures?
All: words.
R: Because if they were pictures, it would be pretty difficult. So this[] is a picture… and this[] is also a picture.
S: They should be the same color…
R: Okay. What else?
L: the control buttons on top.
S: should this[button]be blue?
D: let’s say blue to begin for the buttons.
R: In what order would you display the control buttons? Throughout the screen, close to the questions or close to the video. Remember that you need to make some space for the home.
S: Let’s place the navigation bar which is permanent and another bar below which is the one with the functions. I do not know whether is looks that aesthetic to place one bar and another below. It might not look so attractive.
R: It might look a bit cramped. So how would we organize that?
O: the navigation bar will only have four buttons as far I as know. One for back, forward, home and the dictionary and we could fix it in there [top right corner]. For the bar not to be that overloaded, we generally display an image of those options that can be pictured, for instance the home option is always represented with a house, the dictionary option with a dictionary book and so on…
L: Maybe the home could go in a different color.
R: okay, you can take whatever you need. What do you have Sonia?
S: Well, the organization is not definite, it is just an idea.
267. R: Never mind. How many buttons do you have for the video?
268. S: There are the common ones plus the speed button to reduce the speed of the conversation
269. R: Okay. Are those designs like tabs or buttons?
270. O: As we will have two of them, so one button…
271. S: One button embedded in another looks a bit overloaded.
272. O: Right. They are too many buttons, so if we display them like flags the user will think they are over placed
273. R: This is the home option, what is this?
274. O: That is the dictionary
275. R: How can I know that is a dictionary?
276. S: I can write dictionary if you prefer
277. O: It does not have to be that visual. Maybe we could also display it as a roll-over menu so that we do not have it that visible.
278. S: sure. You place the mouse over the word and it says that is the dictionary or the home
279. R: okay. We have ‘home’, ‘dictionary’ and ‘about us’
280. O: ‘About us’ and ‘contact’, too. They are the most common
281. R: Perfect. Let me ask you a question. I am watching the video, I am interacting but I have to go to the transcript. Is not the transcript so far from the other options? Because I am interacting with the video, but…I do not know
282. L: We could move this [home to the right] menu in here [help options to the left] and this one in here [questions] as they are closer to the specific options
283. D: sorry, I have a question. Jose, do you agree with having the options displayed in a menu
284. Jo: I do not, but as we need to reach a consensus, then I have no option.
285. R: You were arguing that it was necessary to click so many times to get there
286. S: Are you talking about the location or the fact that they are all outside
287. D: The fact that they are in a horizontal way
288. L: you mean that if they were like this [drop down menu], it would be different?
289. Jo: if you had a button in there [pointing at drop down menu] which you always had to use, you would have to go always to the same place and you could locate it by the questions or wherever you prefer
290. D: the thing is that the people always tend to go to the top of the screen to surf the page and I know that the buttons, independently if they are on the top or at the bottom, they always tell me the exact location of the page where I am.
291. S: They allow you to navigate the page itself
292. Jo: Exactly, they allow you to navigate the page in a screen. I mean they do not take you to another place
293. D: They are somehow closer in case you need them
294. R: we also assume that if the transcript is displayed first, on top, people tend to associate with the relevance, hierarchy. I mean the option on top is the most important
295. D: It is not always the same
296. Jo: We had already agreed on the order of these options
297. Jo: We already discussed the order of the options and we said that in case it was like this [from top to bottom]…
298. Ja: We had said the last option would be the translation
299. D: I do not feel that if I read them from the top to the bottom it could affect. Maybe if the options were numbered or in a series of steps, then I would think they are like guiding me from one step to
another, but if they display them like help options, I may think the first option is this one so that we can start with transcript, then with this one and I can go from the left to the right. For me, they are the same. I do not know if it is different in the educational field but I do not see them in a determined order unless they are numbered or something.

300. R: I just mentioned it because in the first session someone said that if you display the options from top to the bottom, it would give the impression that they are arranged in order of importance.
301. Jo: I think you are cutting down too much space to the window.
302. S: Where?
303. D: In here. If you had just one button with a drop-down menu, you could use that space to open many more windows.
304. D: What if we locate the buttons on one side?
305. R: Where?
306. D: On the left side of the screen so that we can move the video a little. The buttons should not be that big but small. They do not have to be in a real size but enough to be read so that the screen space is not wasted. Anyway, that would not affect that much as the screen is always wider than taller.
307. R: Personally, when I see these buttons on this side of the screen, I have the impression that they are the general buttons of the web page.
308. D: That depends on how you locate this [the video]
309. R: I do not know. What do you think, Jose?
310. Jo: I agree with you because you watch the video and the buttons are associated with what you just watched. When you work on a web page, these [left side] are always the general buttons or the ones on top. The buttons on the right are the ones that give you access and allow you to work with everything.
311. S: At this point it is difficult to determine if the user will know where he/she is, I mean I know through this [help option] button I will manipulate something in this [questions] space and it will not take me to another page. If we do not know how the general page is designed because the colors are the ones that guide you even more when the tabs get darker, lighter or they change the color, that will indicate where you are. Designing this in an abstract way without knowing where you are going to be could be difficult. In this moment we are covering what is used to design a web page but depending on the color or on the frame and even more, if we had just a simple line like this…
312. Jo: You mean to separate. to include or exclude.
313. S: That line would tell you this is the web page and this is where you are in this moment and thus, is telling you these buttons are located in this space. So a simple color would indicate they are not to navigate in the page, but to manipulate the video.
314. L: I agree with that margin.
315. R: With that margin and the buttons on one side?
316. L: Yes, but small buttons. I know this is not the definite size but I agree with associating the buttons with colors so that you do not think that is a small screen and that is still the main menu. There should be color association.
317. R: What do you think, Elena?
318. E: I keep on with the idea to display the buttons throughout the screen.
319. R: Why?
320. E: Because it is easier.
321. R: Would that be in this [above the questions] specific place or throughout the whole screen?
322. E: Well, not throughout the screen because they would need to be very long as they are just five, so I do not know if I would locate them whether on this [left side] or that [right] other side, on the top to make it easier
323. R: Okay. What do you think, Maria?
324. L: On one side. Right where they are
325. R: They are okay in there. What about you, Javier?
326. C: They are okay where they are
327. R: Okay. What about you, Olsen?
328. O: I think we could use the same buttons in the way it is in here, or maybe change the way it is displayed by moving the tabs to this place. The screen could be a little bigger, obviously the buttons could be smaller and when I click here [on the cultural notes button] the cultural notes would appear. when I click on listening tips, it should appear the listening tips [in the main frame]
329. S: But you would not be able to open more than one tab at the same time
330. O: Would we need to open more than one tab at the same moment?
331. S: I think the possibility to have the transcript and the translation opened at the same time is very important.
332. O: That is manageable as far as the programming is concerned because when the transcript appears, it could be possible to open a small window or a small flag in English and Spanish. That is pretty feasible if the visibility is the concern. For instance if you are going to use pop-ups or windows that would imply that you need to open the transcript in English and the transcript in Spanish on some other place, I mean the translation. Anyway it is all the same, the only difference is that the translation should be associated with this other one because without the transcript I cannot access the translation.
333. R: What if you want to access the translation but not the transcript, would not that be limiting the user?
334. S: The transcript would be provided by default and then if you want to read the translation you have to click on a button so that the screen is split to read both of them. Or it could be in a different way in which you access the translation through the transcript but not vice versa
335. O: The thing is that they would be mutually excluding. if you need to read the transcript in any part of the screen for you to have a reference in relation with the Spanish text, that means that when you go to the translation you necessarily need to have the transcript opened otherwise, it would be the translation of what?
336. R: The transcript is normally displayed on a small screen with a small button in there [] which is the translation. But many people do not like it that way because the software is making them read the transcript before reading the translation. It is limiting the autonomy of the user.
337. O: But that is a logic process, you cannot translate something that you do not know
338. Ja: but the intention is that the user has all the freedom to decide
339. S: It is possible that a person wants to read the translation without reading the transcript.
340. R: That is true. In fact, there have been quite a lot of them. Some of the people who worked with the software said they understood but just wanted to read the translation to verify if what they had understood was right or not. They were not interested in the transcript because they were not interested in the pronunciation but just in the meaning.
341. O: Anyway that is quite general because there are several people who like to read both things at the same time, so we need to provide the two options. In that
case we could locate the translation in here and a little flag in the transcript, as well
342. S: I see. That is okay
343. R: I did not understand about the little flag
344. O: You provide the transcript and if the person wants to read the translation and the transcript at the same time, so there could be a little flag which would split the screen. If you want to read just the translation, it would appear a text in Spanish, then
345. S: You mean you would have the two options
346. R: but which button would you be displaying eventually?
347. S: For instance, when I want to read the transcript I click on the corresponding button and the transcript opens up. In the text, there would be a little button, something like a link for you to split that window so that you can read both the transcript and the translation in the same window.
348. R: That would be instead of a separate pop-up, right?
349. S: Exactly. I can access the translation in that way. Anyway if I want to access directly the translation, I can click on the corresponding button and the translation immediately appears.
350. R: okay, clear. What about the rest of the help options?
351. S: We said we could open different options at the same time, right? In the previous case we could go to the translation through the transcript and the other options can be accessed all at the same time or just one at a time.
352. R: Does everybody agree?
353. C: I want the keywords in here, or on one side
354. O: The keywords will always be on top of the screen
355. R: This [the title for keywords] would not be a button itself but a sort of title, right? So we would have to use a different color, otherwise it could be associated to this [to the help option tabs] one
356. L: but we are using a different color and these [key word button] buttons are clickable, so it would be better recognized if it is underlined indicating that it is something you can click on. I think we should not use the same color for the things that are clickable in this case
357. D: I think they should be as wide as the keywords
358. Ja: They should be smaller
359. R: what do you mean, Diego?
360. D: I think it is better to display the square we were talking about instead of a small title in the middle with the keywords
361. R: Should these buttons be located in the middle?
362. O: Not in the middle and not buttons, in fact. They are tabs the same size of the other ones. Obviously it is a little smaller. As they are tabs, the screen will stretch until there [top to bottom]
363. S: We forgot about the questions. Was there another button with the questions?
364. R: That is my question: where are the questions? When I get to this listening exercise, will I find a blank space without questions or instructions?
365. O: I think the first screen the user sees should contain the questions
366. D: So the questions should be below these [help options] buttons
367. S: No, the questions would be in a different tab
368. R: how come?
369. M: The video will appear along with the questions on one side from the beginning
370. S: When you first get to the exercise, you find the questions
371. R: Along with all of the tabs in there?
372. S: Along with all of the tabs, but the question will be tab themselves
373. R: You mean you would be able to hide the questions, as well
374. S: Sure. You know a tab is basically like a folder. When you get to the exercise, the questions will be in there, if you click on the cultural notes the questions will be hidden and folder with cultural notes will come up. The only two folders you can access one through another are the translation and the transcript...this is approximately the size for the tabs
375. R: It does not have to be that perfect. I just want to have a very clear idea of the design for the screen...we have a frame in here
376. S: When the tab is for the questions then the questions will come up. Do you have the feedback in there?
377. O: As the feedback is just a tab, we will be able to change the lay out for each tab
378. S: Sure. Every single tab is somehow independent
379. O: Right. They do not have to be that related between them
380. R: Okay. I have the questions in here. I need to have some instruction too about what I have to do. They would be displayed on a square, wouldn’t they?
381. S: Yes, they would
382. R: Then after the instructions the set of questions will be displayed, right? One, two, three, four, five questions
383. S: Then we could include a submit button or something like that for you to obtain the feedback, right?
384. R: Sure. A submit button and maybe a clear button too. Which other buttons would you need?
385. L: One button taking you directly to the feedback. It should say feedback
386. S: You need to submit your answers first and then you are provided with the feedback
387. L: That is right!
388. R: Okay. Where should we display the feedback?
389. L: Right in there [in front of the questions]
390. R: Right in front of the question
391. S: For instance, I have options A, B and C and click on submit
392. R: Let’s say you have one wrong answer
393. S: Okay. I click on submit and they provide me with all of the questions again but this time with a tick and a cross
394. R: And that’s it. That would be the feedback
395. S: Well, you could click on the wrong answers and they could explain you why they are incorrect
396. R: Is there any logo which we associate a wrong answer with? Because if they showed me just a cross, I would say okay it is incorrect but how could I know they are offering me some additional information
397. S: There could be something like a link, something that highlights in there. Or, depending on how many wrong answers you have, for instance if you have one incorrect answer we could find the way for the person to roll the mouse over the answer so that the explanation is dropped down
398. R: What kind of feedback would be better? One in which they just say the answer is incorrect or listen again
399. M: They should explain why the answer is incorrect
400. R: Well, should the explanation be through the speaker so that they tell you the answer is incorrect because so and so? Or should the feedback be in a written way?
401. S: They could be like clues
402. R: In an oral or written way?
403. M: I’d prefer to be written
404. All: In a written way
405. S: It is a listening exercise, so if it is in an oral way I would not understand
F: Exactly
R: That is exactly what we need to decide
Jo: If you failed in the listening exercise, how would you do to understand the feedback?
S: If you do not understand the basic things, how could you understand the feedback?
R: Well, I ask because there is a kind of feedback in which they just display a speaker for you and when you click on it, they take you to where the answer is in the video. For instance, the question is how much was the chicken? And they take you to the part of the video where they say the chicken is fifty dollars
D: I think it is better if the feedback takes you to the part of the video where the answer is
R: Do you prefer to be taken to the part of the video where the answer is, to be provided with the explanation or what?
L: I think all of them are okay
D: Sure. They should give you a brief explanation and then the button could take you to the part of the video where the answer is. I am not sure about what the explanation could say. It could be something like pay attention to the moment in which Mary sits down so that you can focus on that specific part. I do not know if all of the videos would include a similar explanation. Anyway, they should explain you something and give you the option to go to the part of the video with the answer
R: You mean both of them: a short explanation and take you to the specific part of the video to confirm
L: There should be a little speaker indicating the feedback
R: I have a question. You said this was a series of tabs and you also had a series of tabs on the top for the home, dictionary and so on. If the person wants to access that dictionary, does he/she have to leave?
O: No. The dictionary will be always visible in here and it could also be a pop-up
R: How can you display a dictionary in a pop-up?
O: Generally, we include the dictionary and the rest has to do with programming. As you are typing the letter some options drop down, you double click on the word and another pop-up appears containing the meaning, or the window can be widen
S: It is as if the data base was concentrated in that pop-up, right?
O: That’s right
S: Because the dictionary could be used for the listening, reading, writing etcetera, and it gives the impression that the dictionary is above this page, that you can use the dictionary for this page but also for some others.
R: Will we display it in here [top right corner] or where?
S: I would say it is okay in there [top right corner] because we already have the tabs on that side, so we can balance the page a little
R: Here we have the tabs. I read the questions and then I click on the dictionary, where does the explanation appear?
L: As it is a dictionary, you are going to read a chunk of something, right? So it will be displayed just on one half of the screen
R: if I am reading the questions and I find the word notes and I want to know its meaning, when I open the dictionary, will it be displayed full screen?
S: Well, the window might cover the screen but it does not mean you cannot move it
R: It is just displayed in there [] like a pop-up
361. S: Right. It is displayed but if you need the space, you can move it wherever it suits you better.
362. O: I think it should be displayed over the video because if you have a question, and if you are in an advanced level, you have to pause the video because you have a doubt and I am not sure, up to what point it is possible to keep listening and trying to look up the meaning of the word and then read the meaning of the word at the same time. I think you totally miss the focus of the listening exercise.
363. E: Sure, because it would be reading, listening, all the same time.
364. O: Exactly. So when you use the dictionary, it is because you really need the meaning of the word and the priority is the dictionary not the audio.
365. R: What if we display the dictionary as something fixed instead of a tab?
366. Jo: Do you mean something like a small window. Something like Google.
368. O: The thing is that the dictionary is quite general.
369. M: Right. It should be outside this screen.
370. S: Unless the page for the listening, the reading and the writing are the same, so you could have the same dictionary in there.
371. R: My last question. What about this order?
372. S: didn’t we define it last week yet?
373. C: Yes, we did.
374. R: Well, we did discuss it last week. we agreed on the translation at the end but the other help options were yet to be defined.
375. E: didn’t we decide yesterday that the cultural notes were not necessary enough to be placed in a button?
376. Jo: No, we did not. We were talking about the listening tips.
377. E: No, they were not listening tips. It was the cultural notes because it is in there where they tell us that the person speaks in a certain way and so on, and that could confuse the student.
378. R: That’s right. We said it was not that necessary for the basic level because they were beginning to learn the language and that would be like bombarding the student with so much information at the same time.
379. M: It was so hard to distinguish the different accents and all of that.
380. O: I consider that any beginner already knows about the accents and all of that.
381. R: well, we already have the questions. What would be the order for the rest of the help options? You had said the translation was at the end along with the transcript. So the decision is between the glossary and the cultural notes.
382. S: what about the listening tips? We said we better discard the cultural notes.
383. R: right. At least for the basic level.
384. S: well, I would say the questions first, then the listening tips, then the glossary, the transcript and the translation.
385. R: That’s it?
386. E: Why don’t we replace the cultural notes for the dictionary?
387. R: you mean to display it in a button?
388. E: exactly. I do not know how feasible that is.
389. R: how would that be?
390. E: Well, as the cultural notes are not included, then there could be a place for the dictionary button.
391. O: The problem is that when the student advances to the next level, the dictionary would be occupying the place of the cultural notes which would be necessary for that level.
392. L: So we had better decide a fixed place for the dictionary because it has to be in all the levels. I think it would be okay outside the page.
463. R: You said the dictionary should be in here [], right?
464. S: that’s okay. By the links for home, about us and contact
465. S: That’s right. That [ ] would be like a general bar and this [ ] would be like a submenu
466. R: okay. These are the help options you decided for the basic level. What about for the advanced level? Would you keep the translation option?
467. Jo: No, I would not. what for?
468. R: why not?
469. Jo: because it is the advanced level
470. O: I agree. We might keep just the keywords option
471. Jo: Exactly
472. R: what would you change from the basic level to the advanced level?
473. L: I would remove the translation and place the cultural notes instead. I mean we could move this bar over there so that the translation disappears giving place for the cultural notes. There would still remain five tabs
474. R: What do you think? Would the speed button be necessary for the advanced level?
475. All: No, it would not
476. L: Because the words that tend to confuse you the most...you end up understanding them through the context. You can be a very proficient speaker but anyway there are certain words that you do not catch.
477. Ja: For instance if it a listening exercise in which the people talk too fast
478. S: Right. For example if you are listening to a Scottish person, you can be very proficient but anyway you need the person to speak a little slower
479. R: So, would you keep the speed button?
480. O: I think we should keep it
481. R: Do you all agree?
482. All: Sure

483. R: okay, we keep the speed button and what about the keywords for the advanced level?
484. Ja: You mean the option in which the words are highlighted
485. O: I think that no matter if it is an advanced level. The single fact that it is educational software implies that new vocabulary is incorporated. Obviously, they are not going to be the same words hello, chicken, or something like that but anyway they will be much more complex words
486. L: The keywords for the advanced level would be for instance idioms or abbreviated words
487. S: Maybe slangs…
488. R: But then the option could not be called keywords but idioms because the keywords are different from the idioms
489. S: But anyway they would continue to be keywords. The key words that the people are using in the conversation no matter if they are colloquial or not, they are using them in the context.
490. R: When we open the transcript, it shows you some words with a link which take you to the glossary. Also, I can access the glossary through the keywords, right? Wouldn’t this order affect the way you work the exercise? Because if the glossary depends on the transcript, for me the most logical would be that the transcript was in here and the glossary in there. Those two options should be always associated. That is my opinion. what do you think?
491. S: It was similar to what happened with the transcript and the translation in which you could jump from one to another because they are linked
492. O: But the thing is that the glossary is like a small dictionary, right?
493. R: Right
494. O: We could also organize them in the same way. I mean, when you are in the glossary you can also access the transcript
but the glossary continues to be a highlighted word. It would be easier as afar as the programming is concerned. we could display the meaning and a small dictionary
495. R: Should the cultural notes be displayed in this order? We are talking about the advanced level. Is it okay the questions first, then the cultural notes, the listening tips and all the same? we did not have the cultural notes for the beginner level. We just removed the translation and placed the cultural notes instead, but is that an appropriate order?
496. Ja: If the person just advanced from the beginner level, he/she already knows what the listening tips are, so it could appear in here and there is no problem
497. R: We are talking about students from the advanced level. The listening tips have been displayed according to the level one, level two and so on. Are these listening tips necessary for the advanced level?
498. S: I think they are
499. M: I consider it is the same as with the keywords. The only different is that the level is more advanced.
500. R: Well, if you think about the strategies you learn to face a listening exercise. Apart from four or five different things, the listening tips will not vary according to the level. I mean, in a basic level you are told to figure out the general idea and it is the same for the advanced level. In the basic level they tell you to figure out the specific ideas and the same in the advanced level.
501. O: For me, that would be to limit the user to start from the beginner level and what if he/she is in the advanced level and wants to use the software?
502. R: That is a good point. So should we keep them or remove them?
503. All: Let’s keep them in there
504. R: Keep them in there
505. Jo: Anyway, they do not disturb
506. L: Exactly, they do not take up space on the screen or something like that
507. R: So the order would be first the questions, then the listening tips, the transcript, glossary and the cultural notes, right? We have not decide yet on the cultural notes
508. L: didn’t we locate it in the second place? It was cultural notes and then the listening tips
509. E: The cultural notes for the advanced level should contain more relevant topics for you to focus better
510. R: So the cultural notes in the second place?
511. C: Yes, it is okay in the second place
512. R: Okay, perfect. That is all what I need
513. S: and maybe this could be a good one for the beginner level
514. R: Okay, but please do not mix it with the other ones. Well, I think we already have an approximate idea. I need to have the design clear for me to work in on the computer screen and show it to you in a week, okay?
515. M: We did not talk about the instructions for the video
516. C: They will be along with the questions
517. R: Right. They are displayed along with the questions. They say the situation is this or that, listen to the conversation and that’s it, okay? Are we all in agreement with what we have discussed? Or it is just that we want to go now!
518. R:Let’s finish here. Thank you very much. Take care. See you next Saturday at eleven.
APPENDIX H: DATA ANALYSIS PROCEDURES
H1. A sample of the audit trail

Reflections on data collection for Study Two

Theory about qualitative research suggests that solid and transparent research is always backed up by an audit trail. Keeping this audit trail has been in the back of my head since I collected data for my pilot study. There are so many things that at the time I thought I would incorporate for the main study, but right now I have only vague ideas. Definitively, memory is not to trust, especially when there is a two-month-baby yelling for attention and food all the time.

Oct-27-2008

Today I met the head of the department and we talked about the viability to have an office assigned for data collection. It seems that although she wants to help, there are not many chances to get any room allocated at this stage because the university is undergoing a huge construction work. Teachers have been reassigned offices and in one of them there are even 5 desks! She suggested that I needed to talk to the dean of education, but again, although she was very willing to help, there is not much she can do about it. She kindly offered me an office they use regularly for meetings, but the place is completely booked out, except for Tuesday & Thursdays after 3:00. The problem I see with using this room is that I would have to schedule students who could only attend on those days and that would limit the students for my selection. I don’t think that just by using those time slots I will have enough time to have 12 participants come to three different sessions. At this point I have no room to collect data.

Oct-31-2008

I am still looking for a place to collect data, but it seems I will not be able to do it at the University campus. I have two possible solutions, renting out a café internet for the hours I will be interacting with participants or just using the studio we have at home. I am aware that by renting a café Internet I might experience some disruptions with the Internet and that’s what worries me, moreover, I don’t know how many extra “disruptions” I would experience. I have no control over those…What if habitual costumers get in the middle of the data collection?

Nov-3-2008

After carefully weighing my options, I have decided to adapt my studio so that I can collect data at home. It would be much more convenient for me and the best thing is that I can take full responsibility of the possible shortcomings I might experience. All I need to make sure is to schedule participants when nobody is home.

Nov-4-2008

I requested permission to the head of the modern language department and to the ILEUSCO director so that I can post the ads inviting participants to join my study. I selected key places such as the bulletin boards of the Modern Languages department, the library, and the ILEUSCO. I was quite reluctant to give away much information about the study, because I would like to find participants really interested in helping out.

Nov-9-2008

It has been almost a week since I posted the ads, but not even a single potential participant has called to inquire about the study. I had someone check if the ads had been removed from the bulletin boards, but apparently they are still there. I don’t understand what is going on and why people are not willing to participate even if I am offering them good money for compensation. Is it because they are about to start midterm week?

Nov-12-2008

I talked to the director of the Modern Language library and he suggested I should go to the classrooms, talk a bit about the study and then select my participants, but I don’t think that’s such a good idea. I don’t want all my participants come from a single classroom. Moreover the selection process would demand a lot of time and that’s something I can’t afford right now.

Nov-13-2008
I was lucky to find out that some of the current English instructors used to be my students at USCO or co-workers at a private language institute I worked for a few years ago. I asked Morella and Yelitza to help me find students who were articulated enough to answer questions from a reflective interview and that it was not necessary for them to be excellent language learners. Morella suggested three people and they seemed interested in participating. Yelitza also suggested a couple. Three of them are already scheduled for Saturday. I briefly asked the participants and what I like the most is that they all come from different programs.

Nov-15-2008

I forgot this is South America!!! There was no electricity all morning long and I had to reschedule two morning interviews I had planned for today. I like Cindy, one of the participants for the third level. The only thing I don’t like is that she brought her dad along and he kept asking questions. I had to ask my brother to take him out, so that I could interview her. She is already 18!!!

Nov-17-2008

I am not using the same language of my participants. Otherwise how can I explain the fact that at this point I have only interviewed one person? In fact, I feel as if they consider me as an outsider, when I am just one of them. Gosh!! I should not have presented my research paper. I guess I sounded way too pretentious when they asked about the results and all I told them was that I was not authorized to disseminate them, because that could contaminate my new data collection. I guess, back home we are quite used to the “I will tell you, but do not tell others I did it” and that’s the price I am paying at the moment. Perhaps, they are right, I no longer belong here.

After weighting all my options, I finally asked one of the tutors from the library help me locate participants. He seems pretty easy-going and just the kind of guy everybody likes. I gave him my contact information and asked him to help me find people from different programs and from different proficiency levels. Of course, I am giving him some monetary compensation for his work.

Nov-18-2008

Uriel contacted me and told me some people wanted to talk directly to me. We met for coffee at the University cafeteria. From the meeting I have some people schedule for the rest of the week. I also happened to run across a former student of mine who is currently enrolled in English IV he was with his girlfriend. I guess he accepted to participate because I clearly insisted too much. The good thing is that at least I see things are actually happening now.

Nov-19-2008

Again, some of the people that had agreed to come cancelled at the very last minute. One of them was one of the guys who also cancelled on Saturday. I just simply told him that it was better to give someone else the chance to participate in the study. I have a total a nine people at this point, but I am not sure if all of them will be in the final study. I would like to make sure they fit the selection criteria I have set up for the study.

Nov-20-2008

Data collection is going well, but I need to make sure the participants files are all recorded in the same folder. After collecting data today, I was going to back up data and I just could not find the recordings…I felt so relieved when I found them in a different folder in the recorder…

The data collection has been intensive these couple of days, but it has to be this way because I have to leave a week off just in case something happens. With Vladimir I am just getting yes/no answers although I keep insisting that he needs to support his answers. What can I do???

Nov-24-2008

I already started the second round of interviews for some participants, but I am still missing participants for level 4. I am starting to see patterns somehow, but I wish I had more time so that I could review all the recordings from the first phase, before starting the second one. I am just briefly jotting down things I would like to ask the participants or things they need to expand on. Mayra Charry called and she said she will no longer be able to participate. What a pity, from level 2 participants she
seemed to me one of the strongest. Moreover she had that ability that lawyers have to argue things in an articulate manner. I need to find someone else now.

Nov-27-2008
I messed up big time today!!! I forgot to set up the Camtasia for the first part of Ximena’s session. What hurts the most is that she is one of my most articulate participants of the study and if the data is not complete I would have to leave it out. I don’t know how ethical that is, but I invited her to come for an extra-session. I guess at this point that’s my only option… whether I keep her data in my final analysis that is something I can decide later on with Gruba. For now, I will make sure she has three sets of data.

Nov-29-2008
I finally have the last couple of participants for levels 2 & 4 respectively. If everything goes as planned I will finish data collection right in the time frame I have allocated. I asked two participants (Vladimir & Mauro) not to come again. Their opinions were quite scanty and limited so what’s the point of having them come all the way here and waste their time? It is Saturday afternoon and I almost had to cancel data collection for today. One of my neighbors was quite noisy. They were playing music loudly.

Dec-03-2008
Three out of the four participants who are already in the third phase of data collection have not given many suggestions regarding help options design. That’s kind of weird because in the pilot study people had lots of suggestions. Is it because they do think the software is that perfect? Or perhaps because I don’t give them much time to explore the software freely and focus just on that aspect?

Dec-04-2008
Luis was quite curious when he saw me stopping and setting up the Camtasia for the study. He kept asking all these questions, but I did not want to tell him everything because I did not want him to change his behavior. It was quite annoying. He kept looking at the program and asking questions. I told him that I was not doing anything different from what he had agreed. I had him work through out the exercise and when he was done I handed him a copy of the ethic form he had signed up. I am sure he was not that pleased because he wanted to know on the spot what was happening and I delayed the explanation until he completed the entire exercise.

Dec-05-2008
It worked. I decided to split the third phase of data collection in two main parts. In the first part, I provided participants with paper and pencil and asked them to freely explore the listening exercises they had worked on and jotted down aspects they liked and aspects they would change about the software. The results are much better now. Some of them have even written full pages with their suggestions. In the second part I did the stimulated recalls. It is funny to see their reaction when I tell them that I was using a screen capturing device to keep track of all the work they do. They seemed not to have read, or at least, understood the ethic forms they were given on the first day of data collection.

Dec-07-2008
From the three participants working on each of the four levels, I can identify at least one that I can translate for the main study except for participants in level 2. I am a week before leaving the country and at this point it would be hectic starting from 0. Luis did not offer much, Mayra quit, Vladimir never showed up again….The only one person I have is Anna, but she is not giving me much. She seemed a bit shy during the first part of the interview, but on the second part she had a lot more to say. I am not sure if it is a matter of shyness or that she does not have much to say.

Dec-09-2009
I had Anna working with three exercises in one session instead of two. It seems that as times goes by and she gets more familiar with the program she has got more to say. I think I am pushing her more than all the other participants. Is that ethical? Or should I just keep the data I have so far and forget about it? I guess if after talking to Gruba I find out that it is not that ethical I can leave the data aside, but what if that could have been possible to do and I just miss the chance to have comparable data?
Dec-13-2008

Today was the last day for data collection. I am backing up all my data and making sure everything is labeled correctly. Gosh, now that I look at it in retrospective it was a really tiring activity. Finally time to rest and not to look at data for a month, until we get back to Melbourne. I reckon I am a bit more satisfied with my role when collecting data for this main study. Now that I think of it, there are several things I did differently this time:

I became more systematic and kept better track of every-single activity students worked with. I included a date, recording number, activity number and some additional information to help me locate and retrieve data easily. I started an audit trail to keep track of the decision I made before, during, and after data collection.

I led the interview in a less intrusive way. In the pilot study I kept paraphrasing the participant's responses and when transcribing this was annoying. Moreover, some of the recordings from the pilot show that in a way I was leading participants to tell me the answers that I wanted to hear. The way questions were formulated this time show more objectivity, although they are not completely neutral and a shade of subjectivism can be perceived in the recordings. I still have some problems with biased questions, however, it is not as strong as it was in the pilot study.

I encouraged participants to think more carefully before answering the questions. In a way, I pushed them to think harder and confronted their answers to previous answers to find consistency in their arguments. Thanks to the audit trail I was able to determine that when students were asked to think on their feet about suggestions to improve the software, the answers were shorter and in a way more superficial. After providing participants with pen & paper I got more thorough answers and more insightful comments. Moreover the notes they jotted down become additional data to look at.

I listed the help options and made sure students gave me their comments on each one of them. I noticed that for the pilot study lots of help options were not even mentioned in the interview and some reasons were not fully explored, so data seems incomplete or just not worth of analysis. Students also assessed the way help options could be used by learners from different proficiency levels. Advance learners were asked to reflect on their previous experience when learning English and beginners were encouraged to hypothesize about forms they could be used/non-used to improve learning outcomes.

I learned that the participant's intrinsic motivation for learning English plays an important role in the use/non-use of help options. As learners are immersed in the language, they do know that what matters at the moment of communication is to get the meaning across. This might be a reason why ESL learners tend to neglect help option use. At all cost they try to mimic real situations where people don't have access to help presented in the form of dictionaries or glossaries, instead they rely on other external clues such as gestures.

Reflections on data analysis Study One

April 8th

I decided to leave the data for the main study aside and I am just focusing on the data of the pilot study. I have been coding the data from my pilot study. The initial coding is set up by help option. That's all the participant's comments that refer to transcript are grouped together, all the ones that refer to cultural notes are together and so on and so forth. I have been playing around to see how tree nodes can be set up and I already did the one for transcripts which is the one which has the biggest number of references. I distinguished the references between use/non-use. I have been thinking about creating some smaller categories, but the thing is that the data is not that big that I can get lost. I have read several times the "references" under each help option, but still I can't envision how those answers can help me build up the framework I am proposing for my study. Is it that I am working all the way around? Should I identify both the SLA principles & multimedia learning principles first and then match the data to them or should the principles be reflected in the data? Lost!!!

I have also noticed from the data of the pilot study that I was not systematic enough to ask about all the help options. I completely neglected listening tips and video and somehow left aside translations. I
mostly focused on transcripts, cultural notes & feedback. With that limited data is it worthy to build up a framework out of it?

I have also looked briefly at the data for stage two. I focused on the prototypes evaluation document and can see that I need to make some changes:

For the main study instead of having participants evaluate the sequence of help options the first question to ask is what help options they believe need to be included in a website for listening.

When making the paper prototypes I need to make sure that the location of every single element in the prototype is fully backed up by the students’ opinions. Each element needs to be glossed and explained. A deeper analysis of data elicited in the interviews need to be done prior to setting up the stage 2 data collection.

Another issue I need to incorporate for data collection for stage 2 of the main study is increase the number of sessions people meets. Phase 3 needs to be longer and I need to allocate at least 1.30 hours for that session. Additionally I need to use the rapid prototyping technique to expose participants to a closer idea of the final product, so that they can also comment on it.

April 20th

It has been almost a month since I last talked to Gruba and I don’t feel I have done much. I am still coding data from my pilot study. I read more about how to code properly because I was pretty sure I knew how to code, but once I started I felt I needed to go back to the books for some guidance. I decided to stop and let the data coding “rest” to see what happens when I start looking at it again. That is called internal consistency. I am sure that things will change. I have been talking to people using NVivo about their experience with the software and what most people insist on is that I should spend more time with my data alone, once data is coded it becomes dry and one can’t hear the voice behind it. I need to make sure I create my themes first and I see how those codes relate to each other before I “get seduced” with NVivo... I followed Gruba’s suggestions regarding updating the audit trail and keeping track of my decisions. I know I want to use the data from my pilot study to start constructing the framework, but as much as I look at the data I can’t see the emerging themes. Would it be Ok to keep insisting with the data from my pilot?? Or I am just simply wasting time. This idea of having faulty data keeps bouncing back in my head.. faulty? Yes, because I was not systematic enough to ask about each of the help options available. But then I make up my mind and think that there is nothing I can do about it at this point and that I just need to deal with it and work with what I have. Again, that restrains me from collecting the missing data I have for my main study…and I don’t know how long that can be postponed. To assess how much the pilot study could help me, I made a list of gains from the pilot study and they are mostly methodological in nature…but I don’t want to go into data collection for stage 2 unless I am completely or at least 80% sure that I know that out of the data I will be able to build up the framework.

At the TWC they keep insisting that the research questions may change and that once themes emerge out of the data or something interesting appears out of it, one could steer in that direction, but for me it the questions guide pretty much everything… Is it that I am still in the mindset of a positivistic researcher instead of a naturalistic one? Should I be more flexible and stop worrying about those questions? I see there are lots of things I want to do at the same time, but I have not decided which one I want to pursue at the moment.. why so? Perhaps because I am feeling lost, but I know that once I get back on track things will start flowing fluidly. The most difficult part is starting…. I will go ahead with my previous idea of trying to answer the questions just with the data of my pilot study, to see how from my interpretation of results can lead me to the construction of the framework. That would also help me for the paper I intend to write for the special issue of CALICO. I think that even if the paper is not accepted, I can get the feedback from the reviewers and feed all their insights back into my final thesis. So, the paper becomes and mini-version of my thesis. I need just to stick to this plan, but for that I will start listening to all the recordings and reflecting and making notes and memos as I should have done it before.
May 1st
I have been writing Memos directly in NVivo, but I have not been able to figure out how to link a Memo to more than one source. It seems a Memo is just a separate document/or source and it can only be associated to a node. I wish I could link my reflections to the specific areas that arouse such reflections. The other way to go is by using the Annotations tool….but all those reflections will be scattered all over the program and I would like them to be grouped in a single document. I noticed that I need to keep better track of changes I make to the Memos because I am not including a date to remind me when they were initially written and how they evolved.

May 6th
In the last couple of days I have been working with the codes I created. At first I had a list of 43 codes and now those have been reduced to 34. Still too big!!! I am keeping a Word document (list of codes) to track down the changes in my coding scheme. After reviewing each code I classified them into five main categories: Design & multimedia principles, SLA principles, learner factors, ELT principles and research methodology. I know the four first categories will feed back directly into the write up of my thesis, but the category on research methodology is just a series of recommendations I need to follow to collect data for stage 2 of the main study. Design and ELT principles relate somehow because they deal with teaching and materials. SLA principles deal with learning. I see ‘learner’s factors’ as the bridging category between learning and teaching because the ‘learner’ becomes the center, the one who benefits from both. It is interesting to see how the codes relate to each other and sometimes overlap in those categories…. which I guess is normal because one as educator can not isolate learning theories from teaching. They complement each other. The view one has regarding how languages are learned reflects the way one teaches. The categories were taken out of the codes deductively. Although they could have been extracted inductively as well, but I would have to be more aware of what I wanted to find, here they just emerged.

I renamed and defined the codes. The definitions clearly reflect the samples that are included in the data. Again, this was done deductively. I decided not to define each code using NVivo because I found it much more tedious and cumbersome to change if new ideas come. I have a list in a Word document instead (code definitions). I had no problem defining the codes that do not relate directly to the help options. This problem points to the need to look thoroughly those codes and break them apart into existing codes or new ones. I also need to start creating the three nodes to see some type of hierarchical order.

I also started using the classifications, sets and query functions in NVivo. Now I am seeing some of the benefits of using that software…. they will become handier once I start the write this, I would need to research more about participant’s roles and all that. ..Some day!!!

June 20th
This is just a list of things I learned while writing the paper and dealing with NVivo. I better keep track of them otherwise I will forget them:

Data needs to be ready BEFORE it is actually uploaded in NVIVO. I learned this the hard way but that’s one of the purposes of the pilot study. This entails:

Checking ALL the ‘here’ & ‘there’ and ‘this’ & ‘those’ in the translation. Compare them with the video and properly annotate them.
proof reading the translations in paper.
Getting rid of Ok, umms and ‘err’ that interfere with the flow of participants’ intervention. (Lisa’s and my own case) and that alter text units numbering
Numbering participants interventions and checking that when transferred in NVivo they do not change.

WHILE working with NVivo I need to remember that:
Queries need to be saved as projects otherwise every single time I look for something I have to set up the query again.
Changes made in a source document will alter coding.
Using the Ctrl+Z shortcut undoes everything I do in the last 15 minutes not only the last action as in Word.
Saving the project with a different name will help me visualize once major changes have been made.
Taking screenshots of coding schemes help me keep track of how coding evolves (The article Gruba sent me clearly describes the reasons why)
Defining codes, printing them in Word and having them on my side help me focus coding without having to check and re-check the definition in NVivo.

When interpreting results
I need to find a systematic way to enhance trustworthiness of my interpretations. Writing an idea, checking what participants agree with it and who disagrees with it. Finding negative cases and all that is quite time consuming, unless I find a way to withdraw pertinent information easily. The same goes for data triangulation of the same participant over several sessions. Perhaps I need to isolate the interventions of each participant and code them as individual cases in data obtained through focus groups. I will need to try this out.
When WRITING the report
I also need to print the complete data set with the numbered text units report. Other way it will take me a heck of a time trying to identify each text unit from NVivo

July 12, 2009
Having learned my lesson from the pilot study, I have been basically preparing the text to be uploaded to NVivo. I can tell for sure now that the translations are ready, ordered, properly named and numbered. I started coding only aspects that have to do with design. For that I used the coding scheme I used for the pilot study as can be seen in the picture below. It seems at this point that the students’ opinions do not give enough comments to build up the paper prototypes. Anyway, it seems I will have to rely on the prototypes I created for the pilot study and on the software. Should I actually give them prototypes? I don’t feel I am actually using the suggestions given by participants in the pilot study on not to guide learners towards design. Should it be just exploratory as they once suggested?
Think through.
I started the thesis Write-up. It might be ambitious to do it this way, but I feel this gives me a clearer picture of what I have at this point, what I am missing and what to head for. So far, I have an incomplete theoretical framework, an introduction in progress, undecided questions for the pilot study, an incomplete research methodology. In a word, I will be starting from scratch.

October, 15 2009
Wow!! It is October already and I have not updated this audit trail. I have made lots of decisions regarding who I interview and who I don’t. I will try to reconstruct it.
After a month of postponing data collection I finally have a group made up by 4 language learners and language teacher, a software designer and an interaction designer. As much as I tried to follow the suggestions steaming from my pilot study, it was simply impossible to cover everything I wanted. The software designer, Omar has some experience designing for learning environments, but none for language teaching. Although, he as a language learner is familiar with software such as Longman English Interactive, English Discoveries and English Town, he has never designed for language learning. That’s a good start because his ideas are not solely based on his opinions but in experience as an user. Sonia, the interaction designer has only dealt with design of a website for reading for ESL learners. So, she is not completely aware of what computer based listening requires, but she has some experience in that regards. Rosa has never used computers for language learning. Jose has used a lot of
websites to help him prepare for his IELTS, moreover, his background as a visual designer will contribute to the group.
### H2. Study One-Open code definitions

<table>
<thead>
<tr>
<th>Challenge as prerequisite for learning</th>
<th>Participants’ perceptions and ideas on how learning takes place only if material to be learned is beyond their proficiency level</th>
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</thead>
<tbody>
<tr>
<td>Design for advanced levels</td>
<td>Help options that should be included in the design of computer based listening exercises for advanced learners of English.</td>
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<tr>
<td>Feeling</td>
<td>Participant’s feelings while doing the listening exercise.</td>
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<tr>
<td>Goal</td>
<td>The participant’s goal when doing the exercise and how a goal is changed by accessing or neglecting a particular help option.</td>
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<tr>
<td>Help options and learning styles</td>
<td>Availability of help options to cater for different learning styles</td>
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<tr>
<td>Listening strategies</td>
<td>Students meta-awareness of strategies that helped them understand the aural text easier</td>
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<tr>
<td>Real life tasks</td>
<td>Instances, examples and comments when participants relate the use of help options to daily activities</td>
</tr>
<tr>
<td>What is listening</td>
<td>Participants’ perceptions regarding what doing a listening exercise entails</td>
</tr>
<tr>
<td>When help options can be used</td>
<td>Instances and situations when help option use is considered appropriate by participants</td>
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<tr>
<td>Working memory capacity</td>
<td>Instances of help options use to compensate for capacity to retain information for short periods of time</td>
</tr>
<tr>
<td>Information overload</td>
<td>Inability of the participants to use help options because there are too many options to choose from. (too many options)</td>
</tr>
</tbody>
</table>
H3. Study One and Study Two-Reasons for use/non-use by help option

Codes for dictionary

- Reasons to use a dictionary
  - To broaden knowledge
  - Accuracy purposes (grammatical and lexical)
- Reasons for not using a dictionary
  - Distraction tool
  - Incompatibility between dictionary and listening tasks
  - Challenge to deduce words from context
- Preferred types of dictionaries
- Dictionary location & accessibility
  - Spelling issues

Codes for glossary

- Reasons to use the glossary
  - Quick access tool
  - A springboard for learning
  - Springboard for dictionary use
- Reasons for not using the glossary
  - Slows the process/ incompatibility with the listening tasks
  - Challenge to understand meanings from context
- Glossary location & accessibility issues
  - Embedded in the transcript

Codes for transcripts

- Reasons to use the glossary
  - Improving pronunciation
  - Similarity with real life tasks (watching video subtitles)
  - Spelling purposes
- Reasons for not using the transcript
  - Change in goal: listening becomes pronunciation
- Challenge not to mix language skills (Reading)
Transcripts location and accessibility issues
  ▪ Need to be highlighted

Codes for cultural notes
  o Reasons for using the cultural notes
    ▪ To broaden knowledge and context
  o Reasons for not using the cultural notes
    ▪ Lack of familiarity with the concept
    ▪ Lack of relevance for text comprehension
  o Cultural notes location and accessibility issues
    ▪ Located in a frame that disappear when questions are scrolled up

Codes for listening tips
  o Reasons for using the listening tips
    ▪ Curiosity
    ▪ Guidance
  o Reasons for not using the listening tips
    ▪ Lack of familiarity with the concept
    ▪ Lack of relevance for text comprehension and test completion
  o Listening tips location and accessibility issues
    ▪ Location problems

Codes for audio control buttons
  o Reasons for using the audio control buttons
    ▪ Challenge to listen as many times as possible
    ▪ To overcome working memory capacity issues
  o Reasons for not using the audio control buttons
    ▪ Preference to listen to the complete text
  o Audio control buttons location and accessibility issues
    ▪ Technical problems
    ▪ Lack of progress bar

Codes for explanation
  o Reasons for using the feedback
    ▪ Error correction
- Opportunities to access salient input
  - Reasons for not using the feedback
    - Lack of relevance for learning
    - Instructions not meaningful
  - Explanation location and accessibility issues
  - The logo is not meaningful

Codes for translations
  - Reasons for using the translation
    - Reliance on mother tongue
  - Reasons for not using the translation
    - Schooled not to use it
    - Incompatibility between translation and listening tasks
    - Challenge to deduce meanings from context
    - In upper intermediate levels admitting defeat
  - Translation location and accessibility issues
    - Embedded in the transcripts & cultural notes

Codes for interactive images (video)
  - Reasons for relying on images
    - context
  - Reasons for not relying on images
    - Familiarity with context
    - Type of tasks (Listening challenge)
  - Location and accessibility issues
### H4. Study One and Study Two- Definition of themes and factors

<table>
<thead>
<tr>
<th>Theme</th>
<th>Factor</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance</td>
<td>Test comprehension</td>
<td>Whether and how, the use of a help option facilitates the understanding of the aural input</td>
</tr>
<tr>
<td></td>
<td>Task completion</td>
<td>The degree of perceived relevance of help option use for completing comprehension activities</td>
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<tr>
<td></td>
<td>Language learning</td>
<td>The notion that the use help options is conducive to improving other language skills or sub-skills</td>
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<tr>
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<td>Real life</td>
<td>The way listeners see that help options usage at the computer may relate to real life communication contexts</td>
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<tr>
<td>Challenge</td>
<td>Self-initiative</td>
<td>The use/ non-use of help options to as way to increase the perceived difficulty of a listening task</td>
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<tr>
<td></td>
<td>Self-reliance</td>
<td>The participants’ reluctance to admit a lack of understanding of an aural text</td>
</tr>
<tr>
<td></td>
<td>Self-aware limitation factor</td>
<td>Conscious perception on behalf of the learner that help option use may compensate for self-perceived difficulties in the understanding of aural input</td>
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<tr>
<td>Recovery</td>
<td>Technical issues</td>
<td>A learner’s use/non-use of help options to compensate for technical difficulties while interacting with the listening tasks</td>
</tr>
<tr>
<td></td>
<td>Working memory limitations</td>
<td>The notion that the use of help options compensates for deficiencies in short-term memory span</td>
</tr>
<tr>
<td></td>
<td>Confirmation</td>
<td>The use of help options to compensate for the lack of confidence in an aspect of language learning</td>
</tr>
<tr>
<td>Familiarity</td>
<td>Experience</td>
<td>Previous experience with help option use in other language settings</td>
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<tr>
<td></td>
<td>Software interface</td>
<td>A listener’s lack of familiarity with the interface design elements</td>
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<tr>
<td>Compatibility</td>
<td>Distraction</td>
<td>A shift in attention from the input to other features of the software as a result of help option use</td>
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<tr>
<td></td>
<td>Mismatch</td>
<td>The acknowledgment that because of the ephemeral and fast paced nature of aural input, help option use does not lend easily in listening tasks</td>
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</tbody>
</table>
### H5. Study One and Study Two- Coding inter-rater reliability index

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<tr>
<th>Node</th>
<th>Source</th>
<th>Source Size</th>
<th>Agreement raters A &amp; B (%)</th>
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</table>

**Total inter-rater reliability index** | **95.76**
H6. Study One and Study Two – Coding distribution

Theme one: relevance

**Text comprehension**

**Task completion**
Theme two: challenge

**Self initiative**

![Bar chart showing number of coding references for different sources.]

**Self reliance**

![Bar chart showing number of coding references for different sources.]

390
Theme three: recovery

### Language problems

![Language problems graph]

### Technical issues

![Technical issues graph]
Working memory capacity

Number of coding references

Source

Confirmation

Number of coding references

Source
Theme four: familiarity

![Experience](image)

![Software interface](image)
Theme five: compatibility

### Distraction

![Distraction Graph]

### Mismatch

![Mismatch Graph]
H7. Study Three- Free coding

This round of analysis was conducted between March and May 2009.

<table>
<thead>
<tr>
<th>Colors</th>
<th>Suggestions on the types of colors to be used for background, labels in buttons and help options buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connotations of the word help</td>
<td>Participants feelings and reactions toward the word “help options”</td>
</tr>
<tr>
<td>Design for advanced levels</td>
<td>Help options that should be included in the design of computer based listening exercises for advanced learners of English.</td>
</tr>
<tr>
<td>Sequence of help options button</td>
<td>Preferred order of help options buttons when these are located from left to right.</td>
</tr>
<tr>
<td>Help option label</td>
<td>Participants reactions to have all the help options coming down from a menu</td>
</tr>
<tr>
<td>Influence for prototype creation</td>
<td>Factors affecting both negatively/ positively the prototype creation</td>
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<td>Instructions</td>
<td>Language used for instructions according to the participant’s proficiency level.</td>
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<tr>
<td>Need for training</td>
<td>Suggestions on how training can guide learners on the effective use of help options in computer-based listening materials</td>
</tr>
<tr>
<td>Number of help options</td>
<td>Quantity and type of help options to be included for beginners and upper-intermediate learners of English.</td>
</tr>
<tr>
<td>Questions</td>
<td>Role of the questions for understanding the aural text.</td>
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<tr>
<td>Satisfaction with prototypes</td>
<td>Assessment of the outcome after creating a prototype that ideally covers help options.</td>
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<td>Team work</td>
<td>Aspects and roles of the participants that made PD a successful technique</td>
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<tr>
<td>The need for computer based prototypes</td>
<td>Suggestions on why computer-based prototypes should be used for subsequent studies.</td>
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<td>Time for design</td>
<td>Time allotted for each of the design sessions and lapse of time between such sessions</td>
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## H8. Study Three- First round of analysis

This round of analysis was performed between March-May 2009 and resulted in four themes:

<table>
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<tr>
<th>Theme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Location is the tentative position where help option buttons are placed in the interface. Location is not accurate in terms of exact positioning. Instead, it provides the designer with rough guidelines of users’ preference for help options display.</td>
</tr>
<tr>
<td>Sequence</td>
<td>Sequence indicates the order in which help options are presented. In this work, for example, a horizontal sequence suggest hierarchical organization, where help options appearing on the left are seen as more relevant for listening than those on the right.</td>
</tr>
<tr>
<td>Type</td>
<td>Type is understood as the number and kind of help options L2 learners consider relevant for comprehension in computer-based listening environments as determined by the proficiency level. There are 8 help options: transcripts, translations, glossary, dictionary, listening tips, cultural notes, feedback and audio/video control buttons.</td>
</tr>
<tr>
<td>Click-through</td>
<td>Click-through refers to the number of steps a user needs to undertake to access a particular help option. Clicking on a transcript button and clicking again in a glossed word to look up for its meaning, for example, is counted as a two-step-process or two-clicks-away from the user.</td>
</tr>
</tbody>
</table>
H9. Study Four – Second round of analysis

The coding scheme used for Study Three was used with data from Study Four and a new theme emerged from the data “Display”. This analysis was performed between December-January, 2009 and resulted in five themes:

<table>
<thead>
<tr>
<th>Location</th>
<th>The tentative position where help options are placed in the screen interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sequence</td>
<td>The order in which help options are presented. A horizontal sequence suggest hierarchical ordering where help options on the left are seen as more relevant for listening than those on the right</td>
</tr>
<tr>
<td>Type</td>
<td>The number and kind of help options L2 learners consider relevant for comprehension in computer-based listening as determined by language proficiency</td>
</tr>
<tr>
<td>Click-through</td>
<td>The number of steps a user undertakes to access a particular help option. Clicking on a transcript button and clicking in a glossed word to look up its meaning, for example, is counted as a two-step-process</td>
</tr>
<tr>
<td>Display</td>
<td>The visual presentation of help options in the program. That is buttons, tabs, and pop-ups.</td>
</tr>
</tbody>
</table>
**H10. Study Three and Study Four – Third round of analysis**

The third round of analysis was performed between March-April, 2010 and resulted in four main themes:

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of use</td>
<td>The extent to which help options are intuitive and easy to use for L2 learners.</td>
</tr>
<tr>
<td></td>
<td>The extent to which a learner can decide, where, when, and how to access help options</td>
</tr>
<tr>
<td>Learner control</td>
<td>The extent to which the program offers direction or advice as to what help options should be used for computer based listening</td>
</tr>
<tr>
<td>Need for guidance</td>
<td>The extent to which the program pushes students to learn.</td>
</tr>
</tbody>
</table>

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### H11. Study Three and Study Four – Fourth round of analysis

<table>
<thead>
<tr>
<th>Ease of use</th>
<th>Learner control</th>
<th>Guidance</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making design clear and intuitive</td>
<td>Grouping and locating help options in an easily accessible place so that the learners have a better idea of what they can do or cannot do with the software.</td>
<td>Offering help options in a tool bar located on top of the interaction so that the learner knows straightaway where to go in case he needs to resort on help</td>
<td>Freeing cognitive resources that can be used in language learning.</td>
</tr>
<tr>
<td>Location</td>
<td>Locating design elements in conventional places to promote intuitiveness. Locating the video on the left side. Locating audio control buttons under the video to represent the interaction. Locating the dictionary text box where learners would normally access other search engines.</td>
<td>Providing help options in the order</td>
<td>Exposing learners to help options that encourage learning. Pushing learners to think in English to increase the chances for learning.</td>
</tr>
<tr>
<td>Sequence</td>
<td>Providing learners with different routes to access help options Glossary is presented through the transcript and as a separate tab. Translation of the aural text is offered along the transcript to ease the demands of language processing by providing the transcript along with the translation.</td>
<td>Suggesting steps for learners to complete listening exercises using help options in the order of suggested ability. Translation and transcripts are offered as last options to ensure that learners resort on other help options prior to accessing them.</td>
<td>Translation tool is offered as a last option Transcripts tool is offered as a final resort option to push learners to listen and give their best before reading the written text.</td>
</tr>
<tr>
<td>Type</td>
<td>Limiting the number of options students can resort on at the moment of interaction</td>
<td>Making sure the software grows and evolves as the learner advances in language proficiency.</td>
<td>Filtering help options based on the proficiency level of the learners to avoid information overload. Translation is not offered for advanced levels Glossary is offered throughout all levels. Listening tips are kept throughout all levels to ensure learners are exposed to and develop listening strategies regardless of the proficiency level Cultural notes not offered for beginners</td>
</tr>
<tr>
<td>Click-through</td>
<td>Offering help options a click away from the user to minimize potential frustrations for not finding his/her way around.</td>
<td>Offering options by the name/function they accomplish so that the learner knows what the software offers.</td>
<td>Offering help options one-click away, but restricting access to certain help options (transcript) unless they interact with the video first.</td>
</tr>
<tr>
<td>Display</td>
<td>Isolating help options from each other and presenting them as buttons or tabs. Presenting help options Using icons that represent clearly help options.</td>
<td>Making sure that results of help options are displayed in the same interaction page and that learners are not sent to other places.</td>
<td>Helping learners stay on task by keeping them in the interaction page. Minimizing potential distractions that restrain learners from learning. Using colors that help focus student’s attention.</td>
</tr>
</tbody>
</table>
## H12. Study Three and Study Four – Fifth round of analysis

<table>
<thead>
<tr>
<th>Ease of use</th>
<th>Learner control</th>
<th>Guidance</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>Software decides beforehand what options are available for use based on language proficiency only. This does not recognize that learners vary greatly even if they share a similar proficiency level</td>
<td>*Limiting the number of help options based on L2 proficiency to avoid information overload. *Retrieving and/or replacing help options as learners advance in language proficiency *Designing help options that can be manipulated to accommodate learners at different proficiencies</td>
<td></td>
</tr>
</tbody>
</table>

| Location | Locating help options in intuitive places, familiar to most users. Help options grouped in a toolbar and locate it along Frames 2 and 3 | Having help options in a fixed location gives learners confidence regarding what they can/cannot do with the software | **Sequence**<br>Presenting help options in the order of perceived assistance for learning Listening tips as a first option to guide learners towards listening skills development. Translation as a last option to guide learners towards language development |

| Click-through | Offering help options a click away from the user | Naming help options by the function they accomplish, instead of presenting them only embedded through other options. | **Display**<br>Using design conventional<br>Making help options accessible through different routes of interaction as in the case of glossary and translation options. Designing help options in tabs that forces a fixed path of interaction |

| **Sequence**<br>Having help options visible at all times so that learners don’t waste time locating them, thus, freeing important cognitive resources. |

| **Click-through**<br>Pushing learners to use help options that do not directly aid text comprehension. Translation is key for comprehension, therefore it should be offered as a last option |

| **Sequence**<br>Having help options visible at all times so that learners don’t waste time locating them, thus, freeing important cognitive resources that can be used for learning. |

| **Display**<br>Offering help options that open in a single interaction page, to minimize the potential number of distractions and to help learners stay on task |
Author/s: 
Cardenas-Claros, Monica Stella

Title:  
A preliminary framework of help options in computer-based second language listening

Date:  
2011

Citation:  

Persistent Link:  
http://hdl.handle.net/11343/36232

File Description:  
A preliminary framework of help options in computer-based second language listening

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