Using CALL in a formal learning context to develop oral language awareness in ESL: an assessment

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Abstract

French learners at university meet difficulties in the comprehension of oral English. Being in a formal context of language learning, they need to develop language awareness to compensate for insufficient exposure to the English language.

To meet the students' needs, data was collected in order to pinpoint the main errors made by French learners in listening tasks. The errors were then analyzed and put into perspective with the system of oral English; a connection clearly appeared between the errors and what is barely heard or cannot be heard in reference to written English, hinting at what could cause poor oral comprehension. Three areas of knowledge appeared to be missing in the students' background: the links between morpho-syntax and phonology, the mastery of phonological data found in dictionaries and the possible recourse to strategies in order to compensate for what has not been heard properly. These issues were addressed in an on-line program designed for non-beginners of English at university.

This paper deals with the assessment of the progress made by users of the program in a formal learning situation. Two groups of learners were considered: students whose major is English, and students for whom the study of English is optional. Two series of tests were implemented, before and after the use of the program. The tests focused on the ability of learners

to read IPA transcription, to count syllables in oral English, and to pronounce auxiliaries and prepositions in different contexts.

The results to be discussed establish that the two groups of learners significantly improved their knowledge of oral English. Of particular interest is the fact that, even if the two groups had significantly different knowledge of oral English before using the program, with non-specialists of English having poorer knowledge, the two groups obtain similar results on the post-test, showing greater progress on the part of the non-specialists. All learners appear to improve dramatically their knowledge of IPA and their ability to use it.

The progress measured by the tests was corroborated by other modes of assessment: a survey on the students' judgment as regards the usefulness of the program, and individual interviews focusing on what the students recall from the content of the program. In the latter, the students used relevant meta-linguistic and meta-cognitive expressions, showing their ability for further progress in developing listening abilities in English as a Second Language (ESL).

1 Introduction

French students at university meet difficulties in tasks involving the comprehension of oral English even after studying ESL for several years. When interviewed, they acknowledge having difficulties, without being able to identify adequate underlying causes (Vincent-Durroux & Poussard, 2009). Indeed they often consider that English-speaking people speak too fast or "swallow" their words (Poussard & Vincent-Durroux 2002: 109). They do not usually mention that part of the problem could be due to their own lack of knowledge of the characteristics of oral English. Yet being in a formal context of language learning, they need to develop language awareness in order to compensate for insufficient exposure to the English language. We therefore developed an on-line program (*Modules d'Aide à la Compréhension de l'Anglais Oral - MACAO*) designed for non-beginners of English and providing knowledge and training in the fields of morpho-syntax and phonology. The program is not a course in phonology but focuses on the aspects of oral English which we identified in our data as the actual causes of the students' difficulties in oral comprehension. This article deals with the assessment of the progress made by users of the program in a formal learning situation.

2 Methods

2.1 Designing the on-line program

We collected data over several years in order to pinpoint the main errors made by French learners in listening tasks (Vincent-Durroux & Poussard, 2006: 91). First, we gathered oral comprehension quizzes from students of English in their first year at university. The quizzes were two-fold: a section of each recording had to be rendered orthographically and open questions were asked for which written answers were expected. Secondly, we took into account the errors French students make in dictation tasks in English, as reported by Halff (1987: 33).

Analysis of the collected data led us to establish a typology of errors in order to relate them to the main features of oral English, in terms of rhythm, phonemes,

intonation and stress (Fournier, 2010). These features can be a source of difficulty for the French learner of English since some elements are not heard or barely heard in reference to written English (Vincent-Durroux & Poussard, 2007). The difficulty is even greater when these features are absent from the French language. Moreover, the French learner may approach oral English with the filter of his native language due to nativisation processes (Andersen, 1983: 20; Narcy-Combes, 2005; Demaizière & Narcy-Combes, 2005), not only from the phonological point of view but also from the syntactic point of view. For example, the expected phonological volume for the word *chocolate* turns out to be wrong if it is conceived in reference to the French word *chocolat* (Bailly, 1995). From the syntactic point of view, **look Ø someone/ something* may be expected by French learners instead of *look at someone/something* in reference to the French *regarder quelqu'un/quelque chose* which is used transitively, all the more since *at* is usually barely heard in oral English (*look at me*, *look at Tom*). Indeed, we have noticed that in essays they write in English, French students often produce **look Ø someone/something* instead of *look at someone/at something*.

Once the typology of errors was established, we could relate most of the errors to three areas of knowledge of oral English. These areas could be hypothesized as missing in the students' previous training.

One area of knowledge is about the links between English morpho-syntax and English phonology (Huart, 2002). These links, such as the possible reduction of the vowel in auxiliaries and in some prepositions according to syntactic contexts, do not seem to be known by the students. For instance, the auxiliary *is*, will normally have a reduced vowel, whether it is written *'s* or *is* in : *He's coming* or *he is coming*. It will therefore not be easily heard, contrary to the instance of *is* in: *Is he coming?*

The second area of knowledge relates to the phonological data available in dictionaries. They are hardly ever taken into account by the students. This is probably due to the fact that the International Phonetic Alphabet (IPA) is seldom used by teachers of English in secondary schools. The students are not given the code which would enable them to build the representation of oral words in English, whereas it is essential in oral tasks, both for the production and the recognition of words, if we consider that lexical bases are two-fold, with a written component and an oral component (Buser, 1998; Caron, 1995). The students seem to stick to written forms, even when engaged in oral tasks.

The third area of knowledge is the possible recourse to strategies in order to compensate for what has not been heard properly: the learners focus on the recognition of words and leave aside the set of strategies that could help them to solve comprehension difficulties. Such strategies are used automatically by native speakers but are not automatically implemented by second language learners due to cognitive overload (Gaonac'h, 1987, 1990).

We took up these observations, and developed an on-line program, *MACAO*, designed for non-beginners of English at university. The study we present here focuses on the two modules of *MACAO* which address the first two areas of knowledge of oral English presented above. Module 1 provides aural training in oral syllables and in auxiliaries, prepositions and determiners in various syntactic contexts, with special attention given to unstressed syllables and reduced forms. Module 2 is dedicated to the use of IPA, with emphasis laid on phonemes the interpretation of which is not obvious,

such as /Θ/, /δ/, and on phonemes that are specific to the English language, as they may discourage the students from reading the phonological data given in dictionaries (Poussard & Vincent-Durroux, 2002; Poussard & Vincent-Durroux, 2009).

2.2 Implementing the program in the ESL syllabus

At the university of Montpellier 3, on-line programs in ESL are used in the context of blended learning for all first-year students, whatever their major (Vincent-Durroux & Poussard, 2001). During the first semester, the emphasis is put on oral comprehension, with a series of weekly tasks (30–45 minutes each) based on audio material. The syllabus is designed to combine guided exposure to the language and oral language awareness. For four weeks, the students have to carry out listening tasks with *Listening to Sophie* (Poussard, 2000 & 2003), a program elaborated on authentic material (Henry, 1991); then they are required to work on *MACAO* for four weeks, before returning to *Listening to Sophie* as in the first weeks. This order was decided on because we consider that the students need to be first confronted with the difficulties they may have in listening tasks, in order to be fully receptive to the micro-tasks implemented in *MACAO*. In the same way, it is essential for them to go back to listening tasks after working on *MACAO*, in order to apply their newly acquired knowledge. These programs can be accessed at a distance or on the campus at the *Espace Multimédia*, a place dedicated to CALL.

2.3 Assessing progress in language awareness

This paper deals with the assessment of the actual progress made in oral language awareness by students using *MACAO* in the context of their syllabus in ESL. It is indeed essential to check the efficacy of the program as we made the hypothesis that the areas of knowledge dealt with in the program are missing when the students get to university.

Two groups of students were considered: students for whom the study of English is optional (Group 1-*LANSAD*[1]), and those whose major is English (Group 2-*LCER*[2]). Blended learning applies in both cases, and as this is compulsory, our study does not include a control group.

Two series of tests, a pre-test (Annex 1) and a post-test (Annex 2), were widely implemented on about 300 students each. The tests were given just before and just after the use of the program to students in their first year in 2007–08 and in 2008–09. After making sure that we could match their pre-tests with their post-tests, we selected 49 students from each group on a random basis. The tests focus on various kinds of phonological knowledge:

– the ability of learners to pronounce auxiliaries and prepositions in different contexts (Variable 1); we chose to test this ability because it is related to the fact that these words can be stressed or unstressed, and pronounced with varying degrees of vowel reduction. This is essential for oral comprehension;

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[1] *LANSAD* stands for *LANgues pour Spécialistes d'Autres Disciplines*.
[2] *LCER* stands for *Langues et Cultures Etrangères et Régionales*.

–   the ability to count syllables in oral English (Variable 2) ; we chose to test this ability because it relies on the awareness that oral English and written English are to be considered as distinct codes;
–   the ability to read IPA transcription (Variable 3), which is central to building a phonological image of the lexicon. The tests included a series of words transcribed in IPA, which the students had to write orthographically.

The number of items processed by the students in IPA (Variable 4) is also taken into account in the study to measure if they have gained confidence with IPA after using the program. The items in the tests included phoneme transcripts which are not easily interpreted or which are specific to English.

3 Results

The results to be discussed establish that the two groups of learners significantly improved their knowledge of oral English.

3.1 Two groups of students

The students who worked on the program could have been considered together since they are first-year students; yet the choice made for their major (English vs. other) could imply that their level in English is different. This hypothesis was tested; the results show that Group 1 students (English optional) perform significantly worse than Group 2 students (English major) in the pre-test [$F(1,48) = 45.806$, $p < .001$].

Furthermore, the results show greater progress on the part of Group 1 students as, after using the on-line program, the two groups obtain very similar results eventually, as shown in Figure 1. It is therefore justifiable to study the two populations separately.
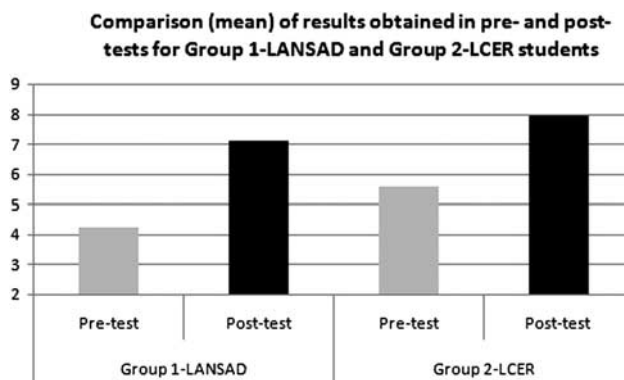

Fig. 1. Percentage of correct answers for Group 1-*LANSAD* and Group 2-*LCER* in pre- and post-tests

3.2 Progress made by Group 1 students

The tests taken by Group 1 students (*LANSAD*, English optional) before and after working on the on-line program show significant progress [$F(1,48) = 69.153$, $p < .001$], as presented in Figure 2.

**Mean percentage of correct answers
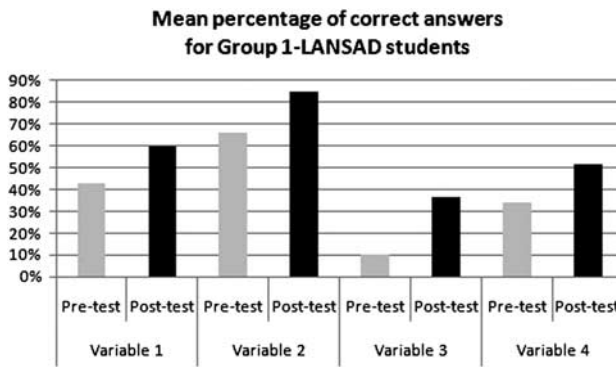for Group 1-LANSAD students**

Fig. 2. Percentage of correct answers for Group 1 students

As shown in Figure 2, progress can be noticed for each variable under consideration: ability to pronounce auxiliaries and prepositions in different contexts (Variable 1), ability to count syllables in oral English (Variable 2), ability to read IPA transcription (Variable 3), number of items treated in IPA (Variable 4).

More specifically, progress was made in each kind of phonological knowledge, with significantly better performances in the post-tests. For Variable 1 and Variable 2, the results obtained in the post-test are significantly better than those obtained in the pre-test $[F(1,48) = 13.571, \ p < .001]$ and $[F(1,48) = 15.287, \ p < .001]$, respectively. It is remarkable to notice that students make the most important progress for Variable 3 $[F(1,48) = 48.771, \ p < .001]$, which deals with the use of IPA. Furthermore, the results for Variable 4 $[F(1,48) = 15.640, \ p < .001]$ show that they treat a greater number of transcribed items in the post-test, in comparison with the pre-test. These results hint at greater familiarity with IPA, and possible further recourse to it when using dictionaries, a habit which would help students to develop better pronunciation and comprehension in oral English.

To conclude on this group, it is clear that Group 1 students benefited from the use of the on-line program.

3.3 Progress made by Group 2 students

The tests taken by Group 2 students (LCER, English major) before and after working on the on-line program also show significant progress $[F \ (1,48) = 55.063, \ p < .001]$, as presented in Figure 3.

If we look at details, the students in Group 2 make significant progress for all the phonological items tested, with effects which are less remarkable for Variables 1 and 2 $[F(1,48) = 11.179, \ p < .002]$ and $[F(1,48) = 10.800, \ p < .002]$ respectively, than for Variables 3 and 4 $[F(1,48) = 32.374, \ p < .001]$ and $[F(1,48) = 47.184, \ p < .001]$ respectively, as shown by the values taken by p.

This could be due to the fact that before using the program, Group 2 learners already had better mastery of the pronunciation of auxiliaries and prepositions, and of the count of syllables in oral English. It is likely that Group 2 learners chose English as their major in relation to their confidence in their use of the language.
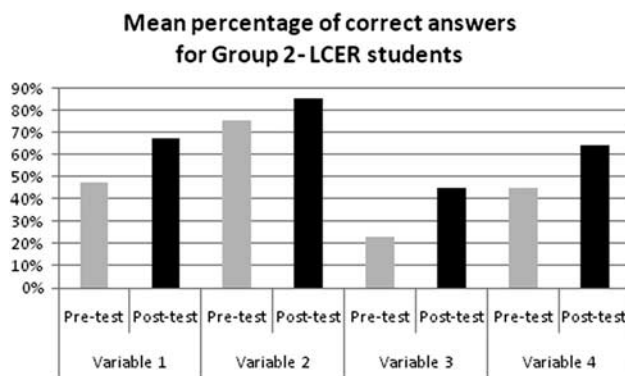
Mean percentage of correct answers
for Group 2- LCER students

Fig. 3. Percentage of correct answers for Group 2 students

4 Discussion

The results indicate that all the learners in the study, whatever their major, still have some room for progress in their knowledge of oral English. More specifically, the learners' knowledge of IPA improves dramatically after the use of the program, when it was almost non-existent before the experiment, contrary to the other items tested. As mentioned earlier, the difficulties of the learners as regards oral English, and oral comprehension in particular, could be due to the fact that they do not have the tools which would enable them to build the phonological representations of the lexicon. Having IPA at their disposal could be a way for the students to construct the phonological component of their lexical basis in English.

It appears that the learners also improve their knowledge about vowel reduction and oral syllables (in reference to written English), whatever their initial level on these topics. We have recently taken up this area of knowledge of the language in a new module of *MACAO* soon to be implemented in the students' syllabus in ESL. This further development presents the learners with strategies they can use to compensate for what they do not hear properly due to vowel reduction among other speech specificities.

The progress measured by the tests was corroborated by other modes of assessment: a survey and individual interviews. The survey included 126 students in 2002 who filled in on-line questionnaires and 215 students in 2003 who filled in hardcopy questionnaires (Annex 3) in which they gave their judgment as regards the usefulness of the program. The program was considered as rather useful by 39.4% of the students, useful by 52% of them and very useful by 7.8% of them (Vincent-Durroux & Poussard, 2009).

The individual interviews were carried out in 2006, with 30 students, just after they had worked on the program. The interviews focused on what the students recalled from the content of the program. We were able to pinpoint relevant meta-linguistic and meta-cognitive expressions. These expressions account for knowledge on which the students may subsequently rely to improve their listening abilities in ESL (Poussard & Vincent-Durroux, 2008: 164–165). For example, the students showed greater metalinguistic awareness when they used terms such as *reduced vowel*,

stressed syllables, and expressed morpho-phonological rules in their own words, with: "*Certains mots ne se prononcent pas de la même manière, on peut ne pas les entendre dans certains cas*" ("Some words are not always pronounced the same; in some cases you don't even hear them" – our translation).

Hinting at metacognitive processes, they mention that they now understand the reason why they don't understand: "*Parce que maintenant, je vais comprendre pourquoi je n'entends parfois pas, parce que maintenant si je n'entends pas, je me dis : est-ce que c'est une forme affirmative ou pas ? Oui, c'est affirmatif, c'est peut-être quelque chose qui n'est pas prononcé, donc je ne peux pas entendre*" ("Because now, I am going to understand why I don't hear things sometimes, because now, if I don't hear something, I say to myself: is it an affirmative sentence or not? Yes, it is affirmative, so there may be something which is not pronounced, therefore I can't hear it" – our translation).

We are aware that the tests under consideration do not directly measure progress in listening abilities but progress made on elements that, according to us, are central to the development of listening skills in the context of a formal learning situation. In that respect, the two modules of *MACAO* already appear to meet the needs of French learners of English since they offer tools which the students can familiarize themselves with and use as possible steps towards better listening abilities, and which combine with the exposure the students may have to the language in various contexts (classes, radio, TV, etc.). The third module of *MACAO* (Poussard & Vincent-Durroux, 2010) is dedicated to the use of compensation strategies and is to be implemented in the syllabus in 2010–2011 to complete the set of resources. We will then be able to examine the listening abilities of the students before and after the use of the program, with specific attention to their ability to deal with what is not easy to hear in English for a French learner.

Acknowledgements

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Annex 1

Enquête n° 1

Cette enquête est menée dans le cadre d'un travail de recherche à l'université Paul Valéry. Soyez remercié(e) pour votre participation.

1. Prononcez-vous le mot *can* de la même façon dans les énoncés suivants?
   oui   non

   Can you come tomorrow?
   I can help you if you like.

2. Prononcez-vous le mot *to* de la même façon dans les énoncés suivants ?
   oui   non

   What kind of music do you listen to?
   I'm going to London next week.

3. Combien de syllabes orales comportent les mots suivants ? Entourez votre réponse.

every	1	2	3	4
marked	1	2	3	4
comfortable	1	2	3	4
interested	1	2	3	4
management	1	2	3	4
differently	1	2	3	4
lively	1	2	3	4
chocolate	1	2	3	4

4. Quand vous utilisez un dictionnaire anglais/français, prêtez-vous attention à la transcription phonétique qui se trouve à côté du mot recherché ?   oui   non

5. Ecrivez les mots qui correspondent aux transcriptions suivantes:
   /ðə/   /aɪs/   /raɪt/   /tʃæt/
   /bɔɪ/   /θɪŋ/   /teɪst/   /pleʒə/

6. Savez-vous comment on indique l'accentuation des syllabes accentuées dans une transcription phonétique ?   oui   non

   Si oui, précisez :

Annex 2

Enquête n° 2

Cette enquête est menée dans le cadre d'un travail de recherche à l'université Paul Valéry. Soyez remercié(e) pour votre participation.

1. Prononcez-vous le mot *will* de la même façon dans les énoncés suivants?
   oui   non
      I will come tomorrow if you like.
      Will they help you?

2. Prononcez-vous le mot *at* de la même façon dans les énoncés suivants?
   oui   non
      What are you looking at?
      There is a good TV programme at 9.

3. Combien de syllabes orales comportent les mots suivants ? Entourez votre réponse.

different	1	2	3	4
stopped	1	2	3	4
dangerous	1	2	3	4
interesting	1	2	3	4
business	1	2	3	4
precisely	1	2	3	4
average	1	2	3	4
safety	1	2	3	4

4. Quand vous utilisez un dictionnaire anglais/français, prêtez-vous attention à la transcription phonétique qui se trouve à côté du mot recherché ?   oui   non

5. Ecrivez les mots qui correspondent aux transcriptions suivantes:
      /ðɪs/   /laɪk/   /θɔɪt/   /wɑtʃ/
      /leʒə/   /meɪn/   /kɪŋ/   /tɔɪ

6. Savez-vous comment on indique l'accentuation des syllabes accentuées dans une transcription phonétique ?   oui   non
      Si oui, précisez :

Annex 3

MACAO (Modules d'Aide à la Compréhension de l'Anglais Oral)

Ce produit fait l'objet d'une expérimentation ; aussi vos réponses à ce questionnaire sont-elles précieuses pour l'évaluation du produit. Merci.

1. Vous êtes étudiant(e) en :   AN2NS1/2   AN3NS1/2

2. Combien de séances de travail avez-vous consacrées à MACAO: 1   2
                                                                    3   plus de 3

3. Chaque séance de travail a duré : moins de 30 mn   30 mn   plus de 30 mn

3. Estimez-vous le document d'accompagnement suffisamment détaillé ? oui
                                                                      non

4. Si non, que pensez-vous utile de rajouter ?

5. L'environnement du produit vous a-t-il paru agréable ?   oui
                                                                   non

6. Avez-vous fait les exercices dans l'ordre proposé ?   oui
                                                                   non

7. L'utilisation du produit a-t-elle provoqué un problème informatique ?   oui
                                                                           non

8. Avez-vous utilisé un dictionnaire ?   oui
                                                                  non

9. Souhaitez-vous garder une trace écrite des « synthèses » ?   oui
                                                                  non

10. Certaines formulations vous ont-elles gêné(e) ?   oui
                                                                  non

11. Si oui, lesquelles ?

12. Avez-vous le sentiment d'avoir appris quelque chose ?   oui
                                                                  non

13. Certains exercices vous ont-ils semblé trop répétitifs ?   oui
                                                                  non

14. Si oui, lesquels ?